Health Evidence Review Commission's Value-based Benefits Subcommittee

March 11, 2021

9:00 AM - 1:00 PM

Online Meeting

Join online meeting here

+1 669 254 5252 (Meeting ID: 161 097 5725 | Passcode: 187905)

Section 1.0

Call to Order

AGENDA
VALUE-BASED BENEFITS SUBCOMMITTEE
3/11/2021
9:00am - 1:00pm
Online Meeting
Wilsonville, Oregon
Breaks will occur as determined by the chair
All times are approximate

Note: public testimony on specific agenda topics will be taken at the time that agenda item is discussed

I. Call to Order, Roll Call, Approval of Minutes – Kevin Olson **9:00 AM**

II. Staff report – Ariel Smits **9:05 AM**
- A. Errata
  1. Acupuncture guideline line correction
  2. NCCN reference in the cancer genetic testing guideline correction
- B. Items discussed with leadership and no changes recommended
  1. Cardiac PET

III. Straightforward/Consent agenda – Ariel Smits **9:15 AM**
- A. Consent table
- B. Nerve block Ancillary Guideline reaffirmation
- C. Screening code placement

IV. 2022 Biennial Review **9:20 AM**
- A. Inguinal/femoral hernia repair

V. COVID updates **10:00 AM**
- A. COVID codes March 2021

VI. Telehealth updates **10:15 AM**
- A. Simplification of Ancillary Guideline A5

Break **10:30 AM**

VII. Previous discussion items **10:45 AM**
- A. Prenatal genetic testing guideline equity edits
- B. Revisions to the acupuncture guideline

VIII. New Discussion items **11:15 AM**
- A. Coding specification review 2021
  1. Coding specification merging into existing guideline notes

2. Coding specifications requiring new guideline notes
3. Coding specifications for deletion only
4. Chemodenervation coding specifications

B. Biomarkers for prostate cancer
C. Pre-surgical weight loss in the bariatric surgery guideline
D. Osteochondritis dissecans of the knee
E. Non-Spinal Chiropractic Manipulation

IX. Public comment **12:55 PM**

X. Adjournment – Kevin Olson **1:00 PM**

Value-based Benefits Subcommittee Recommendations Summary
For Presentation to:
Health Evidence Review Commission on January 21, 2021

For specific coding recommendations and guideline wording, please see the text of the 1/21/2021 VbBS minutes.

RECOMMENDED CODE MOVEMENT (changes to the 10/1/2021 Prioritized List unless otherwise noted)

- Add the 2021 HCPCS codes to various lines and recommend them for placement on various other files. Update the telemedicine guideline to accommodate the new codes. *These changes are effective 2/1/2021*
- Create a new line for uterine polyps and score it above the funding line. *This change is effective January 1, 2022*
- Add procedure and diagnosis codes related to COVID-19 to various lines and lists. Rename the line containing COVID-19 diagnoses to clarify that COVID-19 is included in that line. *These changes are effective 2/1/2021*
- Add biofeedback codes to the funded migraine line and the unfunded tension headache line and remove them from several lines related to urinary incontinence and pelvic floor disorders. Add the procedure codes for biofeedback to treat behavioral health diagnoses to an unfunded line.
- Delete two procedures from the funded prostate cancer line
- Delete codes for stereotactic surgery on the central nervous system from a series of funded and unfunded lines without central nervous system cancer diagnoses
- Make various straightforward code changes

ITEMS CONSIDERED BUT NO RECOMMENDATIONS FOR CHANGES MADE

- Movement of panniculectomy to a funded portion of the List was considered but not adopted.
- No change was made to non-coverage of total artificial hearts

RECOMMENDED GUIDELINE CHANGES (changes to the 10/1/2021 Prioritized List unless otherwise noted)

- Add a new guideline regarding panniculectomy to an unfunded line
- Edit the preventive services guideline to indicate that COVID-19 vaccines are included on the preventive services line even if their procedure codes do not yet appear on that line if the vaccines are FDA approved and ACIP recommended. *This change is effective 2/1/2021*
- Edit the palliative care statement of intent to include biofeedback for the treatment of cancer pain
- Edit the acupuncture guideline to include the substance use disorder line.
- Edit the artificial disk replacement guideline to clarify that the combined procedure of artificial disk replacement and fusion is not covered.
- Edit the spinal cord stimulator guideline to indicate when the replacement of these devices was covered.
- Make several straightforward guideline note changes

VALUE-BASED BENEFITS SUBCOMMITTEE
Clackamas Community College
Wilsonville Training Center, Rooms 111-112
Wilsonville, Oregon
January 21, 2021
8:00 AM – 1:00 PM

Members Present: Kevin Olson, MD, Chair; Holly Jo Hodges, MD, MBA, Vice-chair; Gary Allen, DMD; Kathryn Schabel, MD; Brian Duty, MD; Mike Collins; Adriane Irwin, PharmD; Regina Dehen, ND, LAc.

Members Absent:

Staff Present: Ariel Smits, MD, MPH; Jason Gingerich; Liz Walker, PhD, MPH; Daphne Peck.

Also Attending: Cris Pinzon; Jennifer Lewis; Lisa Gardner; Michelle Digan; Michelle Erskine; Cristina Pinzon; Gary Whitehouse; Tracy Futch, Quest Diagnostics; Dan Cushing; Laurie H; Jen Gore; Devki Nagar from Myriad[Holly Walpole; Bethany Godlewski and Valerie King, MD MPH, (Center for Evidence-based Policy); Taryn Couture; Talyor; Adria Decker; Peggy Flanigan; Mike Flanigan; Nate Myzka; Peggy Tighe; Taylor Kane; Melanie Ewald, Rick Frees; Ashley Svenson; Jeanne Laws; Rashelle Kukuk; Renee Doan, RN; Patti Maloney; Jhenna Arce; Timothy Barr (Note: Names were captured from the Teams application screen as they were displayed during the meeting.)

- **Roll Call/Minutes Approval/Staff Report**

  The meeting was called to order at 8:00 am and roll was called. A quorum of members was present at the meeting. Minutes from the November 12, 2020 VbBS meeting were reviewed and approved.

  Cris Pinzon was introduced. She has been appointed by the Governor to the HERC and is awaiting Senate confirmation and is expected to join VBBS at its March 2021 meeting.

  Gingerich gave a brief update of the legislative session and reminded members to not use their HERC affiliation if giving testimony to the legislature in a personal capacity. Gingerich also requested nominations for a new statewide psilocybin board.

  Smits reviewed the items discuss with leadership and noted that staff intended to suggest to the HERC at their meeting later the same day that a Prioritized List be published on February 1, 2021 to contain just the 2021 HCPCS code placements, COVID-related code changes, and related guideline changes from today's meetings.

- **Topic: Straightforward/Consent Agenda**

  Discussion: There was no discussion about the consent agenda items.

  Recommended Actions:
  1) Add CPT 99366-99368 (Medical team conference with interdisciplinary team of health care professionals) to any line with E&M codes that currently does not have one or more of these codes
  2) Add HCPCS S2115 (Osteotomy, periacetabular, with internal fixation) to line 309 CONGENITAL DISLOCATION OF HIP; COXA VARA AND VALGA
  3) Add CPT 17110 (Destruction (eg, laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curettement), of benign lesions other than skin tags or cutaneous vascular proliferative lesions; up to 14 lesions) to line 387 ANOGENITAL VIRAL WARTS
  4) Add 25107 (Arthrotomy, distal radioulnar joint including repair of triangular cartilage, complex) and 29846 (Arthroscopy, wrist, surgical; excision and/or repair of triangular fibrocartilage and/or joint debridement) to line 376 DISRUPTIONS OF THE LIGAMENTS AND TENDONS OF THE ARMS AND LEGS, EXCLUDING THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT
  5) Add 29847 (Arthroscopy, wrist, surgical; internal fixation for fracture or instability), 25320 (Capsulorrhaphy or reconstruction, wrist, open (eg, capsulodesis, ligament repair, tendon transfer or graft) (includes synovectomy, capsulotomy and open reduction) for carpal instability), and 25332 (Arthroplasty, wrist, with or without interposition, with or without external or internal fixation) to line 376 DISRUPTIONS OF THE LIGAMENTS AND TENDONS OF THE ARMS AND LEGS, EXCLUDING THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT
  6) Remove CPT 82610 (Cystatin C) from line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS/GN173
     a. Modify GN173 as shown in Appendix A
     b. Advise HSD to add CPT 82610 to the Diagnostic Procedures File

  MOTION: To approve the recommendations stated in the consent agenda. CARRIES 8-0.

- **Topic: 2021 HCPCS Codes**

  Discussion: There was minimal discussion regarding the suggested placement of the 2021 HCPCS Codes.

  Recommended Actions *(These changes will be effective February 1, 2021)*:
  1) See code placement recommendations in Appendix B
  2) Modify GN173 as shown in Appendix A
  3) Modify Ancillary Guideline A5 as shown as shown in Appendix A

  MOTION: To recommend the code and guideline note changes as presented. CARRIES 8-0.

- **Topic: Biennial review—uterine polyps**

Discussion: Smits reviewed the summary document. Gingerich reviewed the scoring methodology. There was limited discussion.

Recommended Actions:
These changes are effective January 1, 2022

1) Create a new line for uterine polyps as shown below and with line scoring as shown below
2) Rename line 404 UTERINE LEIOMYOMA ~~AND POLYPS~~
3) Remove ICD=10 N84.1 (Polyp of corpus uteri), N84.8 (Polyp of other parts of female genital tract) and N84.9 (Polyp of female genital tract, unspecified) from line 404
4) Add CPT 58558 (Hysteroscopy, surgical; with sampling (biopsy) of endometrium and/or polypectomy, with or without D & C) to all lines with D&C and advise HSD to remove CPT 58558 from the Diagnostic Procedure File
    a. 25 ABNORMAL PAP SMEARS; DYSPLASIA OF CERVIX AND CERVICAL CARCINOMA IN SITU, CERVICAL CONDYLOMA
    b. 37 ECTOPIC PREGNANCY; HYDATIDIFORM MOLE; CHORIOCARCINOMA
    c. 208 CANCER OF UTERUS
    d. 353 STRUCTURAL CAUSES OF AMENORRHEA
    e. 404 UTERINE LEIOMYOMA ~~AND POLYPS~~
    f. 422 MENSTRUAL BLEEDING DISORDERS
    g. 438 FOREIGN BODY IN UTERUS, VULVA AND VAGINA

Line: **XXX**
Condition: UTERINE POLYPS
Treatment: MEDICAL AND SURGICAL TREATMENT
ICD-10: N84.1 (Polyp of corpus uteri), N84.8 (Polyp of other parts of female genital tract) and N84.9 (Polyp of female genital tract, unspecified)
CPT: 58120 (Dilation and curettage, diagnostic and/or therapeutic (nonobstetrical)), 58558 (Hysteroscopy, surgical; with sampling (biopsy) of endometrium and/or polypectomy, with or without D & C); ,98966-98972,99051,99060,99070,99078,99184,99201-99239,99281-99285,99291-99404,99408-99449,99451,99452,99468-99472,99475-99480,99487-99491, 99495-99498,99605-99607 (office visits, etc.)
HCPCS: G0068,G0071,G0248-G0250,G0396,G0397,G0406-G0408,G0425-G0427,G0463-G0467, G0490,G0508-G0511,G2011,G2012,G2058-G2065 (FQHC visits, etc.)

Prioritization of UTERINE POLYPS Treatment: MEDICAL AND SURGICAL TREATMENT
(Current scores for line 404 shown in parentheses)

Category: 7 (7)
Healthy life years: 3 (3)
Suffering: 2 (2)
Population effects: 0 (0)
Vulnerable population: 0 (1)
Tertiary prevention: 2 (2)
Effectiveness: 5 (5)
Need for treatment: 0.5 (0.5)
Net cost: 3 (3)
Score: 350 (400)

Line placement: 422 (404)

MOTION: To approve the line creation and scoring, line name change, and code changes as presented. CARRIES 8-0.

- **Topic: Biennial review—Inguinal hernias**

Discussion: Smits reviewed the summary document. There was discussion about adding some type of objective measurement of pain in the proposed guideline changes. Several members said that pain is a very subjective experience to base coverage decisions on. There was discussion about requiring that a patient fail conservative measures such as truss wearing; however, the group felt that trussing was not evidence-based and no other conservative measures are used.

The group agreed that the natural history of inguinal and femoral hernias are different in women and appear in the funded region of the List..

The group also discussed adding some type of standardized tool for evaluation of pain and functional issues due to hernias. Such a tool would create more similar implementation across CCOs. Schabel argued that asymptomatic patients don't generally seek surgery, so the need for measuring symptoms might not be required. However, Hodges noted that many patients are told by their provider to get a hernia repaired even if asymptomatic.

The general consensus was that the general direction laid out by staff was the preferred direction, but more specificity is needed around the criteria regarding pain and function. Staff will look into standardized instrument(s) to measure pain and functional issues from the hernia and seek general surgeon input on the proposed guideline. Staff will modify the proposed guideline and bring back for further discussion at the March 2021 meeting.

- **Topic: Biennial review—Panniculectomy**

Discussion: Smits reviewed the summary document. Schabel noted that patients refused bariatric surgery because they are aware that there is no treatment of the excess skin after surgery, which is an unintended effect of lack of coverage. She also noted that the current discussion is about excess skin on the abdomen, but patients frequently also need removal of excess skin on other parts of the body. Olson expressed concerns over the harms of panniculectomy.

The general consensus was to keep panniculectomy below the funding line but to add the staff proposed guideline to standardize the exceptions process across CCOs.

Recommended Actions:
This change is effective 10/1/2021

1) A new guideline was added to 625 SEBORRHEIC KERATOSIS, DYSCHROMIA, AND VASCULAR DISORDERS, SCAR CONDITIONS, AND FIBROSIS OF SKIN as shown in Appendix C

MOTION: To recommend the adopt the guideline note as presented. CARRIES 8-0.

- **Topic: COVID related codes**

Discussion: Smits reviewed the summary document. A member expressed concern that the line containing COVID diagnoses and treatment did not contain COVID in the line title. The subcommittee changed the line title to better reflect that COVID-19 is included on that line. There was some discussion about whether COVID-19 should be separated from influenza and made into a higher priority line; however, this discussion was tabled until a later date. The ICD-10-CM code for viral pneumonia due to COVID-19 was placed on line 399 rather than on the viral pneumonia line as proposed by staff to keep all COVID-19 related diagnoses together.

Smits reviewed the handout that was sent to members the day prior to the meeting, which included several last-minute COVID-19 related code additions. There was no discussion about these items.

Recommended Actions:

These changes are effective 2/1/2021

1) Rename line 399 INFLUENZA, COVID-19 AND OTHER NOVEL RESPIRATORY ~~VIRUSES~~ VIRAL ILLNESS
2) Advise HSD to place CPT 87428 (Infectious agent antigen detection by immunoassay technique, (eg, enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; severe acute respiratory syndrome coronavirus (eg, SARS-CoV, SARS-CoV-2 [COVID-19]) and influenza virus types A and B) and HCPCS C9803 (Hospital outpatient clinic visit specimen collection for severe acute respiratory syndrome coronavirus 2 (sars-cov-2) (coronavirus disease [covid-19])) to the DIAGNOSTIC PROCEDURES file
3) Advice HSD to place ICD10 Z11.52 (Encounter for screening for COVID-19) on the DIAGNOSTIC WORKUP FILE
4) Add CPT 91302 (Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, DNA, spike protein, chimpanzee adenovirus Oxford 1 (ChAdOx1) vector, preservative free, 5x1010 viral particles/0.5mL dosage, for intramuscular use), 0021A (Immunization administration by intramuscular injection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19]) vaccine, DNA, spike protein, chimpanzee adenovirus Oxford 1 (ChAdOx1) vector, preservative free, 5x1010 viral particles/0.5mL dosage; first dose) and 0022A (second dose) and ICD-10 Z20.822 (Contact with and (suspected) exposure to COVID-19) to line 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
5) Advise HSD to place ICD-10 Z86.16 (Personal history of COVID-19) on the INFORMATIONAL DIAGNOSES file
6) Add ICD-10 J12.82 (Pneumonia due to coronavirus disease 2019) to line 399 INFLUENZA, COVID-19 AND OTHER NOVEL RESPIRATORY ~~VIRUSES~~ VIRAL ILLNESS
7) Add M35.89 (Other specified systemic involvement of connective tissue) to line 73 DERMATOMYOSITIS, POLYMYOSITIS
8) Add ICD-10 M35.81 (Multisystem inflammatory syndrome (MIS)) to line 399 INFLUENZA, COVID-19 AND OTHER NOVEL RESPIRATORY ~~VIRUSES~~ VIRAL ILLNESS
9) Modify GN106 as shown as shown in Appendix A

MOTION: To recommend the code, guideline, and line title changes as amended. CARRIES 7-0.
(Absent: Dehen)

- **Topic: Expanded carrier screening (ECS)**

Discussion: Smits reviewed the summary document.

Public testimony:

Taylor Kane: Kane introduced herself as a carrier of a rare X-linked genetic disorder. She was diagnosed as a carrier at the age of 3 when her father was diagnosed with the disease as an adult. Any children she has will have a 50/50 chance of inheriting her affected X chromosome. Ms. Kane affirmed that knowing her status has helped her make decisions about family planning. Carriers of genetic conditions have long faced obstacles in getting genetic testing to make decisions. Women face barriers to informed and knowledge about getting testing for genetic disease. Ms. Kane founded an organization in 2017 for women to get access to genetic screening. Knowing your genetic status prior to having children allows knowledgeable decisions about reproduction and Ms. Kane stated that she believes all women should have access to ECS regardless of their income level or source of health insurance. The emotional toll and financial toll of having a child with a genetic condition are high. Ms. Kane spoke about the disparities of women of color getting tested for genetic conditions.

Adria Decker: Ms. Decker identified herself as a geneticist and lawyer who is employed by the state but stated she is testifying as a family member of a person with an X-linked genetic disease that was identified through ECS. Her sister is a genetic carrier. Ms. Decker's nephew has a severe genetic illness, diagnosed at 18 months with a post-natal genetic screen. Ms. Decker waited eight months to see a geneticist; her private insurance covered her genetic testing and determined she is not a carrier. Had her sister been able to obtain ECS as a routine part of family planning, Ms. Decker stated her family would not have spent the first 18 months of her nephew's life trying to figure out what was wrong. Ms. Decker stated that information is power and that we must trust women to make decisions for their reproductive health. Making expanded carrier screening would not mandate it but would give women another tool in their toolbox.

Peggy Flanigan: Ms. Flanigan described how 34 years ago, during her first pregnancy, she and her husband were worried--Ms. Flanigan's two nephews had developmental delays and they wondered if that was a coincidence. Ms. Flanigan had a daughter without any developmental delays. After Ms. Flanigan's sister had a third son with developmental delays, the family learned that the three boys had fragile X. Upon greater testing, it was determined that Ms. Flanigan and all her sisters were carriers. The couple received genetic counseling and they now keep up with the literature to continue to monitor their family's health. Ms. Flanigan said their awareness of this family condition led to their decision to not have any more children. All patients need timely and accurate information to be able to care for themselves and their families.

Mike Flanigan: Mr. Flanigan continued Ms. Flanigan's testimony. Mr. Flanigan said they appreciate that Fragile X is now a covered prenatal screening test and said that the earlier a family can be aware of a condition, the better people are able to manage symptoms. He

compared ECS to cholesterol testing or other bloodwork, saying ECS is similarly a preventive test that people should be able to use to make health decisions. As genetics is changing rapidly, expanded carrier screening can keep up with changing tests. Providers would only offer tests they feel comfortable with. They strongly recommend expanded carrier screening.

Devki Nagar: Ms. Nagar is an employee of Myriad Genetics, a genetic counselor, and representative of the Coalition for Access to Prenatal Screening (CAPS). She said that the core goal of prenatal care is identification of higher risk pregnancies, and current ethnicity-based screening creates bias. Providers have ability to screen for multiple conditions in one test. ACOG has two committee opinions (#690 and #691) that address carrier screening. Expanded carrier screening is an acceptable approach per ACOG, if conditions included in the screen meet certain criteria. A Blue Cross and Blue Shield Technology Evaluation Center (BCBS TEC) assessment found that expanded carrier screening improved health outcomes [*Editor's note: This is a proprietary document*]. Coverage of ECS would not require providers to order them. Moving to pan-ethnic screening would make more equitable coverage for OHP patients. Nagar requested that the Commission cover the conditions in listed in ACOG committee opinions #690 and #691.

Michelle Erskine: Ms. Erskine is the mother of three, including a son with a rare X-linked condition. She discovered that several of her brothers also had this condition, but it was not diagnosed due to the fact that there was no knowledge of the condition when they were born. Ms. Erskine said that sometimes carriers express only mild symptoms of conditions. She said it is important that of women of all backgrounds have access to expanded carrier screening. Improvements in genetic testing have made this type of testing more affordable and more education of patients is available than in the past. Ms. Erskine was in favor of expanded carrier screening.

VBBS discussion:
There was discussion about the challenging nature of this topic due to the heterogeneous information generated by this testing, heterogeneous provider opinions, and heterogeneous patient populations who may or may not want testing. There was also a question of whether expanded carrier screening would address equity issues in prenatal testing. Olson noted that the HERC's Genetics Advisory Panel has twice recommended coverage of ECS.

Members expressed concern about not having the infrastructure in Oregon to counsel patients regarding their results if we broadly screen women. There was concern that general maternity care providers were not asking for this coverage.

There was agreement with the staff recommendation to strike out the requirement to be of Ashkenazi Jewish heritage to receive testing for conditions related to Ashkenazi Jewish ancestry.

There was discussion that the large gene panels in ECS give results that providers do not know what to do with, which causes patient anxiety. However, a member mentioned that providers do not need to order ECS if they are not comfortable with counseling regarding the findings. Adding coverage simply provides the opportunity for use. If providers order different types of screening based on comfort level, that equity would actually be reduced, not improved.

It was noted that if a patient or family has a known genetic disorder or a concerning family history for a possible genetic disorder, that genetic testing is covered.

The final decision was to continue non-coverage of ECS and remove requirement for Ashkenazi Jewish heritage prior to certain screening in the prenatal genetic testing guideline. Staff will consult with GAP regarding removing family history requirements for fragile X testing and the requirement for coming from a high-risk population prior to Tay-Sacks screening. Similar changes might need to be considered in the non-prenatal genetic testing guideline.

Recommended Actions:

1) Modify GN173 as shown in Appendix A
2) Modify Diagnostic Guideline D17 as shown in Appendix A

MOTION: To recommend the guideline note changes as presented. CARRIES 5-0. *(Abstained: Allen, Dehen, Collins)*

- **Topic: Biofeedback**

Discussion: Smits reviewed the summary document. Duty expressed support for the urinary incontinence-related changes. Hodges supported all the staff recommendations.

Recommended Actions:

1) Add CPT 90875 and 90876 (Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy) and 90901 (Biofeedback training by any modality) to line 662/GN173 as shown in Appendix A
2) Add the following biofeedback CPT codes to lines 410 MIGRAINE HEADACHES and 540 TENSION HEADACHES
    a. CPT 90875 Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy (eg, insight oriented, behavior modifying or supportive psychotherapy); 30 minutes
    b. CPT 90876 Individual psychophysiological therapy incorporating biofeedback training by any modality (face-to-face with the patient), with psychotherapy (eg, insight oriented, behavior modifying or supportive psychotherapy); 45 minutes
    c. CPT 90901 Biofeedback training by any modality
3) Modify Statement of Intent 1 as shown in Appendix A
4) Remove CPT 90912 (Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry, when performed; initial 15 minutes of one-on-one physician or other qualified health care professional contact with the patient) and CPT (90913 Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry, when performed; each additional 15 minutes) from line 455 URINARY INCONTINENCE
5) Modify GN 47 and GN 192 as shown in Appendix A
6) Modify GN 50 as shown in Appendix A

7) Place CPT 90912 and 90913 on line 662/GN173 as shown in Appendix A

MOTION: To recommend the code and guideline note changes as presented. CARRIES 8-0.

- **Topic: Acupuncture for substance use disorders (SUD)**

Discussion: Smits reviewed the summary document. Dehen noted that it is difficult to study acupuncture for SUD as SUD is a very broad field encompassing nicotine to opioids. Dehen agreed that acupuncture helps the anxiety that occurs during treatment for SUD, and helps patients access the other behaviors that can lead to sobriety. However, she would like to see a drill down on what types of substance and types of patients who would benefit. Gingerich noted that mental health parity makes it difficult to put in limits for SUD benefits. Collins noted that his clinic for SUD offers acupuncture. His clinic has found this to be helpful with pain management to address the pain that a patient has as an alternative to medication.

There was a friendly amendment to add the line 4 to the list of lines referenced by the acupuncture guideline.

Recommended Actions:
1) Modify GN92 as shown in Appendix A
2) Add GN92 to line 4 SUBSTANCE USE DISORDER

MOTION: To recommend the guideline note changes as modified. CARRIES 8-0.

- **Topic: Localized treatments for prostate cancer**

Discussion: Smits reviewed the summary document. Duty agreed with the staff recommendations and felt that these were very appropriate recommendations supported by NCCN.

Recommended Actions:
1) Remove CPT 52649 (Laser enucleation of the prostate with morcellation, including control of postoperative bleeding, complete (vasectomy, meatotomy, cystourethroscopy, urethral calibration and/or dilation, internal urethrotomy and transurethral resection of prostate are included if performed)) from line 329 CANCER OF PROSTATE GLAND
2) Remove CPT 96570 and 96571 (Photodynamic therapy by endoscopic application of light to ablate abnormal tissue via activation of photosensitive drug(s)) from line 329 CANCER OF PROSTATE GLAND
3) Add CPT 55875 (Transperineal placement of needles or catheters into prostate for interstitial radioelement application, with or without cystoscopy) to line 662/GN173 as shown in Appendix A

MOTION: To recommend the code and guideline note changes as presented. CARRIES 7-0. *(Absent: Allen)*

- **Topic: Hybrid artificial disc replacement with fusion**

  Discussion: Smits reviewed the summary document. There was no discussion.

  Recommended Actions:
  1) Modify GN 101 as shown in Appendix A

  MOTION: To recommend the guideline note changes as presented. CARRIES 7-0. *(Absent: Allen)*

- **Topic: Clarification of coverage of replacement of spinal cord stimulators**

  Discussion: Smits reviewed the summary document. There was a question about why "under warranty" was included. Hodges replied that if the device is under warranty, then the replacement was covered by the manufacturer.

  It was noted that three of the CPT codes for revision of spinal cord stimulators needed to be removed from the complications lines and added to the back surgery lines to allow the guideline to apply to those procedures. The subcommittee requested that staff make this modification to the staff recommendations.

  Recommended Actions:
  1) Remove CPT 63663 (Revision including replacement, when performed, of spinal neurostimulator electrode percutaneous array(s), including fluoroscopy, when performed), 63664 (Revision including replacement, when performed, of spinal neurostimulator electrode plate/paddle(s) placed via laminotomy or laminectomy, including fluoroscopy, when performed) and 63688 (Revision or removal of implanted spinal neurostimulator pulse generator or receiver) from lines 285 COMPLICATIONS OF A PROCEDURE ALWAYS REQUIRING TREATMENT and 424 COMPLICATIONS OF A PROCEDURE USUALLY REQUIRING TREATMENT and add to lines 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS, 346 CONDITIONS OF THE BACK AND SPINE WITH URGENT SURGICAL INDICATIONS, and 529 CONDITIONS OF THE BACK AND SPINE WITHOUT URGENT SURGICAL INDICATIONS.
  2) Revise GN 178 as shown in Appendix B

  MOTION: To recommend the code and guideline note changes as amended. CARRIES 7-0. *(Absent: Allen)*

- **Topic: Stereotactic body radiation therapy and stereotactic radiosurgery**

  Discussion: Smits reviewed the summary document. There was no discussion.

  Recommended Actions:
  1) Remove CPT 77432 (Stereotactic radiation treatment management of cranial lesion(s)) from all lines not involving cranial lesions

a. 71 NEUROLOGICAL DYSFUNCTION IN BREATHING, EATING, SWALLOWING, BOWEL, OR BLADDER CONTROL CAUSED BY CHRONIC CONDITIONS; ATTENTION TO OSTOMIES
b. 157 CANCER OF COLON, RECTUM, SMALL INTESTINE AND ANUS
c. 199 CANCER OF SOFT TISSUE
d. 214 CANCER OF KIDNEY AND OTHER URINARY ORGANS
e. 215 CANCER OF STOMACH
f. 229 MALIGNANT MELANOMA OF SKIN
g. 259 CANCER OF ENDOCRINE SYSTEM, EXCLUDING THYROID; CARCINOID SYNDROME
h. 262 CANCER OF LUNG, BRONCHUS, PLEURA, TRACHEA, MEDIASTINUM AND OTHER RESPIRATORY ORGANS
i. 276 CANCER OF SKIN, EXCLUDING MALIGNANT MELANOMA
j. 287 CANCER OF ORAL CAVITY, PHARYNX, NOSE AND LARYNX
k. 315 CANCER OF LIVER
l. 316 CANCER OF PANCREAS
m. 317 STROKE
n. 372 BENIGN NEOPLASM OF RESPIRATORY AND INTRATHORACIC ORGANS
o. 434 CANCER OF GALLBLADDER AND OTHER BILIARY
p. 592 SECONDARY AND ILL-DEFINED MALIGNANT NEOPLASMS

MOTION: To recommend the code changes as presented. CARRIES 7-0. *(Absent: Allen)*

- **Topic: Artificial hearts**

Discussion: Smits reviewed the summary document. There was no discussion.

Recommended Actions:
1) Modify GN173 as shown in Appendix A

MOTION: To recommend the guideline note changes as presented. CARRIES 7-0. *(Absent: Allen)*

- **Topic: Computer assisted bronchoscopy**

Discussion: Smits reviewed the summary document. There was no discussion.

Recommended Actions:
1) Modify GN173 as shown in Appendix A

MOTION: To recommend the guideline note changes as presented. CARRIES 7-0. *(Absent: Allen)*

- **Public Comment:**

No additional public comment was received.

- **Issues for next meeting:**
  - Oncotype Dx for prostate cancer
  - Inguinal/femoral hernia repair

- **Next meeting:**

  March 11, 2021 virtual meeting.

- **Adjournment:**

  The meeting adjourned at 12:45 PM.

Appendix A
Revised Guideline Notes

STATEMENT OF INTENT 1: PALLIATIVE CARE

It is the intent of the Commission that palliative care services are covered for patients with a life-threatening or serious progressive illness to alleviate symptoms and improve quality of life.

Palliative care services should include culturally appropriate discussions and medical decision making aligned with patient's personal goals of therapy, assessment of symptom burden, assistance with advance care planning, care coordination, emotional, psychosocial and spiritual support for patients and their families. Palliative care services may be provided concurrently with life prolonging/curative treatments.

Some examples of services associated with an encounter for palliative care (ICD-10 Z51.5) that should be available to patients without regard to Prioritized List line placement:

A) Inpatient palliative care consultations
   1) Hospital Care E&M (CPT 99218-99233)
B) Outpatient palliative care consultations provided in either the office or home setting
   1) E&M Services (CPT 99201-99215)
   2) Transitional Care Management Services (CPT 99495-6)
   3) Advance Care Planning (CPT 99497-8)
   4) Chronic Care Management (CPT 99487-99490)
C) Psychological support and grief counseling (CPT 99201-99215)
D) Medical equipment and supplies for the management of symptomatic complications or support activities of daily living
E) Medications or acupuncture to reduce pain and symptom burden
F) Surgical procedures or therapeutic interventions (for example, palliative radiation therapy) to relieve pain or symptom burden
G) Biofeedback (CPT 90875, 90876, 90901) for treatment of cancer pain

Other services associated with palliative care includes:

A) Social Work
B) Clinical Chaplain/ Spiritual Care
C) Care Coordination

It is NOT the intent of the Commission that coverage for palliative care encompasses those treatments that seek to prolong life despite substantial burdens of treatment and limited chance of benefit. See Guideline Note 12 PATIENT-CENTERED CARE OF ADVANCED CANCER.

Appendix A
Revised Guideline Notes

ANCILLARY GUIDELINE A5, TELEHEALTH, TELECONSULTATIONS AND ONLINE/TELEPHONIC SERVICES
Telehealth services include a variety of health services provided by synchronous or asynchronous electronic communications, including secure electronic health portal, audio, or audio and video as well as remote monitoring devices.

Criteria for coverage

The clinical value of the telehealth service delivered must reasonably approximate the clinical value of the equivalent services delivered in-person.

Coverage of telehealth services requires the same level of documentation, medical necessity, and coverage determinations as in-person visits. Specifically, covered telehealth services must meet all of the following criteria.

A) Documentation must include all of the following:
   1) use model SOAP charting, or as described in program's OAR;
   2) include patient history, provider assessment, treatment plan and follow-up instructions;
   3) support the assessment and plan;
   4) retain encounter in the patient's medical record and be retrievable.
B) Include medical decision making or service delivery (e.g. behavioral health intervention/psychotherapy, other forms of therapy).
C) Include permanent storage (online or hard copy) of the encounter.
D) Meet applicable HIPAA standards for privacy and security, except for regulations for which federal authorities are exercising enforcement discretion. (Certain requirements for encryption will not be enforced by federal authorities (or required by OHP) during the COVID-19 emergency.) This means services such as Facetime, Skype or Google Hangouts can be used for service delivery. See https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html for details.) HIPAA compliant platforms should be used whenever possible.
E) Include patient-clinician agreement of informed consent, discussed with and agreed to by the patient and documented in the medical record.

Examples of reimbursable telephone or online services include but are not limited to:

A) Extended counseling when person-to-person contact would involve an unwise delay or exposure to infectious disease.
B) Treatment of relapses that require significant investment of provider time and judgment.
C) Counseling and education for patients with complex chronic conditions.

Examples of non-reimbursable telehealth services include but are not limited to:

A) Prescription renewal.
B) Scheduling a test.
C) Reporting normal test results.
D) Requesting a referral.
E) Services which are part of care plan oversight or anticoagulation management (CPT codes 99339-99340, 99374-99380 or 99363-99364).

F) Services which relate to or take place within the postoperative period of a procedure provided by the physician are not separately covered. (Such a service is considered part of the procedure and is not be billed separately.)

Telehealth services billed using in-person codes

Telehealth services described in this section are synchronous services, generally provided with both audio and video capability and billed with the same procedure codes that would be billed for in-person services, with mode of delivery indicated by the use of specific modifiers and/or place of service codes specified by the plan. Telephone visits are an acceptable replacement for the equivalent service provided by synchronous audio and video, if synchronous audio and video capabilities are not available or feasible.

The patient may be in the community or in a health care setting. The provider may be in any location in which appropriate privacy can be ensured. If language services are provided, the interpreter may be in any location in which appropriate privacy can be ensured.

Codes eligible for telehealth delivery billed in this manner include 90785, 90791, 90792, 90832-90834, 90836, 90837-90840, 90846, 90847, 90951, 90952, 90954, 90955, 90957, 90958, 90960, 90961, 90963, 90964-90970, 96116, 96156-96171, 96160, 96161, 97802-97804, 99201-99205, 99211-99215, 99231-99233, 99307-99310, 99354-99357, 99406-99407, 99495-99498, G0108-G0109, G0270, G0296, G0396, G0397, G0406-G0408, G0420, G0421, G0425-G0427, G0438-G0439, G0442-G0447, G0459, G0506, G0508, G0509, G0513, G0514, G2086-G2088. Additional codes are covered when otherwise appropriate according to this guideline note and other applicable coverage criteria.

The originating site code Q3014 is covered only when the patient is present in an appropriate health care setting and receiving services from a provider in another location.

Telehealth services are covered for inpatient, outpatient and emergency services for new or established patients.

Clinician to Patient Services billed using specified codes indicating telephone or online service delivery

Telephonic and online services, including services related to diagnostic workup (CPT 98966-98968, 99441-99443, 99421-99423, 98970-98972, ~~G2010,~~ G2012, G2061-G2063, G2251-G2253) are covered for services for new and established patients.

Covered telephone and online services billed using these codes do not include either of the following:

A) Services related to a service performed and billed by the physician or qualified health professional within the previous seven days, regardless of whether it is the result of patient-initiated or physician-requested follow-up.
B) Services which result in the patient being seen within 24 hours or the next available appointment.

Clinician-to-Clinician Consultations (telephonic, online or using electronic health record)

Appendix A
Revised Guideline Notes

Coverage of interprofessional consultations delivered online, through electronic health records or by telephone is included as follows:

Consulting Providers (CPT 99451, 99446-99449)

A) For new or established patients.
B) Consult must be requested by another provider.
C) Can be for a new or an exacerbated condition.
D) Cannot be reported more than 1 time per 7 days for the same patient.
E) Must report cumulative time spent, even if time occurs over multiple days.
F) Cannot be reported if a transfer of care or request for face-to-face visit occurs as a result of the consultation within the following 14 days.
G) Cannot be reported if the patient was seen by the consultant within the past 14 days.
H) The request and reason for consultation is documented in the patient's medical record.
I) Requires a minimum of 5 minutes of medical consultation, discussion and/or review.

Requesting Providers (CPT 99452)

A) Consult must be reported by requesting provider. (not for the transfer of a patient or request for face-to-face consult)
B) Reported only when the patient is not on-site with the requesting provider at the time of consultation.
C) Cannot be reported more than 1 time per 14 days per patient.
D) Requires a minimum of 16 minutes. Includes time for referral prep and/or communicating with the consultant.
E) Can be reported with prolonged services, non-direct.

DIAGNOSTIC GUIDELINE D17, PRENATAL GENETIC TESTING

The following types of prenatal genetic testing and genetic counseling are covered for pregnant women:

A) Genetic counseling (CPT 96040, HPCPS S0265) for high-risk women who have family history of inheritable disorder or carrier state, ultrasound abnormality, previous pregnancy with aneuploidy, or elevated risk of neural tube defect.
B) Genetic counseling (CPT 96040, HPCPS S0265) prior to consideration of chorionic villus sampling (CVS), amniocentesis, microarray testing, Fragile X, and spinal muscular atrophy screening
C) Validated questionnaire to assess genetic risk in all pregnant women
D) Screening high-risk ethnic groups for hemoglobinopathies (CPT 83020, 83021)
E) Screening for aneuploidy with any of six screening strategies [first trimester (nuchal translucency, beta-HCG and PAPP-A), integrated, serum integrated, stepwise sequential, contingency, and cell free fetal DNA testing] (CPT 76813, 76814, 81508, -81510, 81511, 81420, 81507, 81512, 82105, 82677,84163)
F) Ultrasound for structural anomalies between 18 and 20 weeks gestation (CPT 76811, 76812)
G) CVS or amniocentesis (CPT 59000, 59015, 76945,76946, 82106, 88235, 88261-88264, 88267, 88269, 88280, 88283, 88285, 88289,88291) for a positive aneuploidy screen, maternal age >34, fetal structural anomalies, family history of inheritable chromosomal disorder or elevated risk of neural tube defect.

Appendix A
Revised Guideline Notes

H) Array CGH (CPT 81228, 81229) when major fetal congenital anomalies are apparent on imaging, or with normal imaging when array CGH would replace karyotyping performed with CVS or amniocentesis in (H) above.
I) FISH testing (CPT 88271, 88272, 88274, 88275, 81171, 81172) only if karyotyping is not possible due a need for rapid turnaround for reasons of reproductive decision-making (i.e. at 22w4d gestation or beyond)
J) Screening for Tay-Sachs carrier status (CPT 81255) in high-risk populations. First step is hex A, and then additional DNA analysis in individuals with ambiguous Hex A test results, suspected variant form of TSD or suspected pseudodeficiency of Hex A
K) Screening for cystic fibrosis carrier status once in a lifetime (CPT 81220-81224)
L) Screening for fragile X status (CPT 81243, 81244, 81171. 81172) in patients with a personal or family history of
    a. fragile X tremor/ataxia syndrome
    b. premature ovarian failure
    c. unexplained early onset intellectual disability
    d. fragile X intellectual disability
    e. unexplained autism through the pregnant woman's maternal line
M) Screening for spinal muscular atrophy (CPT 81329) once in a lifetime
N) Screening ~~those with Ashkenazi Jewish heritage~~ for Canavan disease (CPT 81200), familial dysautonomia (CPT 81260), and Tay-Sachs carrier status (CPT 81255). Ashkenazi Jewish carrier panel testing (CPT 81412) is covered if the panel would replace and would be of similar or lower cost than individual gene testing including CF carrier testing.
O) Expanded carrier screening only for those genetic conditions identified above

The following genetic screening tests are not covered:
A) Serum triple screen
B) Expanded carrier screening which includes results for conditions not explicitly recommended for coverage

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx.

GUIDELINE NOTE 47, URINARY INCONTINENCE

Line 455

Surgery for genuine stress urinary incontinence may be indicated when all of the following are documented (A-G):
A) Patient history of (1, 2, and 3):
    1) Involuntary loss of urine with exertion
    2) Identification and treatment of transient causes of urinary incontinence, if present (e.g., delirium, infection, pharmaceutical causes, psychological causes, excessive urine production, restricted mobility, and stool impaction)
    3) Involuntary loss of urine on examination during stress (provocative test with direct visualization of urine loss) and low or absent post void residual
B) Patient's voiding habits
C) Physical or laboratory examination evidence of either (1 or 2):

1) Urethral hypermobility
2) Intrinsic sphincter deficiency

D) Diagnostic workup to rule out urgency incontinence
E) Negative preoperative pregnancy test result unless patient is postmenopausal or has been previously sterilized
F) Nonmalignant cervical cytology, if cervix is present
G) Patient required to have 3 months of alternative therapy (e.g., pessaries or physical therapy, including bladder training~~,~~ and/or pelvic floor exercises ~~and/or biofeedback~~, as available). If limited coverage of physical therapy is available, patients should be taught pelvic floor exercises by their treating provider, physical therapist or trained staff, and have documented consistent practice of these techniques over the 3 month period.

GUIDELINE NOTE 50, PELVIC ORGAN PROLAPSE SURGERY

Line 466

Hysterectomy, cystocele repair, and/or other surgery for pelvic organ prolapse may be indicated when all of the following are documented (A-E):

A) Patient history of symptoms of pelvic prolapse such as:
   1) Complaints of the pelvic organs prolapsing at least to the introitus, and one or more of the following:
      b) Low back discomfort or pelvic pressure, or
      c) Difficulty in defecating, or
      d) Difficulty in voiding
B) For hysterectomy
   1) Nonmalignant cervical cytology, if cervix is present, and
   2) Assessment for absence of endometrial malignancy in the presence of abnormal bleeding
C) Physical examination is consistent with patient's symptoms of pelvic support defects indicating either symptomatic prolapse of the cervix, enterocele, cystocele, rectocele or prolapse of the vaginal vault
D) Negative preoperative pregnancy test unless patient is postmenopausal or has been previously sterilized
E) Patient required to have 3 months of alternative therapy (e.g., pessaries or physical therapy, including bladder training~~,~~ and/or pelvic floor exercises ~~and/or biofeedback~~, as available). If limited coverage of physical therapy is available, patients should be taught pelvic floor exercises by their treating provider, physical therapist or trained staff, and have documented consistent practice of these techniques over the 3 month period.

GUIDELINE NOTE 92, ACUPUNCTURE

Lines 1,4,5,92,111,112,114,125,129,133,135,157,158,191,199-202,208,210,214,215,229,234,237, 238,258,259,261,262,271,276,286,287,294,314-316,329,342,361,372,396,397,401,402,409,410,420, 434,461,463,538,540,558

Inclusion of acupuncture (CPT 97810-97814) on the Prioritized List has the following limitations:

Line 1 PREGNANCY

Acupuncture pairs on Line 1 for the following conditions and codes.

Appendix A
Revised Guideline Notes

Hyperemesis gravidarum

ICD-10-CM: O21.0, O21.1

Acupuncture pairs with hyperemesis gravidarum when a diagnosis is made by the maternity care provider and referred for acupuncture treatment for up to 12 sessions of acupressure/acupuncture per pregnancy.

Breech presentation

ICD-10-CM: O32.1

Acupuncture (and moxibustion) is paired with breech presentation when a referral with a diagnosis of breech presentation is made by the maternity care provider, the patient is between 33 and 38 weeks gestation, for up to 6 session per pregnancy.

Back and pelvic pain of pregnancy

ICD-10-CM: O99.89

Acupuncture is paired with back and pelvic pain of pregnancy when referred by maternity care provider/primary care provider for up to 12 sessions per pregnancy.

Line 4 SUBSTANCE USE DISORDER

Acupuncture is included on this line only when used as part of a program that offer patients a variety of evidence-based interventions including behavioral interventions, social support, and Medication Assisted Treatment (MAT), as appropriate.

Line 5 TOBACCO DEPENDENCE

Acupuncture is included on this line for a maximum of 12 sessions per quit attempt up to two quit attempts per year; additional sessions may be authorized if medically appropriate.

Lines 92, 111, 112, 114, 125, 129, 133, 135, 157, 158, 191, 199, 200, 208, 210, 214, 215, 229, 234, 237, 238, 258, 259, 261, 262, 271, 276, 286, 287, 294, 314, 315, 316, 329, 342, 372, 396, 397, 420, 434 and 558

Acupuncture is paired only with the ICD-10 code G89.3 (Neoplasm related pain (acute) (chronic)) when there is active cancer and limited to 12 total sessions per year; patients may have additional visits authorized beyond these limits if medically appropriate.

Line 201 CHRONIC ORGANIC MENTAL DISORDERS INCLUDING DEMENTIAS

Acupuncture is paired with the treatment of post-stroke depression only. Treatments may be billed to a maximum of 30 minutes face-to-face time and limited to 12 total sessions per year, with documentation of meaningful improvement; patients may have additional visits authorized beyond these limits if medically appropriate.

Line 361 SCOLIOSIS

Acupuncture is included on this line with visit limitations as in Guideline Note 56 NON-INTERVENTIONAL TREATMENTS FOR CONDITIONS OF THE BACK AND SPINE.

Line 402 CONDITIONS OF THE BACK AND SPINE

Acupuncture is included on this line with visit limitations as in Guideline Note 56 NON-INTERVENTIONAL TREATMENTS FOR CONDITIONS OF THE BACK AND SPINE.

Line 410 MIGRAINE HEADACHES

Acupuncture pairs on Line 410 for migraine (ICD-10-CM G43.0, G43.1, G43.5, G43.7, G43.8, G43.9), for up to 12 sessions per year.

Line 463 OSTEOARTHRITIS AND ALLIED DISORDERS

Acupuncture pairs on Line 463 for osteoarthritis of the knee only (ICD-10-CM M17), for up to 12 sessions per year.

*Line 540 TENSION HEADACHES

Appendix A
Revised Guideline Notes

Acupuncture is included on Line 540 for treatment of tension headaches (ICD-10-CM G44.2), for up to 12 sessions per year.

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx

*Below the current funding line.

GUIDELINE NOTE 101, ARTIFICIAL DISC REPLACEMENT

Lines 346,529

Artificial disc replacement (CPT 22856-22865) is included on ~~these lines~~ line 346 as an alternative to fusion only when all of the following criteria are met:

Lumbar artificial disc replacement

A) Patients must first complete a structured, intensive, multi-disciplinary program for management of pain, if covered by the agency;
B) Patients must be 60 years or under;
C) Patients must meet FDA approved indications for use and not have any contraindications. FDA approval is device specific but includes:
   - Failure of at least six months of conservative treatment
   - Skeletally mature patient
   - Replacement of a single disc for degenerative disc disease at one level confirmed by patient history and imaging

Cervical artificial disc replacement

A) Patients must meet FDA approved indications for use and not have any contraindications. FDA approval is device specific but includes:
   - Skeletally mature patient
   - Reconstruction of a single disc following single level discectomy for intractable symptomatic cervical disc disease (radiculopathy or myelopathy) confirmed by patient findings and imaging.

Otherwise, artificial disc replacement is included on line 529.

Artificial disc replacement combined with fusion in a single procedure (hybrid procedure) is not covered.

The development of this guideline note was informed by a HERC coverage guidance. See http://www.oregon.gov/oha/herc/Pages/blog-artificial-disc-replace.aspx

GUIDELINE NOTE 106, PREVENTIVE SERVICES

Lines 3,622

Included on Line 3 are the following preventive services:

Appendix A
Revised Guideline Notes

A) US Preventive Services Task Force (USPSTF) "A" and "B" Recommendations in effect and issued prior to January 1, 2020.
   1) http://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/
      a) Treatment of falls prevention with exercise interventions is included on Line 292.
   2) USPSTF "D" recommendations are not included on this line or any other line of the Prioritized List.

B) American Academy of Pediatrics (AAP) Bright Futures Guidelines:
   1) http://brightfutures.aap.org. Periodicity schedule available at http://www.aap.org/en-us/professional-resources/practice-support/Periodicity/Periodicity Schedule_FINAL.pdf.
   2) Screening for lead levels is defined as blood lead level testing and is indicated for Medicaid populations at 12 and 24 months. In addition, blood lead level screening of any child between ages 24 and 72 months with no record of a previous blood lead screening test is indicated.

C) Health Resources **and Services Administration (HRSA) Women's Preventive Services-Required Health Plan Coverage Guidelines a**s updated by HRSA in December 2019. Available at https://www.hrsa.gov/womens-guidelines-2019 as of September 4, 2020.

D) Immunizations as recommended by the Advisory Committee on Immunization Practices (ACIP): http://www.cdc.gov/vaccines/schedules/hcp/index.html or approved for the Oregon Immunization Program: https://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/ImmunizationProviderResources/Documents/DMAPvactable.pdf
   1) COVID-19 vaccines are intended to be included on this line even if the specific administration code(s) do not yet appear on the line when the vaccine has both 1) FDA approval or FDA emergency use authorization (EUA) and 2) ACIP recommendation.

Colorectal cancer screening is included on Line 3 for average-risk adults aged 50 to 75, using one of the following screening programs:

A) Colonoscopy every 10 years
B) Flexible sigmoidoscopy every 5 years
C) Fecal immunochemical test (FIT) every year
D) Guaiac-based fecal occult blood test (gFOBT) every year

Colorectal cancer screening for average-risk adults aged 76 to 85 is covered only for those who

A) Are healthy enough to undergo treatment if colorectal cancer is detected, and
B) Do not have comorbid conditions that would significantly limit their life expectancy.

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx

GUIDELINE NOTE 178, SPINAL CORD STIMULATOR THERAPY

Lines 292,346,529

A spinal cord stimulator trial is included on Lines 292 and 346 only when a patient meets all of the following criteria:

Appendix A
Revised Guideline Notes

A) The patient has moderate to severe (>5 on the VAS pain scale) neuropathic pain and objective neurologic impairment with documented pathology related to pain complaint (i.e. abnormal MRI). Neurologic impairment is defined as objective evidence of one or more of the following:
   1) Markedly abnormal reflexes
   2) Segmental muscle weakness
   3) Segmental sensory loss
   4) EMG or NCV evidence of nerve root impingement
   5) Cauda equina syndrome
   6) Neurogenic bowel or bladder
   7) Long tract abnormalities; AND
B) The patient has failed 12 or more months of other treatment modalities (e.g. pharmacological, surgical, physical therapy, cognitive therapy, and activity lifestyle modification); AND
C) The patient has had an evaluation by a mental health provider (e.g., a face-to-face assessment with or without psychological questionnaires and/or psychological testing) which revealed no evidence of an inadequately controlled mental health problem (e.g., alcohol or drug dependence, depression, psychosis) and the patient receives written clearance from the mental health provider for device placement.

Implantation of a spinal cord stimulator is included on Lines 292 and 346 when the trial criteria above are met and the patient experienced significant pain reduction (50% or more) with a 3 to 7 day trial of percutaneous spinal stimulation.

Spinal cord stimulation (CPT 63650-63688) is not included on Line 292 when paired with ICD-10-CM category G90.5 Complex regional pain syndrome/reflex sympathetic dystrophy.

Replacement of a spinal cord stimulator is included on lines 292 and 346 only for patients who
1) meet the criteria for initial insertion above; AND
2) have experienced significant pain reduction (50% or more) with the stimulator prior to its malfunction; AND
3) and the existing stimulator is no longer under warranty and cannot be repaired.

Otherwise, spinal cord stimulation therapy is included on Line 529.

GUIDELINE NOTE 192, SACRAL NERVE STIMULATION FOR URINARY CONDITIONS

Lines 327,455

Sacral nerve stimulation is included on these lines only for urinary incontinence, non-obstructive urinary retention, and overactive bladder AND only when all of the following criteria are met:

A) The patient has had symptoms for at least 12 months and the condition has resulted in significant disability (the frequency and/or severity of symptoms are limiting the member's ability to participate in daily activities); AND
B) Documented failure or intolerance to pharmacotherapies and behavioral treatments (e.g., pelvic floor exercise, ~~biofeedback,~~ timed voids, and fluid management) and, for non-obstructive urinary retention, intermittent catheterization; AND
C) The patient must be an appropriate surgical candidate such that implantation with anesthesia can occur; AND

Appendix A
Revised Guideline Notes

D) The patient does not have stress incontinence, urinary obstruction, or specific neurologic diseases (e.g., diabetes with peripheral nerve involvement, spinal cord injury, or multiple sclerosis); AND

E) Patient must have had a successful test stimulation, defined as a 50% or greater improvement in symptoms.

GUIDELINE NOTE 173, INTERVENTIONS THAT ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS FOR CERTAIN CONDITIONS

Line 662

The following Interventions are prioritized on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS:

Procedure Code	Intervention Description	Rationale	Last Review
C1825	Generator, neurostimulator (implantable), non-rechargeable with carotid sinus baroreceptor stimulation lead(s)	Insufficient evidence of effectiveness	January 2021
C9771	Nasal/sinus endoscopy, cryoablation nasal tissue(s) and/or nerve(s), unilateral or bilateral	Insufficient evidence of effectiveness	January 2021
C9772-C9775	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies), with intravascular lithotripsy	Insufficient evidence of effectiveness	January 2021
G2010, G2250	Remote assessment of recorded video and/or images	Clinical value not established	January 2021
31627	Computer assisted bronchoscopy	Insufficient evidence of effectiveness	~~December, 2009~~ January 2021
33927-33929	Total artificial heart	Unproven treatment	~~November, 2017~~ January 2021
55875	Transperineal placement of needles or catheters into prostate for interstitial radioelement application, with or without cystoscopy	Insufficient evidence of effectiveness	January 2021
81443	Expanded carrier screening	Insufficient evidence of effectiveness	~~November, 2018~~ January 2021
~~82610~~	~~Cystatin~~	~~Insufficient evidence of effectiveness~~	~~October, 2020~~
90875-90876	Individual psychophysiological therapy incorporating biofeedback	Insufficient evidence of effectiveness	January 2021

Appendix A
Revised Guideline Notes

Procedure Code	Intervention Description	Rationale	Last Review
90901	training by any modality Biofeedback training by any modality		
90912-90913	Biofeedback training, perineal muscles, anorectal or urethral sphincter, including EMG and/or manometry, when performed	Insufficient evidence of effectiveness	January 2021

HCPC	LONG DESCRIPTION	Suggested Placement
C1062	Intravertebral body fracture augmentation with implant (e.g., metal, polymer)	478 CLOSED DISLOCATIONS/FRACTURES OF NON-CERVICAL VERTEBRAL COLUMN WITHOUT NEUROLOGIC INJURY OR STRUCTURAL INSTABILITY
C1825	Generator, neurostimulator (implantable), non-rechargeable with carotid sinus baroreceptor stimulation lead(s)	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
C9770	Vitrectomy, mechanical, pars plana approach, with subretinal injection of pharmacologic/biologic agent	95 DIABETIC AND OTHER RETINOPATHY 139 GLAUCOMA, OTHER THAN PRIMARY ANGLE-CLOSURE 247 RETAINED INTRAOCULAR FOREIGN BODY, MAGNETIC AND NONMAGNETIC 279 RETINAL DETACHMENT AND OTHER RETINAL DISORDERS 285 COMPLICATIONS OF A PROCEDURE ALWAYS REQUIRING TREATMENT 299 VITREOUS DISORDERS 318 PURULENT ENDOPHTHALMITIS 348 MILD/MODERATE BIRTH TRAUMA FOR BABY 360 CHORIORETINAL INFLAMMATION 383 CENTRAL SEROUS CHORIORETINOPATHY 424 COMPLICATIONS OF A PROCEDURE USUALLY REQUIRING TREATMENT
C9771	Nasal/sinus endoscopy, cryoablation nasal tissue(s) and/or nerve(s), unilateral or bilateral	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
C9772	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies), with intravascular lithotripsy, includes angioplasty within the same vessel (s), when performed	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS

HCPC	LONG DESCRIPTION	Suggested Placement
C9773	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy, and transluminal stent placement(s), includes angioplasty within the same vessel(s), when performed	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
C9774	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy and atherectomy, includes angioplasty within the same vessel (s), when performed	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
C9775	Revascularization, endovascular, open or percutaneous, tibial/peroneal artery(ies); with intravascular lithotripsy and transluminal stent placement(s), and atherectomy, includes angioplasty within the same vessel (s), when performed	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
G0088	Professional services, initial visit, for the administration of anti-infective, pain management, chelation, pulmonary hypertension, inotropic, or other intravenous infusion drug or biological (excluding chemotherapy or other highly complex drug or biological) for each infusion drug administration calendar day in the individual's home, each 15 minutes	All lines with E&M codes
G0089	Professional services, initial visit, for the administration of subcutaneous immunotherapy or other subcutaneous infusion drug or biological for each infusion drug administration calendar day in the individual's home, each 15 minutes	All lines with E&M codes
G0090	Professional services, initial visit, for the administration of intravenous chemotherapy or other highly complex infusion drug or biological for each infusion drug administration calendar day in the individual's home, each 15 minutes	All lines with E&M codes

HCPC	LONG DESCRIPTION	Suggested Placement
G2211	Visit complexity inherent to evaluation and management associated with medical care services that serve as the continuing focal point for all needed health care services and/or with medical care services that are part of ongoing care related to a patient's single, serious condition or a complex condition. (add-on code, list separately in addition to office/outpatient evaluation and management visit, new or established)	All lines with E&M codes
G2212	Prolonged office or other outpatient evaluation and management service(s) beyond the maximum required time of the primary procedure which has been selected using total time on the date of the primary service; each additional 15 minutes by the physician or qualified healthcare professional, with or without direct patient contact (list separately in addition to cpt codes 99205, 99215 for office or other outpatient evaluation and management services) (do not report g2212 on the same date of service as 99354, 99355, 99358, 99359, 99415, 99416). (do not report g2212 for any time unit less than 15 minutes)	All lines with E&M codes
G2213	Initiation of medication for the treatment of opioid use disorder in the emergency department setting, including assessment, referral to ongoing care, and arranging access to supportive services (list separately in addition to code for primary procedure)	4 SUBSTANCE USE DISORDER
G2214	Initial or subsequent psychiatric collaborative care management, first 30 minutes in a month of behavioral health care manager activities, in consultation with a psychiatric consultant, and directed by the treating physician or other qualified health care professional	All lines with E&M codes

HCPC	LONG DESCRIPTION	Suggested Placement
G2250	Remote assessment of recorded video and/or images submitted by an established patient (e.g., store and forward), including interpretation with follow-up with the patient within 24 business hours, not originating from a related service provided within the previous 7 days nor leading to a service or procedure within the next 24 hours or soonest available appointment	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
G2251	Brief communication technology-based service, e.g. virtual check-in, by a qualified health care professional who cannot report evaluation and management services, provided to an established patient, not originating from a related service provided within the previous 7 days nor leading to a service or procedure within the next 24 hours or soonest available appointment; 5?10 minutes of clinical discussion	All lines with E&M codes
G2252	Brief communication technology-based service, e.g. virtual check-in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related e/m service provided within the previous 7 days nor leading to an e/m service or procedure within the next 24 hours or soonest available appointment; 11-20 minutes of medical discussion	All lines with E&M codes
M0239	Intravenous infusion, bamlanivimab-xxxx, includes infusion and post administration monitoring	399 INFLUENZA, NOVEL RESPIRATORY VIRUSES
M0243	Intravenous infusion, casirivimab and imdevimab includes infusion and post administration monitoring	399 INFLUENZA, NOVEL RESPIRATORY VIRUSES

HCPC	LONG DESCRIPTION	Suggested Placement
U0005	Infectious agent detection by nucleic acid (dna or rna); severe acute respiratory syndrome coronavirus 2 (sars-cov-2) (coronavirus disease [covid-19]), amplified probe technique, cdc or non-cdc, making use of high throughput technologies, completed within 2 calendar days from date of specimen collection (list separately in addition to either hcpcs code u0003 or u0004) as described by cms-2020-01-r2	Diagnostic Procedures File

Appendix C
New Guideline Notes

GUIDELINE NOTE XXX, PANNICULECTOMY
Line 625
Panniculectomy (CPT 15830) is included on this line when ALL of the following conditions are met:

1) The pannus hangs at or below the level of the symphysis pubis as evidence by photographs; AND
2) The pannus is causing persistent intertriginous dermatitis, cellulitis, or skin ulceration, which is refractory to at least three months of medical management, including topical antifungals, topical and/or systemic corticosteroids, and/or local or systemic antibiotics; AND
3) There is documented difficulty with ambulation and/or interference with the activities of daily living due to the pannus.

If the procedure is being performed following significant weight loss, in addition to meeting the criteria noted above, there should be evidence that the individual has maintained a stable weight for at least six months. If the weight loss is the result of bariatric surgery, panniculectomy should not be performed until at least 18 months after bariatric surgery and only when weight has been stable for at least the most recent six months.

Panniculectomy is not included on this line for any other indication, including but not limited to when performed primarily for ANY of the following:

1) treatment of neck or back pain; OR
2) improving appearance (i.e., cosmesis); OR
3) treating psychological symptomatology or psychosocial concerns; OR
4) when performed in conjunction with abdominal or gynecological procedures (e.g., abdominal hernia repair, hysterectomy, obesity surgery) unless criteria for panniculectomy are met separately.

GUIDELINE NOTE XXX, PANNICULECTOMY
Line 625
Panniculectomy (CPT 15830) is included on this line when ALL of the following conditions are met:

4) The pannus hangs at or below the level of the symphysis pubis as evidence by photographs; AND
5) The pannus is causing persistent intertriginous dermatitis, cellulitis, or skin ulceration, which is refractory to at least three months of medical management, including topical antifungals, topical and/or systemic corticosteroids, and/or local or systemic antibiotics; AND
6) There is documented difficulty with ambulation and/or interference with the activities of daily living due to the pannus.

If the procedure is being performed following significant weight loss, in addition to meeting the criteria noted above, there should be evidence that the individual has maintained a stable weight for at least six months. If the weight loss is the result of bariatric surgery, panniculectomy should not be performed until at least 18 months after bariatric surgery and only when weight has been stable for at least the most recent six months.

Panniculectomy is not included on this line for any other indication, including but not limited to when performed primarily for ANY of the following:

5) treatment of neck or back pain; OR
6) improving appearance (i.e., cosmesis); OR
7) treating psychological symptomatology or psychosocial concerns; OR
8) when performed in conjunction with abdominal or gynecological procedures (e.g., abdominal hernia repair, hysterectomy, obesity surgery) unless criteria for panniculectomy are met separately.

Section 2.0

Staff Report

Errata
March 2021

1) The lines attached to the acupuncture guideline were incorrect. The lines containing acupuncture CPT codes did not match the lines listed in the guideline. These where corrected. The corrected portion of the guideline appears below:

   GUIDELINE NOTE 92, ACUPUNCTURE
   Lines 1,4,5,12,62,64,65,~~,~~92,111,112,114,125,129,133,135,157,158,191,199-201 ~~202~~,208,210,214, 215,229,234,237,238,258,259,~~261,~~262,271,276,286,287,294,314-316,329,342,361,~~372,~~396,397, ~~401,~~402,~~409,~~410,420,434,~~461,~~463,~~538,~~540,558

2) One NCCN reference was missed in updating the cancer genetic testing guideline. As the other references to the same NCCN guideline were updated, HERC staff felt that the HERC intention was to update all references to this same guideline. The relevant excerpt from the corrected guideline is below:

   DIAGNOSTIC GUIDELINE D25, HEREDITARY CANCER GENETIC TESTING
   Related to genetic testing for patients with breast/ovarian and colon/endometrial cancer or other related cancers suspected to be hereditary, or patients at increased risk to due to family history, services are provided according to the Comprehensive Cancer Network Guidelines.
   A) Lynch syndrome (hereditary colorectal, endometrial and other cancers associated with Lynch syndrome) services (CPT 81288, 81292-81300, 81317-81319, 81435, 81436) and familial adenomatous polyposis (FAP) services (CPT 81201-81203) should be provided as defined by the NCCN Clinical Practice Guidelines in Oncology. Genetic/Familial High-Risk Assessment: Colorectal V1.2020 (7/21/20) www.nccn.org.
   B) Breast and ovarian cancer syndrome genetic testing services (CPT 81162-81167, 81212, 81215-81217) for patients without a personal history of breast, ovarian and other associated cancers should be provided to high-risk patients as defined by the US Preventive Services Task Force or according to the NCCN Clinical Practice Guidelines in Oncology: Genetic/Familial High-Risk Assessment: Breast, Ovarian and Pancreatic V1.2021 (9/8/20) www.nccn.org.
   C) Breast and ovarian cancer syndrome genetic testing services (CPT 81162-81167, 81212, 81215-81217)) for women with a personal history of breast, ovarian, or other associated cancers and for men with breast or other associated cancers should be provided according to the NCCN Clinical Practice Guidelines in Oncology. Genetic/Familial High-Risk Assessment: Breast, Ovarian and Pancreatic V1.2021 (9/8/20) www.nccn.org.
   D) PTEN (Cowden syndrome) services (CPT 81321-81323) should be provided as defined by the NCCN Clinical Practice Guidelines in Oncology. Genetic/Familial High-Risk Assessment: Breast and Ovarian, Ovarian and Pancreatic ~~and ovarian.~~ ~~V2.2019 (7/30/18).~~ V1.2021 (9/8/20) or Genetic/Familial High-Risk Assessment: Colorectal V1.2020 (7/21/20) www.nccn.org.

3) The newly renamed Line 399 was renamed without the 'Novel' in its new title; this was corrected.

Issues Discussed with Leadership with No Changes Recommended
March 2021

1) Cardiac PET:
    a. The Oregon Heart Center requested a re-review of cardiac PET. Cardiac PET was included in a coverage guidance in 2015 and received a strong recommendation against coverage. Review of literature after 2015 did not find any new studies or systematic reviews that would change this conclusion: "Insufficient evidence; also has potential risks of radiation exposure, unlike alternatives and is higher cost." Cardiac PET was re-reviewed in 2019 when new cardiac PET CPT codes were released; specifically, the effectiveness of cardiac PET in the diagnosis and management of sarcoidosis was discussed and found not have evidence to support its use in this situation.
    b. Consultation with our EGBS cardiology expert, Dr. Eric Stecker, also found that ATTR (a rare form of cardiac amyloidosis) was a possible indication. An expert consensus article on ATTR was found which did not support the use of PET in this situation, finding that it was an "emerging quantitative diagnostic approach" based on current evidence. CMS currently allows cardiac PET for diagnosis of amyloidosis only under "Coverage with Evidence Development." This was discussed with Eric Stecker, the cardiologist on EGBS, who concurred with the staff conclusion. He did indicate two situations in which cardiac PET should be approved, most likely by exception:
        i. Despite lack of compelling evidence, use of cardiac PET is very clinically important as the best test for the following:
            1. Diagnosing isolated cardiac sarcoidosis in patients with a pacemaker or ICD who therefore cannot get an MRI (since only alternative, cardiac biopsy, is risky and is also not a gold standard due to patchiness)
            2. Titrating immunosuppression for giant cell myocarditis and sarcoidosis (since inadequate immunosuppression can lead to VT/VF or heart failure, and too much immunosuppression creates risk of toxicity, infections, cancers)

Section 3.0

Consent Agenda-

Straightforward Items

Consent Agenda Issues—March 2021

Code	Code Description	Line(s) Involved	Issue	Recommendation(s)
D2928	Prefabricated porcelain/ceramic crown – permanent tooth	591 DENTAL CONDITIONS (E.G., CARIES, FRACTURED TOOTH)	D2928 was a new code for 2021. It was added to the Excluded File in November 2020, at the advice of OHAP. However, DCOs are requested that it be added to line 591 to match D2929 (Prefabricated porcelain/ceramic crown - primary tooth) to allow for exceptions	Add D2928 to line 591 Advise HSD to remove from the Excluded File

Nerve Block Ancillary Guideline Reaffirmation

Issue: HSD rules require an ad hoc review for coverage decisions related to topics that HERC has not reviewed within the last five years. It was been almost 7 years since the last review of the Nerve Block Ancillary Guideline. HERC staff considers the current nerve block guideline to be appropriate and recommends reaffirmation.

HERC staff recommendation:

1) Reaffirm Ancillary Guideline 1 as shown below

ANCILLARY GUIDELINE A1, NERVE BLOCKS

The Health Evidence Review Commission intends that single injection and continuous nerve blocks (CPT 64400-64450, 64461-64463, 64505-64530) should be covered services if they are required for successful completion of perioperative pain control for, or post-operative recovery from a covered operative procedure when the diagnosis requiring the operative procedure is also covered. Additionally, nerve blocks, are covered services for patients hospitalized with trauma, cancer, or intractable pain conditions, if the underlying condition is a covered diagnosis.

Screening Codes

Issue: The placement of code that represent screening for various conditions (alcohol misuse, depression, etc.) are not consistently placed. Some are on all lines with E&M codes (e.g. SBIRT codes like CPT 99408), some are Diagnostic AND on a line on the Prioritized List (e.g. 96160 and 96161 health risk assessment—on line 3 for post-partum depression screening and Diagnostic List), and some are Ancillary and on the Prioritized List (e.g. CPT 96127 for depression screening). These procedures are meant to be done at any type of visit (e.g. acute care visit, physical exam visit).

HERC staff feels that coverage of these services should be standardized. Placing on all lines with E&M codes makes coverage obvious to providers and plans, but these services might be denied if billed with a non-covered diagnosis (e.g. a visit for a upper respiratory infection). Placement on the Diagnostic List would make these codes always payable, but would not be as visible to providers.

CCO medical directors were queried about their preferences for placement, and felt that the Diagnostic List was a better placement.

CPT Code	Code description	Current placement
96160	Administration of patient-focused health risk assessment instrument (eg, health hazard appraisal) with scoring and documentation, per standardized instrument	Diagnostic Procedures 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
96161	Administration of caregiver-focused health risk assessment instrument (eg, depression inventory) for the benefit of the patient, with scoring and documentation, per standardized instrument	Diagnostic Procedures 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
96127	Brief emotional/behavioral assessment (eg, depression inventory, attention-deficit/hyperactivity disorder [ADHD] scale), with scoring and documentation, per standardized instrument	Ancillary Procedures 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
99408	Alcohol and/or substance (other than tobacco) abuse structured screening (eg, AUDIT, DAST), and brief intervention (SBI) services; 15 to 30 minutes	All lines with E&M codes
99409	greater than 30 minutes	All lines with E&M codes

HERC staff recommendations:

1) Advise HSD to add CPT 96127 (Brief emotional/behavioral assessment (eg, depression inventory, attention-deficit/hyperactivity disorder [ADHD] scale), with scoring and documentation, per standardized instrument) to the Diagnostic List and remove from the Ancillary file
2) Remove CPT 99408 and 99409 (DAST, SBIRT) from all lines on the Prioritized List
    a. Advise HSD to add CPT 96160 and 96161 to the Diagnostic Procedures file

Section 4.0

Biennial Review

2022 Biennial Review
Symptomatic Inguinal Hernias in Adults

Question: Should symptomatic inguinal hernias in adults be moved to a higher line?

Question source: Multiple CCOs, OHA ombudsperson office, legislators

Issue: Currently, inguinal hernias are only on a funded line for children 18 and under, and for adults if strangulated or obstructed. Uncomplicated inguinal hernias that are painful or impede the patient's ability to work are included on unfunded line.

The HERC staff summary from January 2021 read:

> Inguinal hernias are common. Watchful waiting can be a reasonable option for asymptomatic or minimally symptomatic patients. However, studies of watchful waiting showed that the majority (approximately 75%) of patients cross over to having surgery, generally due to pain. There are no studies on outcomes in patients who developed pain or dysfunction due to inguinal hernias and do not have repair. It is standard of care in high-income countries to allow repair for painful inguinal hernia. One systematic review pointed out that the natural history of inguinal hernias is different in women, and all women should have such hernias repaired.
>
> Meta-analysis of type of repair finds that mesh vs non-mesh repair are equivalent in outcomes, including pain, need for repeat surgery, and complications.

This topic was discussed at VBBS in January 2021 and the subcommittee members agreed that hernia coverage should be expanded in the following ways:

1) Women with inguinal or femoral hernias should have repair on the covered line due to the different natural history of disease in this population
2) In men, inguinal and femoral hernias should be included on the covered line if
    a. The hernia meets the current guideline requirements:
        i. They cause symptoms of intestinal obstruction and/or strangulation
        ii. They are incarcerated (defined as non-reducible by physical manipulation
    b. The hernia meets new requirements:
        i. It causes significant pain or function limitations
        ii. It causes the patient to have difficulty getting or maintaining gainful employment

The major points of debate at the January meeting were:

1) Should some type of objective measure of pain be included; if so, what type of measurement?
2) A desire to have some type of validated objective measurement of functional limitation. Staff were tasked with researching tools and reaching out to general surgeons for input on this issue
3) The proposed guideline wording was felt to be difficult for CCOs to implement. Staff were tasked with working with CCOs to refine the wording to improve usability

2022 Biennial Review
Symptomatic Inguinal Hernias in Adults

Current Prioritized List guideline:

GUIDELINE NOTE 24, COMPLICATED HERNIAS

Lines 168,524

Complicated hernias are included on Line 168 if they cause symptoms of intestinal obstruction and/or strangulation. Incarcerated hernias (defined as non-reducible by physical manipulation) are also included on Line 168, excluding incarcerated ventral hernias. Incarcerated ventral hernias (including incarcerated abdominal incisional and umbilical hernias) are included on Line 524, because the chronic incarceration of large ventral hernias does not place the patient at risk for impending strangulation. Ventral hernias are defined as anterior abdominal wall hernias and include primary ventral hernias (epigastric, umbilical, Spigelian), parastomal hernias and most incisional hernias (ventral incisional hernias). ICD-10-CM K42.0, K43.0, K43.3, K43.6 and K46.0 are included on Line 524 when used to designate incarcerated abdominal incisional and umbilical hernias without intestinal obstruction or gangrene.

Validated scoring tools:

The NIH has a set of validated tools for measuring various aspects of a person's mental, social, and physical functions. These tools can be found at https://www.healthmeasures.net/search-view-measures?view=search.

The tools most likely to be of use for physical functioning is the PROMIS short form. The tool most likely to be of use for pain is either the PROMIS Pain Interference scale or the ASCQ pain short form scale. However, these scales were developed for sickle cell disease or for research and may not be clinically appropriate in some cases for hernia.

2022 Biennial Review
Symptomatic Inguinal Hernias in Adults

HERC staff summary
Multiple validated scales exist for measuring physical function and pain, many available freely.

HERC staff recommendations:

1) Modify GN24 as shown below to allow inguinal hernia repair in an expanded set of circumstances
    a. Discuss what type of clinically significant findings need to be found to meet #3 below

GUIDELINE NOTE 24, COMPLICATED HERNIAS
Lines 168,524
Complicated inguinal and femoral hernias in men are included on Line 168 if

1) They cause symptoms of intestinal obstruction and/or strangulation; OR
2) They are incarcerated (defined as non-reducible by physical manipulation); OR
3) They cause significant pain or functional limitations as demonstrated by a clinically significant score on a validated tool; OR
4) Affect the patient's ability to obtain or maintain gainful employment.

Repair of inguinal and femoral hernias in women are included on Line 168 due to the different natural history of disease in this population.

Ventral hernias are included on line 524. Incarcerated ventral hernias (including incarcerated abdominal incisional and umbilical hernias) are included on Line 524, because the chronic incarceration of large ventral hernias does not place the patient at risk for impending strangulation. Ventral hernias are defined as anterior abdominal wall hernias and include primary ventral hernias (epigastric, umbilical, Spigelian), parastomal hernias and most incisional hernias (ventral incisional hernias). K42.0, K43.0, K43.3, K43.6 and K46.0 are included on Line 524 when used to designate incarcerated abdominal incisional and umbilical hernias without intestinal obstruction or gangrene.

Section 5.0

COVID Codes March 2021

COVID-19 Related Codes
March 2021

Issues:

1) Two new HCPCS codes have been released for a new monoclonal antibody product that received FDA EUA 2/9/21. The other two monoclonal antibody products had the infusion "M" code placed on line 399 and the "Q" code made Ancillary

HCPCS code effective February 9, 2021

M0245 intravenous infusion, bamlanivimab and etesevimab, includes infusion and post administration monitoring

Q0245 Injection, bamlanivimab and etesevimab, 2100 mg

Evidence

1) **Gottlieb 2021**, Effect of Bamlanivimab as Monotherapy or in Combination with Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19
    a. RCT, N=577 patients
    b. single infusion of bamlanivimab (700 mg [n = 101], 2800 mg [n = 107], or 7000 mg [n = 101]), the combination treatment (2800 mg of bamlanivimab and 2800 mg of etesevimab [n = 112]), or placebo (n = 156).
    c. Main outcome was change in viral load
        i. Compared with placebo, the differences in the change in log viral load at day 11 were 0.09 (95% CI, –0.35 to 0.59; P=0.69) for 700 mg, –0.27 (95% CI, –0.71 to 0.16; P=0.21) for 2800 mg, 0.31 (95% CI, –0.13 to 0.76; P=0.16) (16for 7000 mg, and –0.57 (95% CI, –1.00 to -0.14; P=0.01) for combination treatment.
    d. The proportion of patients with COVID-19–related hospitalizations or ED visits was 5.8% (9 events) for placebo, 1.0% (1 event) for 700 mg, 1.9% (2 events) for 2800 mg, 2.0% (2 events) for 7000 mg, and 0.9% (1 event) for combination treatment. Immediate hypersensitivity reactions were reported in 9 patients (6 bamlanivimab, 2 combination treatment, and 1 placebo).

HERC staff recommendations:

1) Add HCPCS M0245 (intravenous infusion, bamlanivimab and etesevimab, includes infusion and post administration monitoring) to line 399 INFLUENZA, COVID-19 AND OTHER NOVEL RESPIRATORY VIRAL ILLNESS
    a. Advise HSD to add HCPCS Q0245 (Injection, bamlanivimab and etesevimab, 2100 mg) to the Ancillary List
        i. Will not be open to payment currently as provided for free from the federal government

February 9, 2021

Eli Lilly and Company
Attention: Christine Phillips, PhD, RAC
Advisor Global Regulatory Affairs - US
Lilly Corporate Center
Drop Code 2543
Indianapolis, IN 46285

RE: Emergency Use Authorization 094

Dear Ms. Phillips:

This letter is in response to Eli Lilly and Company's ("Lilly") request that the Food and Drug Administration (FDA) issue an Emergency Use Authorization (EUA) for emergency use of bamlanivimab and etesevimab administered together for the treatment of mild to moderate coronavirus disease 2019 (COVID-19), as described in the Scope of Authorization (Section II) of this letter, pursuant to Section 564 of the Federal Food, Drug, and Cosmetic Act (the Act) (21 U.S.C. §360bbb-3).

On February 4, 2020, pursuant to Section 564(b)(1)(C) of the Act, the Secretary of the Department of Health and Human Services (HHS) determined that there is a public health emergency that has a significant potential to affect national security or the health and security of United States citizens living abroad, and that involves the virus that causes COVID-19.[1] On the basis of such determination, the Secretary of HHS on March 27, 2020, declared that circumstances exist justifying the authorization of emergency use of drugs and biological products during the COVID-19 pandemic, pursuant to Section 564 of the Federal Food, Drug, and Cosmetic Act (the Act) (21 U.S.C. 360bbb-3), subject to terms of any authorization issued under that section.[2]

Bamlanivimab and etesevimab are neutralizing IgG1 monoclonal antibodies that bind to distinct but overlapping epitopes within the receptor binding domain of the spike protein of SARS-CoV-2. They are both investigational drugs and are not currently approved for any indication.

Based on the review of the data from the Phase 2/3 BLAZE-1 trial (NCT04427501), an ongoing randomized, double-blind, placebo-controlled clinical trial, and the Phase 2 BLAZE-4 trial (NCT04634409), an ongoing randomized, double-blind, placebo-controlled clinical trial, it is reasonable to believe that bamlanivimab and etesevimab administered together may be effective

[1] U.S. Department of Health and Human Services, *Determination of a Public Health Emergency and Declaration that Circumstances Exist Justifying Authorizations Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3.* February 4, 2020.
[2] U.S. Department of Health and Human Services, *Declaration that Circumstances Exist Justifying Authorizations Pursuant to Section 564(b) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb-3*, 85 FR 18250 (April 1, 2020).

for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization, and that, when used under the conditions described in this authorization, the known and potential benefits of bamlanivimab and etesevimab administered together outweigh the known and potential risks of such products.

Having concluded that the criteria for issuance of this authorization under Section 564(c) of the Act are met, I am authorizing the emergency use of bamlanivimab for treatment of COVID-19, as described in the Scope of Authorization section of this letter (Section II) and subject to the terms of this authorization.

I. Criteria for Issuance of Authorization

I have concluded that the emergency use of bamlanivimab and etesevimab for the treatment of COVID-19 when administered as described in the Scope of Authorization (Section II) meets the criteria for issuance of an authorization under Section 564(c) of the Act, because:

1. SARS-CoV-2 can cause a serious or life-threatening disease or condition, including severe respiratory illness, to humans infected by this virus;

2. Based on the totality of scientific evidence available to FDA, it is reasonable to believe that bamlanivimab and etesevimab administered together may be effective in treating mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization, and that, when administered as described in the Scope of Authorization (Section II) and used under the conditions described in this authorization, the known and potential benefits of bamlanivimab and etesevimab outweigh the known and potential risks of such product; and

3. There is no adequate, approved, and available alternative to the emergency use of bamlanivimab and etesevimab as described in the Scope of Authorization (Section II) for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization.[3]

II. Scope of Authorization

I have concluded, pursuant to Section 564(d)(1) of the Act, that the scope of this authorization is limited as follows:

[3] No other criteria of issuance have been prescribed by regulation under Section 564(c)(4) of the Act.

- Distribution of the authorized bamlanivimab and etesevimab will be controlled by the United States (U.S.) Government for use consistent with the terms and conditions of this EUA. Lilly will supply bamlanivimab and etesevimab to authorized distributors[4], who will distribute to healthcare facilities or healthcare providers as directed by the U.S. Government, in collaboration with state and local government authorities as needed;

- The bamlanivimab and etesevimab covered by this authorization will be administered together only by healthcare providers to treat mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization;

- Etesevimab may only be administered together with bamlanivimab[5];

- Bamlanivimab and etesevimab are not authorized for use in the following patient populations[6]:

    - Adults or pediatric patients who are hospitalized due to COVID-19, or
    - Adults or pediatric patients who require oxygen therapy due to COVID-19, or
    - Adults or pediatric patients who require an increase in baseline oxygen flow rate due to COVID-19 in those patients on chronic oxygen therapy due to underlying non-COVID-19-related comorbidity.

- Bamlanivimab and etesevimab may only be administered together in settings in which health care providers have immediate access to medications to treat a severe infusion reaction, such as anaphylaxis, and the ability to activate the emergency medical system (EMS), as necessary.

- The use of bamlanivimab and etesevimab covered by this authorization must be in accordance with the dosing regimens as detailed in the authorized Fact Sheets.

Product Description

[4] "Authorized Distributor(s)" are identified by Lilly as an entity or entities allowed to distribute authorized bamlanivimab.

[5] At the time of the issuance of this EUA, bamlanivimab, a monoclonal antibody therapy, is authorized under a separate EUA as a monotherapy for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization. (For a listing of FDA EUAs, see FDA's website at: Emergency Use Authorization | FDA). Etesevimab, alone, has not been evaluated as a treatment for patients with COVID-19. Etesevimab may only be administered together with bamlanivimab consistent with the terms and conditions of this authorization.

[6] Treatment with bamlanivimab and etesevimab has not been studied in patients hospitalized due to COVID-19. Monoclonal antibodies, such as bamlanivimab and etesevimab, may be associated with worse clinical outcomes when administered to hospitalized patients with COVID-19 requiring high flow oxygen or mechanical ventilation.

Bamlanivimab and etesevimab are neutralizing IgG1 monoclonal antibodies that bind to distinct but overlapping epitopes within the receptor binding domain of the spike protein of SARS-CoV-2. Bamlanivimab injection, 700 mg/20 mL, and etesevimab, 700 mg/20 mL, are sterile, preservative-free clear to opalescent and colorless to slightly yellow to slightly brown solutions to be diluted prior to infusion. One vial of bamlanivimab (20 mL) and two vials of etesevimab (40 mL) are to be added to a prefilled 0.9% sodium chloride infusion bag as described in the healthcare provider fact sheet. The authorized bamlanivimab includes a vial label and/or carton labeling that is clearly marked "For use under Emergency Use Authorization (EUA)". The authorized etesevimab includes a vial label and/or carton labeling that is clearly marked "For use under Emergency Use Authorization (EUA)" and "MUST ADMINISTER WITH BAMLANIVIMAB."

Bamlanivimab, injection, 700 mg/20 mL, and etesevimab, injection, 700mg/20 mL vials should be stored in unopened vials under refrigerated temperature at 2°C to 8°C (36°F to 46°F) in the original carton to protect from light until time of use. Diluted bamlanivimab and etesevimab infusion solution can be stored for up to 24 hours at refrigerated temperature (2°C to 8°C [36°F to 46°F]) and up to 7 hours at room temperature (20°C to 25°C [68°F to 77°F]) including infusion time.

Bamlanivimab and etesevimab are authorized for emergency use as described in the Scope of Authorization (Section II) with the following product-specific information required to be made available to healthcare providers and patients, parents, and caregivers, respectively, through Lilly's website at www.BAMandETE.com:

- Fact Sheet for Health Care Providers: Emergency Use Authorization (EUA) of Bamlanivimab and Etesevimab

- Fact Sheet for Patients, Parents and Caregivers: Emergency Use Authorization (EUA) of Bamlanivimab and Etesevimab for Coronavirus Disease 2019 (COVID-19)

I have concluded, pursuant to Section 564(d)(2) of the Act, that it is reasonable to believe that the known and potential benefits of bamlanivimab and etesevimab when used for the treatment of COVID-19 and used in accordance with this Scope of Authorization (Section II), outweigh its known and potential risks.

I have concluded, pursuant to Section 564(d)(3) of the Act, based on the totality of scientific evidence available to FDA, that it is reasonable to believe that bamlanivimab and etesevimab may be effective for the treatment of COVID-19 when used in accordance with this Scope of Authorization (Section II), pursuant to Section 564(c)(2)(A) of the Act.

Having reviewed the scientific information available to FDA, including the information supporting the conclusions described in Section I above, I have concluded that bamlanivimab and etesevimab (as described in this Scope of Authorization (Section II)) meet the criteria set forth in Section 564(c) of the Act concerning safety and potential effectiveness.

The emergency use of your product under an EUA must be consistent with, and may not exceed, the terms of the Authorization, including the Scope of Authorization (Section II) and the Conditions of Authorization (Section III). Subject to the terms of this EUA and under the circumstances set forth in the Secretary of HHS's determination under Section 564(b)(1)(C) described above and the Secretary of HHS's corresponding declaration under Section 564(b)(1), bamlanivimab and etesevimab administered together are authorized to treat mild to moderate COVID-19 illness in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 illness and/or hospitalization as described in the Scope of Authorization (Section II) under this EUA, despite the fact that it does not meet certain requirements otherwise required by applicable federal law.

III. Conditions of Authorization

Pursuant to Section 564 of the Act, I am establishing the following conditions on this authorization:

Eli Lilly and Company (Lilly) and Authorized Distributors

A. Lilly and authorized distributor(s) will ensure that the authorized bamlanivimab and etesevimab are distributed, as directed by the U.S. government, and the authorized labeling (i.e., Fact Sheets) will be made available to healthcare facilities and/or healthcare providers consistent with the terms of this letter.

B. Lilly and authorized distributor(s) will ensure that appropriate storage and cold chain is maintained until the product is delivered to healthcare facilities and/or healthcare providers.

C. Lilly and authorized distributor(s) will ensure that the terms of this EUA are made available to all relevant stakeholders (e.g., U.S. government agencies, state and local government authorities, authorized distributors, healthcare facilities, healthcare providers) involved in distributing or receiving authorized bamlanivimab and etesevimab. Lilly will provide to all relevant stakeholders a copy of this letter of authorization and communicate any subsequent amendments that might be made to this letter of authorization and its authorized accompanying materials (i.e., Fact Sheets).

D. Lilly may request changes to this authorization, including to the authorized Fact Sheets for bamlanivimab and etesevimab. Any request for changes to this EUA must be submitted to the Office of Infectious Diseases/Office of New Drugs/Center for Drug Evaluation and Research. Such changes require appropriate authorization prior to implementation.[7]

[7] The following types of revisions may be authorized without reissuing this letter: (1) changes to the authorized labeling; (2) non-substantive editorial corrections to this letter; (3) new types of authorized labeling, including new fact sheets; (4) new carton/container labels; (5) expiration dating extensions; (6) changes to manufacturing processes, including tests or other authorized components of manufacturing; (7) new conditions of authorization to require data collection or study; (8) new strengths of the authorized product, new product sources (e.g., of active pharmaceutical ingredient) or of product components. For changes to the authorization, including the authorized labeling, of the type listed in (3), (6), (7), or (8), review and concurrence is required from the Counter-Terrorism and Emergency Coordination Staff/Office of the Center Director/CDER and the Office of Counterterrorism and Emerging Threats/Office of the Chief Scientist.

E. Lilly may develop instructional and educational materials to facilitate the emergency use of the authorized bamlanivimab and etesevimab (e.g., materials providing information on product administration and/or patient monitoring) under condition D of this EUA.

F. Lilly will report to FDA serious adverse events and all medication errors associated with the use of the authorized bamlanivimab and etesevimab that are reported to Lilly using either of the following options.

Option 1: Submit reports through the Safety Reporting Portal (SRP) as described on the FDA SRP web page.

Option 2: Submit reports directly through the Electronic Submissions Gateway (ESG) as described on the FAERS electronic submissions web page.

Submitted reports under both options should state: "bamlanivimab and etesevimab use for COVID-19 under Emergency Use Authorization (EUA)." For reports submitted under Option 1, include this language at the beginning of the question "Describe Event" for further analysis. For reports submitted under Option 2, include this language at the beginning of the "Case Narrative" field.

G. All manufacturing facilities will comply with Current Good Manufacturing Practice requirements.

H. Lilly will retain an independent third party (i.e., not affiliated with Lilly) to conduct a review of the batch records and any underlying data and associated discrepancies of bamlanivimab drug substance manufactured at Lilly Branchburg, NJ.

- For all batches manufactured prior to the effective date of this authorization, these batches can be released while review is ongoing.
- For all batches manufactured after the effective date of this authorization, the third party review can be performed concurrent to Lilly's batch release process.

If the independent review finds, prior to release, a discrepancy with significant potential to affect critical quality attributes, the product must not be released unless and until the issue is satisfactorily resolved. Any discrepancies found by the independent review, whether prior to or after release, must be reported to the Agency in a summary report, submitted every 14 calendar days, and include Lilly's corrective and preventive action plans for each discrepancy, including whether market action is required. The plans must include an appropriate evaluation of each discrepancy's potential impact on any released drug substance and associated drug product.

I. Lilly will retain an independent third-party (i.e., not affiliated with Lilly) to conduct laboratory release testing of bamlanivimab drug substance manufactured at Lilly, Branchburg (excluding bioburden and endotoxin testing). Any discrepancies found by the independent laboratory must be reported to the Agency in a summary report, submitted

every 14 calendar days, and include Lilly's corrective and preventive action plans for each discrepancy. The plans must include an appropriate evaluation of each discrepancy's potential impact on any released drug substance and associated drug product.

J. Lilly will submit information to the Agency within three working days of receipt of any information concerning any batch of bamlanivimab or etesevimab (whether the batch is distributed or not), as follows: (1) information concerning any incident that causes the product or its labeling to be mistaken for, or applied to, another article; and (2) information concerning any microbiological contamination, or any significant chemical, physical, or other change in deterioration in the product, or any failure of one or more batches of the product to meet the established specifications. Lilly will include in its notification to the Agency whether the batch, or batches, in question will be recalled. If FDA requests that these, or any other batches, at any time, be recalled, Lilly must recall them.

K. Lilly will not implement any changes to the description of the product, manufacturing process, facilities and equipment, and elements of the associated control strategy that assure process performance and quality of the authorized product without notification to and concurrence by the Agency as described under condition D.

L. Lilly will manufacture and test bamlanivimab and etesevimab per the process and methods, including in-process sampling and testing and finishing product testing (release and stability) to meet all specifications as detailed in Lilly's EUA request.

M. Lilly will individually list bamlanivimab and etesevimab with a unique product NDC under the marketing category of Unapproved Drug- Other. Further, each listing will include each establishment where manufacturing is performed for the drug and the type of operation performed at each such establishment.

N. Through a process of inventory control, Lilly and authorized distributor(s) will maintain records regarding distribution of the authorized bamlanivimab and etesevimab (i.e., lot numbers, quantity, receiving site, receipt date).

O. Lilly and authorized distributor(s) will make available to FDA upon request any records maintained in connection with this EUA.

Healthcare Facilities to Whom the Authorized Bamlanivimab and Etesevimab Are Distributed and Healthcare Providers Administering the Authorized Bamlanivimab and Etesevimab

P. Healthcare facilities and healthcare providers will ensure that they are aware of the letter of authorization, and the terms herein, and that the authorized Fact Sheets are made available to healthcare providers and to patients and caregivers, respectively, through appropriate means, prior to administration of bamlanivimab and etesevimab as described in the Scope of Authorization (Section II) under this EUA.

Q. Healthcare facilities and healthcare providers receiving bamlanivimab and etesevimab will track serious adverse events that are considered to be potentially attributable to the use of

bamlanivimab and etesevimab under this authorization and must report these to FDA in accordance with the Fact Sheet for Healthcare Providers. Complete and submit a MedWatch form (www.fda.gov/medwatch/report.htm), or Complete and submit FDA Form 3500 (health professional) by fax (1-800-FDA-0178) (these forms can be found via link above). Call 1-800-FDA-1088 for questions. Submitted reports should state, "bamlanivimab and etesevimab use for COVID-19 under Emergency Use Authorization (EUA)" at the beginning of the question "Describe Event" for further analysis.

R. Healthcare facilities and healthcare providers will ensure that appropriate storage and cold chain is maintained until the products are administered consistent with the terms of this letter.

S. Through a process of inventory control, healthcare facilities will maintain records regarding the dispensed authorized bamlanivimab and etesevimab (i.e., lot numbers, quantity, receiving site, receipt date), product storage, and maintain patient information (e.g., patient name, age, disease manifestation, number of doses administered per patient, other drugs administered).

T. Healthcare facilities will ensure that any records associated with this EUA are maintained until notified by Lilly and/or FDA. Such records will be made available to Lilly, HHS, and FDA for inspection upon request.

U. Healthcare facilities and providers will report therapeutics information and utilization data as directed by the U.S. Department of Health and Human Services.

Conditions Related to Printed Matter, Advertising and Promotion

V. All descriptive printed matter, as well as advertising and promotional material, relating to the use of the bamlanivimab and etesevimab under this authorization shall be consistent with the authorized labeling, as well as the terms set forth in this EUA and the applicable requirements set forth in the Act and FDA regulations.

W. No descriptive printed matter, as well as advertising or promotional material, relating to the use of bamlanivimab and etesevimab under this authorization may represent or suggest that such products are safe or effective when used for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization.

X. All descriptive printed matter, as well as advertising and promotional material, relating to the use of the bamlanivimab and etesevimab under this authorization clearly and conspicuously shall state that:

- Bamlanivimab and etesevimab have not been approved, but have been authorized for emergency use by FDA to be administered together for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12

years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization.

- Bamlanivimab and etesevimab are authorized to be administered together for the treatment of mild to moderate COVID-19 in adults and pediatric patients (12 years of age and older weighing at least 40 kg) with positive results of direct SARS-CoV-2 viral testing, and who are at high risk for progressing to severe COVID-19 and/or hospitalization only for the duration of the declaration that circumstances exist justifying the authorization of the emergency use of the bamlanivimab under Section 564(b)(1) of the Act, 21 U.S.C. § 360bbb-3(b)(1), unless the authorization is terminated or revoked sooner.

IV. Duration of Authorization

This EUA will be effective until the declaration that circumstances exist justifying the authorization of the emergency use of drugs and biological products during the COVID-19 pandemic is terminated under Section 564(b)(2) of the Act or the EUA is revoked under Section 564(g) of the Act.

Sincerely,

Denise M. Hinton -S

Digitally signed by Denise M. Hinton -S
Date: 2021.02.09 17:59:39 -05'00'

RADM Denise M. Hinton
Chief Scientist
Food and Drug Administration

JAMA | Original Investigation

Effect of Bamlanivimab as Monotherapy or in Combination With Etesevimab on Viral Load in Patients With Mild to Moderate COVID-19
A Randomized Clinical Trial

Robert L. Gottlieb, MD, PhD; Ajay Nirula, MD, PhD; Peter Chen, MD; Joseph Boscia, MD; Barry Heller, MD; Jason Morris, MD, MS; Gregory Huhn, MD, MPHTM; Jose Cardona, MD; Bharat Mocherla, MD; Valentina Stosor, MD; Imad Shawa, MD; Princy Kumar, MD; Andrew C. Adams, PhD; Jacob Van Naarden, BS; Kenneth L. Custer, PhD; Michael Durante, MS; Gerard Oakley, MD; Andrew E. Schade, MD, PhD; Timothy R. Holzer, PhD; Philip J. Ebert, PhD; Richard E. Higgs, PhD; Nicole L. Kallewaard, PhD; Janelle Sabo, PharmD; Dipak R. Patel, MD, PhD; Paul Klekotka, MD, PhD; Lei Shen, PhD; Daniel M. Skovronsky, MD, PhD

IMPORTANCE Coronavirus disease 2019 (COVID-19) continues to spread rapidly worldwide. Neutralizing antibodies are a potential treatment for COVID-19.

OBJECTIVE To determine the effect of bamlanivimab monotherapy and combination therapy with bamlanivimab and etesevimab on severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load in mild to moderate COVID-19.

DESIGN, SETTING, AND PARTICIPANTS The BLAZE-1 study is a randomized phase 2/3 trial at 49 US centers including ambulatory patients (N = 613) who tested positive for SARS-CoV-2 infection and had 1 or more mild to moderate symptoms. Patients who received bamlanivimab monotherapy or placebo were enrolled first (June 17-August 21, 2020) followed by patients who received bamlanivimab and etesevimab or placebo (August 22-September 3). These are the final analyses and represent findings through October 6, 2020.

INTERVENTIONS Patients were randomized to receive a single infusion of bamlanivimab (700 mg [n = 101], 2800 mg [n = 107], or 7000 mg [n = 101]), the combination treatment (2800 mg of bamlanivimab and 2800 mg of etesevimab [n = 112]), or placebo (n = 156).

MAIN OUTCOMES AND MEASURES The primary end point was change in SARS-CoV-2 log viral load at day 11 (±4 days). Nine prespecified secondary outcome measures were evaluated with comparisons between each treatment group and placebo, and included 3 other measures of viral load, 5 on symptoms, and 1 measure of clinical outcome (the proportion of patients with a COVID-19–related hospitalization, an emergency department [ED] visit, or death at day 29).

RESULTS Among the 577 patients who were randomized and received an infusion (mean age, 44.7 [SD, 15.7] years; 315 [54.6%] women), 533 (92.4%) completed the efficacy evaluation period (day 29). The change in log viral load from baseline at day 11 was −3.72 for 700 mg, −4.08 for 2800 mg, −3.49 for 7000 mg, −4.37 for combination treatment, and −3.80 for placebo. Compared with placebo, the differences in the change in log viral load at day 11 were 0.09 (95% CI, −0.35 to 0.52; $P = .69$) for 700 mg, −0.27 (95% CI, −0.71 to 0.16; $P = .21$) for 2800 mg, 0.31 (95% CI, −0.13 to 0.76; $P = .16$) for 7000 mg, and −0.57 (95% CI, −1.00 to −0.14; $P = .01$) for combination treatment. Among the secondary outcome measures, differences between each treatment group vs the placebo group were statistically significant for 10 of 84 end points. The proportion of patients with COVID-19–related hospitalizations or ED visits was 5.8% (9 events) for placebo, 1.0% (1 event) for 700 mg, 1.9% (2 events) for 2800 mg, 2.0% (2 events) for 7000 mg, and 0.9% (1 event) for combination treatment. Immediate hypersensitivity reactions were reported in 9 patients (6 bamlanivimab, 2 combination treatment, and 1 placebo). No deaths occurred during the study treatment.

CONCLUSIONS AND RELEVANCE Among nonhospitalized patients with mild to moderate COVID-19 illness, treatment with bamlanivimab and etesevimab, compared with placebo, was associated with a statistically significant reduction in SARS-CoV-2 viral load at day 11; no significant difference in viral load reduction was observed for bamlanivimab monotherapy. Further ongoing clinical trials will focus on assessing the clinical benefit of antispike neutralizing antibodies in patients with COVID-19 as a primary end point.

TRIAL REGISTRATION ClinicalTrials.gov Identifier: NCT04427501

JAMA. 2021;325(7):632-644. doi:10.1001/jama.2021.0202
Published online January 21, 2021.

Editor's Note page 644

Supplemental content

Author Affiliations: Author affiliations are listed at the end of this article.

Corresponding Author: Daniel M. Skovronsky, MD, PhD, Eli Lilly and Company, 893 Delaware St, Indianapolis, IN 46225 (skovronsky_daniel@lilly.com).

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) continues to spread rapidly worldwide, fueling the coronavirus disease 2019 (COVID-19) global pandemic. Patients infected with the virus display a wide range of symptoms including cough, fever, malaise, myalgias, gastrointestinal symptoms, ageusia, and anosmia; some individuals progress to acute respiratory distress syndrome and death. Severe illness typically occurs approximately 1 week after the onset of symptoms and can rapidly progress from mild symptoms.[1] The risk factors for severe COVID-19 include being male, older age, and having cardiovascular disease, lung disease, hypertension, diabetes, or obesity.[2,3]

Currently, only remdesivir (a viral RNA–dependent RNA polymerase inhibitor) has been approved by the US Food and Drug Administration for COVID-19 treatment, although steroids are now recommended by many professional societies, including the World Health Organization, as the primary treatment.[4-6] However, convalescent plasma and neutralizing monoclonal antibodies, a class of therapeutics that have exhibited efficacy in other viral infections and show promise in the reduction of SARS-CoV-2 viral load, have been granted Emergency Use Authorization.[7-12]

Bamlanivimab (also known as LY3819253 or LY-CoV555) and etesevimab (LY3832479 or LY-CoV016) are potent antispike neutralizing monoclonal antibodies that were derived from 2 separate patients who recovered from COVID-19 in North America and China, respectively.[13,14] In preclinical experiments, etesevimab was shown to bind a different epitope from bamlanivimab and to neutralize resistant variants with mutations in the epitope bound by bamlanivimab (eTable 1 in Supplement 1). Combining these 2 neutralizing monoclonal antibodies in clinical use may enhance viral load reduction and decrease treatment-emergent resistant variants.[15]

Interim results from the Blocking Viral Attachment and Cell Entry with SARS-CoV-2 Neutralizing Antibodies (BLAZE-1) trial with data for the 3 monotherapy doses of the neutralizing antibody bamlanivimab have been published.[9] The current report presents the final data set for patients randomized to the 4 treatment groups and the placebo group in the initial portion of the trial, including findings for the bamlanivimab and etesevimab combination group, the 3 bamlanivimab monotherapy groups, and the placebo group.

Key Points

Questions What is the effect of early treatment with antispike neutralizing antibodies on severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load in outpatients with mild to moderate coronavirus disease 2019 (COVID-19)?

Findings In the phase 2 portion of a randomized phase 2/3 clinical trial with 577 patients, there was no significant difference in change in viral load with 3 different doses of bamlanivimab monotherapy compared with placebo; treatment with a combination of bamlanivimab and etesevimab significantly decreased SARS-CoV-2 log viral load at day 11 compared with placebo (between-group difference, −0.57 [95% CI, −1.00 to −0.14], $P = .01$).

Meaning Treatment with bamlanivimab and etesevimab combination therapy, but not bamlanivimab monotherapy, resulted in a reduction in SARS-CoV-2 log viral load at day 11 in patients with mild to moderate COVID-19.

Methods

Study Design

This clinical trial is an ongoing, multipart, phase 2/3, randomized, double-blind, placebo-controlled, single-infusion study including patients with recently diagnosed mild or moderate COVID-19 in the outpatient setting.[9] The original and final protocol for the phase 2 trial, including the original and final statistical analysis plan, appear in Supplement 2. The trial complied with the Declaration of Helsinki, the International Conference on Harmonization Guidelines for Good Clinical Practice, and applicable local regulations. The protocol was reviewed and approved by the ethics committees of all participating centers, and patients provided written informed consent before study entry.

Patients

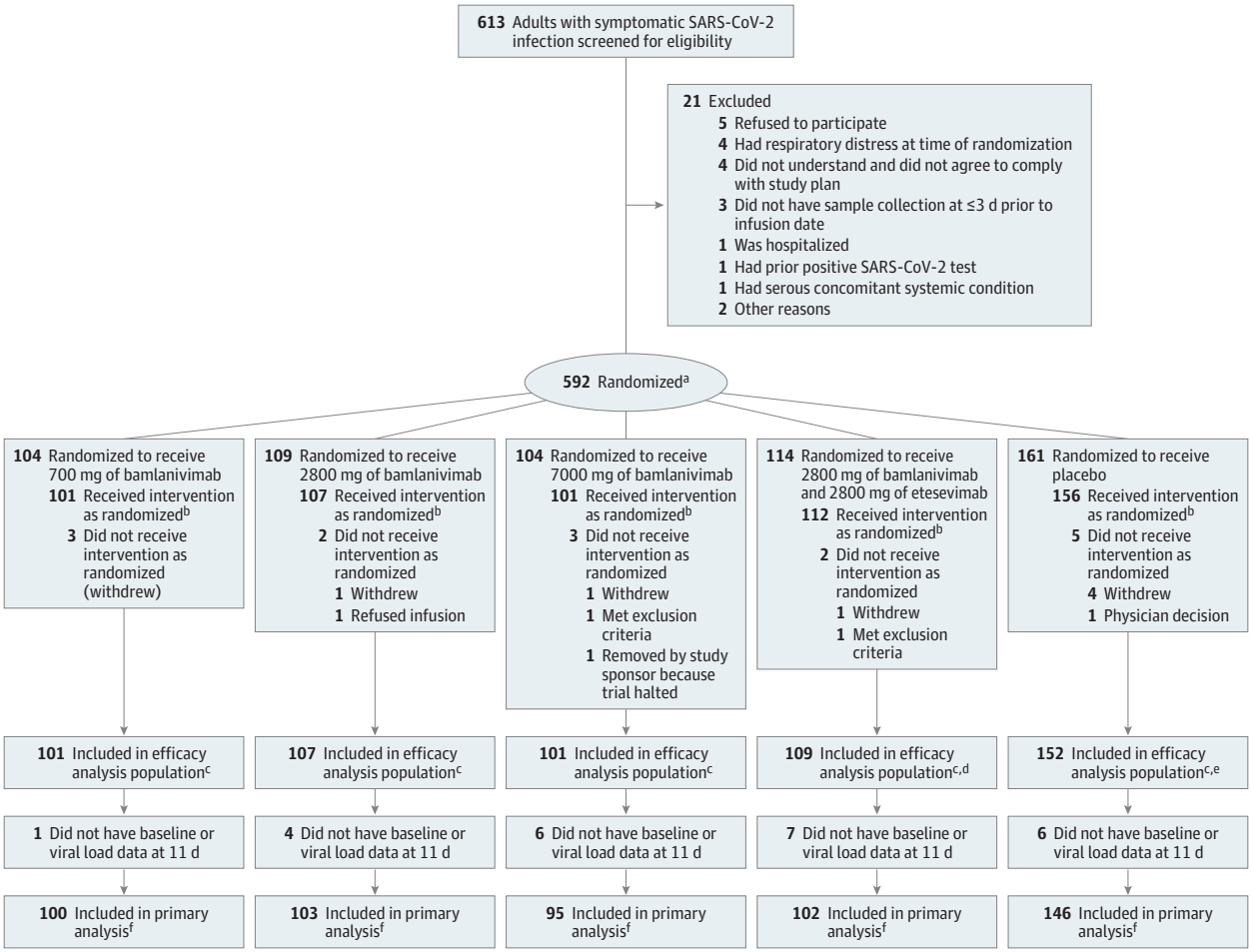
All patients were aged 18 years or older, tested positive for SARS-CoV-2 infection, had 1 or more mild to moderate symptoms, and presented within 3 days of their first positive test result for SARS-CoV-2 (either direct antigen or reverse transcriptase–polymerase chain reaction). Mild to moderate COVID-19 was defined per US Food and Drug Administration guidance and included symptoms such as fever, cough, sore throat, malaise, headache, muscle pain, gastrointestinal symptoms, and shortness of breath with exertion. Investigators reviewed symptoms, risk factors, and other noninvasive inclusion and exclusion criteria prior to enrollment (the full list of inclusion and exclusion criteria appears in the clinical protocol in Supplement 2). Patient-reported race and ethnicity categories were collected as part of the demographic characteristics.

Randomization and Intervention

This study evaluated the effect of bamlanivimab monotherapy and combination therapy with bamlanivimab and etesevimab on change in viral load during treatment of mild to moderate COVID-19. All participants were centrally randomized to each study intervention using an interactive web response system (**Figure 1**). Before the study was initiated, the log-in information and directions for the interactive web response system was provided to each of the 49 US study sites.

Randomization was stratified by patients' duration of symptoms (≤8 days vs >8 days) because symptom duration has an effect on prognosis.[9] The treatment was administered within 3 days of the first positive SARS-CoV-2 test sample collection. Each patient in the trial received a single, 1-hour, intravenous infusion of placebo, bamlanivimab, or bamlanivimab and etesevimab. This final analysis includes results for the 5 treatment groups: placebo, 700 mg of bamlanivimab, 2800 mg of

Figure 1. Patient Enrollment and Treatment Assignment of the BLAZE-1 Trial of Bamlanivimab for Mild to Moderate COVID-19



SARS-CoV-2 indicates severe acute respiratory syndrome coronavirus 2.

[a] Stratified by duration since symptom onset to randomization (≤8 days vs >8 days).

[b] Included in the adverse event analysis.

[c] Had data on at least 1 postbaseline viral load.

[d] Three patients were excluded from the efficacy analysis because they did not have data on at least 1 postbaseline viral load. However, these patients were included in the safety analysis because they did receive the intervention as randomized.

[e] Four patients were excluded from the efficacy analysis because they did not have data on at least 1 postbaseline viral load. However, these patients were included in the safety analysis because they did receive the intervention as randomized.

[f] Had data on viral load for both baseline and at day 11.

bamlanivimab, 7000 mg of bamlanivimab, and a combination treatment with 2800 mg of bamlanivimab and 2800 mg of etesevimab.

Patients who received bamlanivimab monotherapy or placebo were enrolled first (June 17-August 21, 2020) followed by patients who received bamlanivimab and etesevimab or placebo (August 22-September 3, 2020). The analysis was triggered on October 6, 2020, when the last patient randomized to treatment with bamlanivimab and etesevimab reached day 29 and includes all virological and symptom data available at that database lock. A previous report summarized earlier interim results of the 3 monotherapy doses of LY-CoV555 (bamlanivimab) vs placebo.[9] The interim analysis was triggered on September 5, 2020.

Primary and Secondary Outcomes

The primary outcome characterized the effect of bamlanivimab monotherapy and combination therapy with bamlanivimab and etesevimab compared with placebo on SARS-CoV-2 log viral load from baseline to day 11 (±4 days). Viral load was measured by nasopharyngeal swab followed by quantitative reverse transcriptase–polymerase chain reaction at a central laboratory. Derivation of the viral load measure is described in §6.10 of the statistical analysis plan (Supplement 2).

A total of 9 prespecified secondary outcome measures were evaluated. Three focused on viral load (time to viral clearance; proportion of patients with viral clearance at days 7, 11, 15, and 22; and viral load area under the curve [AUC] at day 29), 5 focused on symptoms (change in symptom score at days

7, 11, 15, and 22; time to symptom improvement; time to symptom resolution; and the proportion of patients showing symptom improvement or resolution at days 7, 11, 15, and 22), and 1 focused on clinical outcomes (the proportion of patients with a COVID-19–related hospitalization, emergency department visit, or death) at day 29.

A questionnaire was used to assess symptom severity. The total symptom score (range, 0-24) was achieved by rating 8 symptom domains (cough, shortness of breath, feeling feverish, fatigue, body aches and pain, sore throat, chills, headache) from none or absent (score of 0) to severe (score of 3) and combining them to provide an overall score (excluding loss of appetite, taste, and smell).[9]

Adverse events or serious adverse events also were evaluated. The subgroup analyses for participants enrolled with shorter (≤8 days) and longer (>8 days) duration of symptoms prior to randomization were prespecified and performed, but because the subgroup with a symtom duration of longer than 8 days was only approximately 8% of the participants, the results of these analyses are not reported.

Exploratory Outcomes

The total symptom score AUC from day 0 to day 11 and from day 0 to day 29 were analyzed using a linear model, which contained treatment as a fixed effect and baseline severity as a covariate. To assess the prevalence of resistance variants, nasopharyngeal samples were obtained at study enrollment (baseline sample), and then subsequent sampling was done at days 3, 7, 11, 15, 22, and 29. A treatment-emergent variant was determined by comparing the sequencing results from each study participant's baseline sample with the posttreatment samples. For instances in which a baseline next-generation sequencing result was not available (n = 37/448), the baseline status for these variants was imputed to the reference sequence of BetaCoV/Wuhan/IPBCAMS-WH-04/2019. Additional information about the methods used to detect resistance variants appears in the eMethods in Supplement 1.

Sample Size

A viral dynamic model was used to simulate viral loads over time for participants treated with bamlanivimab monotherapy, the bamlanivimab and etesevimab combination treatment, and placebo. This simulated population and Monte Carlo methods were used to estimate the statistical power associated with the comparison of change from baseline to day 11 (±4 days) in SARS-CoV-2 viral load between the treatment groups and the placebo group (additional details appear in §5.2 of the statistical analysis plan in Supplement 2).

Given these assumptions, a sample size of 100 participants per group was estimated to provide 91% power to test the superiority of bamlanivimab monotherapy or the bamlanivimab and etesevimab combination treatment vs placebo for the effect on viral load, as measured by change from baseline to day 11 (±4 days) at the 2-sided α level of .05.

Statistical Analyses

The SARS-CoV-2 viral load data were evaluated using a log base 10 scale. The treatment effects were compared using 2-sided tests with an α level of .05. Significance testing for the primary end point was performed using mixed-model repeated-measure analysis at the 2-sided .05 level. When the mixed-model repeated-measure analysis was used, it included: (1) treatment group, (2) stratification factor of duration since symptom onset to randomization (≤8 days vs >8 days), (3) baseline value in the model, (4) visit day (ie, 1, 3, 7, and 11), and (5) the treatment × visit interaction as fixed factors.

For the primary end point, the stratification factor of duration since symptom onset to randomization was not used in the model to avoid collinearity with baseline viral load. The Fisher exact test was used for the comparison of binary variables across treatment groups. Continuous outcome variables with a single time point were analyzed using analysis of covariance with (1) treatment group, (2) stratification factor of duration since symptom onset to randomization (≤8 days vs >8 days), and (3) baseline value in the model.

A post hoc analysis was performed evaluating COVID-19–related deterioration for patients aged 65 years or older or those with a body mass index (BMI; calculated as weight in kilograms divided by height in meters squared) of 35 or greater. COVID-19–related deterioration was defined as a patient experiencing a COVID-19–related hospitalization, an emergency department visit, or death.

Adjustments for multiple testing were not conducted for this study; therefore, the findings should be interpreted as exploratory. The full statistical analysis methods appear in §6.1 of the statistical analysis plan in Supplement 2. The statistical analyses were performed using Enterprise Guide 7.1 for SAS version 9.4 (SAS Institute Inc).

Results

Patient Demographics and Clinical Characteristics

At the time of the database lock (October 6, 2020), 577 patients had been randomized and had received an infusion of neutralizing monoclonal antibodies or placebo (Figure 1). There were 101 patients assigned to 700 mg of bamlanivimab, 107 patients assigned to 2800 mg of bamlanivimab, 101 patients assigned to 7000 mg of bamlanivimab, 112 patients assigned to combination therapy (2800 mg of bamlanivimab and 2800 mg of etesevimab), and 156 patients assigned to placebo. Patients in the bamlanivimab monotherapy groups, the bamlanivimab and etesevimab combination therapy group, and the placebo group were generally well balanced at the time of enrollment (**Table 1**).

The mean age of patients was 44.7 years (SD, 15.7 years). A total of 315 patients (54.6%) were female, 245 patients (42.5%) identified as Hispanic, and 387 patients (67.1%) had at least 1 risk factor for severe COVID-19 (aged ≥55 years, BMI ≥30, or ≥1 relevant comorbidity such as hypertension). Patients were randomized and received study infusions within a median of 4 days of symptom onset. At the time of randomization, 449 patients (77.8%) had mild symptoms. On the day of the infusion, the observed mean polymerase chain reaction cycle threshold value (a measure

Table 1. Patient Demographics and Baseline Clinical Characteristics

Characteristic	Bamlanivimab monotherapy 700 mg (n = 101)	Bamlanivimab monotherapy 2800 mg (n = 107)	Bamlanivimab monotherapy 7000 mg (n = 101)	Combination therapy (2800 mg bamlanivimab and 2800 mg of etesevimab) (n = 112)	Placebo (n = 156)
Age					
Median (IQR), y	39 (31-58)	45 (31-56)	46 (34-55)	44 (30-60)	46 (35-57)
≥65 y, No. (%)	11 (10.9)	8 (7.5)	14 (13.9)	13 (11.6)	23 (14.7)
Sex, No. (%)					
Female	63 (62.4)	51 (47.7)	58 (57.4)	58 (51.8)	85 (54.5)
Male	38 (37.6)	56 (52.3)	43 (42.6)	54 (48.2)	71 (45.5)
Self-reported race, No./total (%)					
White	90/101 (89.1)	90/104 (86.5)	89/100 (89.0)	105/111 (94.6)	133/151 (88.1)
Black	7/101 (6.9)	7/104 (6.7)	8/100 (8.0)	4/111 (3.6)	7/151 (4.6)
Asian	1/101 (1.0)	5/104 (4.8)	3/100 (3.0)	2/111 (1.8)	8/151 (5.3)
American Indian or Alaska Native	1/101 (1.0)	0/104	0/100	0/111	2/151 (1.3)
Native Hawaiian or other Pacific Islander	0/101	1/104 (1.0)	0/100	0/111	0/151
Multiple	2/101 (2.0)	1/104 (1.0)	0/100	0/111	1/151 (0.7)
Self-reported ethnicity, No. (%)					
Hispanic	49 (48.5)	47 (43.9)	39 (38.6)	42 (37.5)	68 (43.6)
Not Hispanic	52 (51.5)	60 (56.1)	62 (61.4)	70 (62.5)	88 (56.4)
BMI[a]					
Median (IQR)	(n = 100) 28.8 (25.1-35.4)	(n = 106) 30.4 (25.6-34.0)	(n = 97) 27.8 (24.7-32.3)	(n = 109) 27.2 (22.9-33.0)	(n = 152) 29.2 (25.9-34.2)
≥30 but <40, No./total (%)	34/100 (34.0)	50/106 (47.2)	28/97 (28.9)	33/109 (30.3)	63/152 (41.4)
≥40, No./total (%)	11/100 (11.0)	6/106 (5.7)	7/97 (7.2)	7/109 (6.4)	9/152 (5.9)
Risk factors for severe COVID-19, No. (%)[b]	74 (73.3)	78 (72.9)	63 (62.4)	67 (59.8)	105 (67.3)
COVID-19 severity, No. (%)[c]					
Mild	83 (82.2)	79 (73.8)	70 (69.3)	92 (82.1)	125 (80.1)
Moderate	18 (17.8)	28 (26.2)	31 (30.7)	20 (17.9)	31 (19.9)
Duration of symptoms, median (IQR), d[d]	5 (3-6)	4 (3-6)	4 (2-7)	4 (3-5)	4 (3-6)
SARS-CoV-2 cycle threshold, mean (SD)[e]	23.8 (6.5)	24.5 (7.6)	23.4 (6.8)	22.7 (8.0)	23.8 (7.8)

Abbreviations: BMI, body mass index; COVID-19, coronavirus disease 2019; IQR, interquartile range; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

[a] Calculated as weight in kilograms divided by height in meters squared.

[b] Aged 55 years or older; BMI of 30 or greater; medical history of diabetes, chronic kidney disease, cardiovascular disease, chronic respiratory disease, or immunosuppressive disease; or receiving immunosuppressive treatment.

[c] Based on 8 symptom domains (cough, shortness of breath, feeling feverish, fatigue, body aches and pain, sore throat, chills, headache) that were rated from none or absent (score of 0) to severe (score of 3), which were combined to provide an overall score (range, 0-24; symptom score excluded loss of appetite, taste, and smell).

[d] Calculated based on the patient-reported start date of symptom onset and compared with the date of treatment infusion.

[e] The cycle threshold is the number of polymerase chain reaction cycles required for a viral sample to be detected. Lower numbers suggest more infecting organisms and an increased burden of disease. Values range between 0 and 45; the (log base 10) viral load was calculated from the cycle threshold value (45 − cycle threshold)/$\log_2$10, or (45 − cycle threshold)/3.321928.

of viral load) was 23.7 (SD, 7.4), demonstrating a high viral burden in the population. There were 533 patients (92.4%) who completed the efficacy evaluation period (day 29).

Primary Outcome

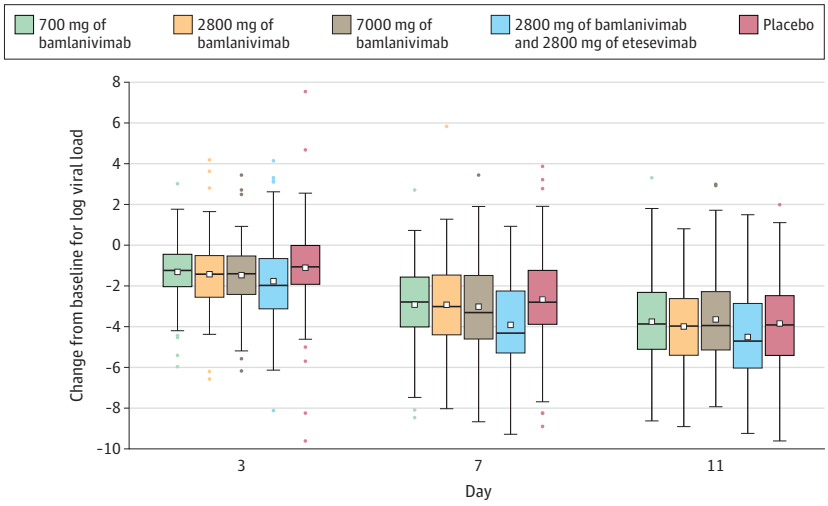
The change in log viral load from baseline to day 11 was -3.72 for the 700 mg group, -4.08 for the 2800 mg group, -3.49 for the 7000 mg group, -4.37 for the combination therapy group, and -3.80 for the placebo group. Compared with the placebo group, the change from baseline to day 11 in log viral load was not significantly different for any of the monotherapy groups (0.09 [95% CI, -0.35 to 0.52], P = .69 for the 700 mg group; -0.27 [95% CI, -0.71 to 0.16], P = .21 for the 2800 mg group; and 0.31 [95% CI, -0.13 to 0.76], P = .16 for the 7000 mg group), but the change was statistically significantly different for the combination therapy group (-0.57 [95% CI, -1.00 to -0.14], P = .01; **Figure 2** and **Table 2**).

Secondary Outcomes

Among the secondary outcome measures, differences between each treatment group vs the placebo group were statistically significant for 10 of 84 end points. The change from baseline to day 29 in viral load AUC was not significantly different for the 700 mg (difference, -6.25 [95% CI, -13.21 to 0.71]; P = .08) and 7000 mg monotherapy dose groups (difference, -5.38 [95% CI, -12.36 to 1.61]; P = .13), but the change was statistically significantly different for the 2800 mg dose group (difference, -9.50 [95% CI, -16.32 to -2.68]; P = .006) and for the combination treatment group (difference, -17.91 [95% CI, -25.25 to -10.58];

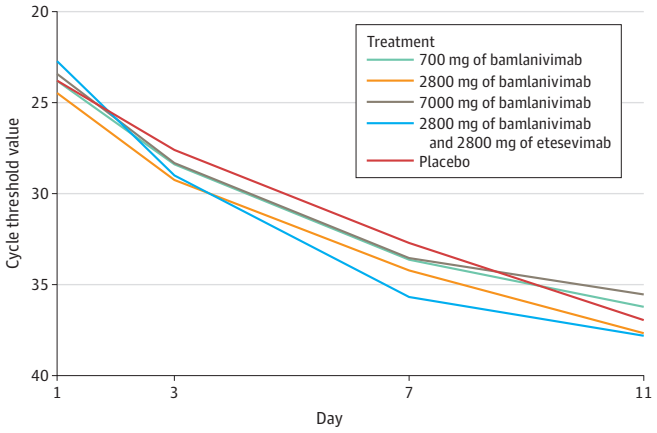
Figure 2. Change in Log Viral Load and in Viral Load Cycle Threshold Over Time With Bamlanivimab Monotherapy and Bamlanivimab and Etesevimab Combination Therapy

A Box plot for change from baseline to log viral load



Treatment, No.			
700 mg of bamlanivimab	96	98	91
2800 mg of bamlanivimab	98	101	99
7000 mg of bamlanivimab	93	95	90
2800 mg of bamlanivimab and 2800 mg of etesevimab	97	95	99
Placebo	141	142	134

B Mean SARS-CoV-2 viral load cycle threshold value



Treatment, No.				
700 mg of bamlanivimab	101	96	98	100
2800 mg of bamlanivimab	107	98	101	103
7000 mg of bamlanivimab	101	93	95	95
2800 mg of bamlanivimab and 2800 mg of etesevimab	109	96	95	102
Placebo	152	141	142	146

Randomization and infusion occurred on day 1. A, The middle line represents the median change from baseline for log viral load; the boxes represent the interquartile range; the squares inside each box represent the mean; the whiskers extend to the highest and lowest values within 1.5 x the interquartile range of the nearer quartile; and the dots represent observed values outside that range. B, The cycle threshold is defined as the number of cycles required for the fluorescent signal of the polymerase chain reaction assay to cross the threshold (ie, exceeds background level). Cycle threshold levels are inversely proportional to the number of copies of the virus and thus serve to estimate viral load. Virus is presumed to be undetectable beyond approximately 40 cycle thresholds. SARS-CoV-2 indicates severe acute respiratory syndrome coronavirus 2.

P < .001). However, viral clearance (defined as 2 consecutive negative test results for SARS-CoV-2) did not differ among any of the treatment groups at any time point (Table 2).

Compared with the placebo group, the change in mean total symptom score from baseline to day 11 was statistically significantly different for the 700 mg monotherapy group (mean difference, -0.78 [95% CI, -1.37 to -0.20]; P = .009) and for the combination group (mean difference, -0.60 [95% CI, -1.18 to -0.03]; P = .04), but the change was not significantly different for the 2800 mg monotherapy group (mean difference, -0.32 [95% CI, -0.91 to 0.26]; P = .27) or for the 7000 mg group (mean difference, -0.45 [95% CI, -1.04 to 0.13]; P = .13).

Compared with the placebo group, the change in symptom improvement from baseline to day 11 was statistically

Table 2. Outcomes for Primary and Prespecified Secondary End Points

Outcome	Bamlanivimab monotherapy			Combination therapy (2800 mg of bamlanivimab and 2800 mg of etesevimab) (n = 109)	Placebo (n = 152)
	700 mg (n = 101)	2800 mg (n = 107)	7000 mg (n = 101)		
Primary outcome					
No. of patients for SARS-CoV-2 viral load at day 11	100	103	95	102	146
Viral load, mean (SD)[a]	2.64 (1.80)	2.21 (1.73)	2.85 (1.76)	2.16 (1.82)	2.43 (1.78)
Change from baseline to day 11 vs placebo, mean (95% CI)[b]	0.09 (-0.35 to 0.52)	-0.27 (-0.71 to 0.16)	0.31 (-0.13 to 0.76)	-0.57 (-1.00 to -0.14)	
P value	.69	.21	.16	.01	
Secondary outcomes[c]					
No. of patients for SARS-CoV-2 viral load area under the curve (AUC) at day 29	85	91	84	72	118
Viral load AUC, mean (SD)	70.17 (29.68)	63.74 (28.97)	71.53 (30.15)	61.69 (28.39)	74.45 (35.30)
Change from baseline to day 29 vs placebo, mean (95% CI)[d]	-6.25 (-13.21 to 0.71)	-9.50 (-16.32 to -2.68)	-5.38 (-12.36 to 1.61)	-17.91 (-25.25 to -10.58)	
P value	.08	.006	.13	<.001	
No. of patients for SARS-CoV-2 viral clearance at day 7[e]	99	101	99	100	145
Viral clearance, No. (%)	10 (9.9)	12 (11.2)	8 (7.9)	14 (12.8)	16 (10.5)
Change from baseline to day 7 vs placebo, % (95% CI)	-0.6 (-8.2 to 7.0)	0.7 (-7.0 to 8.4)	-2.6 (-9.8 to 4.6)	2.3 (-5.6 to 10.3)	
P value	>.99	>.99	.52	.56	
No. of patients for SARS-CoV-2 viral clearance at day 11[e]	92	100	94	104	137
Viral clearance, No. (%)	13 (12.9)	21 (19.6)	14 (13.9)	30 (27.5)	27 (17.8)
Change from baseline to day 11 vs placebo, % (95% CI)	-4.9 (-13.8 to 4.0)	1.9 (-7.8 to 11.5)	-3.9 (-13.0 to 5.2)	9.8 (-0.6 to 20.1)	
P value	.38	.75	.49	.07	
No. of patients for SARS-CoV-2 viral clearance at day 15[e]	91	97	94	98	132
Viral clearance, No. (%)	25 (24.8)	30 (28.0)	25 (24.8)	36 (33.0)	34 (22.4)
Change from baseline to day 15 vs placebo, % (95% CI)	2.4 (-8.3 to 13.1)	5.7 (-5.1 to 16.5)	2.4 (-8.3 to 13.1)	10.7 (-0.4 to 21.7)	
P value	.76	.31	.76	.07	
No. of patients for SARS-CoV-2 viral clearance at day 22[e]	85	93	86	82	122
Viral clearance, No. (%)	41 (40.6)	43 (40.2)	37 (36.6)	40 (36.7)	56 (36.8)
Change from baseline to day 22 vs placebo, % (95% CI)	3.8 (-8.5 to 16.0)	3.3 (-8.7 to 15.4)	-0.2 (-12.3 to 11.9)	-0.1 (-12.0 to 11.7)	
P value	.60	.61	>.99	>.99	
No. of patients for COVID-19–related hospitalization or emergency department visit at day 29[f]	101	107	101	112	156
Had hospitalization or emergency department visit, No. (%)	1 (1.0)	2 (1.9)	2 (2.0)	1 (0.9)	9 (5.8)
Change from baseline to day 29 vs placebo, % (95% CI)	-4.8 (-8.9 to -0.6)	-3.9 (-8.4 to 0.6)	-3.8 (-8.3 to 0.8)	-4.9 (-8.9 to -0.8)	
P value	.09	.21	.21	.049	

(continued)

Table 2. Outcomes for Primary and Prespecified Secondary End Points (continued)

Outcome	Bamlanivimab monotherapy			Combination therapy (2800 mg of bamlanivimab and 2800 mg of etesevimab) (n = 109)	Placebo (n = 152)
	700 mg (n = 101)	2800 mg (n = 107)	7000 mg (n = 101)		
No. of patients for total symptom score at day 7[g]	98	98	97	103	143
Total symptom score, mean (SD)	1.90 (2.49)	2.07 (2.93)	2.22 (2.97)	2.14 (2.98)	2.43 (2.67)
Change from baseline to day 7 vs placebo, mean (95% CI)[h]	-0.48 (-1.17 to 0.21)	-0.33 (-1.01 to 0.35)	-0.39 (-1.08 to 0.30)	-0.31 (-0.98 to 0.37)	
P value	.17	.34	.27	.37	
No. of patients for total symptom score at day 11[g]	94	92	93	95	134
Total symptom score, mean (SD)	1.06 (1.58)	1.59 (2.24)	1.56 (2.61)	1.28 (2.48)	1.88 (2.50)
Change from baseline to day 11 vs placebo, mean (95% CI)[h]	-0.78 (-1.37 to -0.20)	-0.32 (-0.91 to 0.26)	-0.45 (-1.04 to 0.13)	-0.60 (-1.18 to -0.03)	
P value	.009	.27	.13	.04	
No. of patients for total symptom score at day 15[g]	86	96	93	94	133
Total symptom score, mean (SD)	1.00 (2.25)	1.20 (2.03)	1.00 (2.07)	1.04 (2.43)	1.24 (2.05)
Change from baseline to day 15 vs placebo, mean (95% CI)[h]	-0.16 (-0.71 to 0.38)	-0.07 (-0.60 to 0.46)	-0.39 (-0.93 to 0.15)	-0.25 (-0.78 to 0.28)	
P value	.56	.80	.16	.35	
No. of patients for total symptom score at day 22[g]	86	90	84	96	129
Total symptom score, mean (SD)	0.46 (1.16)	0.74 (1.67)	0.71 (1.54)	0.76 (2.00)	0.77 (1.67)
Change from baseline to day 22 vs placebo, mean (95% CI)[h]	-0.17 (-0.60 to 0.25)	-0.03 (-0.45 to 0.38)	-0.22 (-0.64 to 0.21)	0.03 (-0.38 to 0.44)	
P value	.42	.88	.32	.89	
No. of patients for COVID-19 symptom improvement at day 7[i]	99	98	98	103	143
Had symptom improvement, No. (%)	47 (46.5)	37 (34.6)	46 (45.5)	50 (45.9)	62 (40.8)
Change from baseline to day 7 vs placebo, % (95% CI)	5.7 (-6.7 to 18.2)	-6.2 (-18.1 to 5.7)	4.8 (-7.7 to 17.2)	5.1 (-7.1 to 17.3)	
P value	.44	.36	.52	.45	
No. of patients for COVID-19 symptom improvement at day 11[i]	95	92	94	95	134
Had symptom improvement, No. (%)	60 (59.4)	48 (44.9)	59 (58.4)	58 (53.2)	66 (43.4)
Change from baseline to day 11 vs placebo, % (95% CI)	16.0 (3.6 to 28.4)	1.4 (-10.8 to 13.7)	15.0 (2.6 to 27.4)	9.8 (-2.5 to 22.0)	
P value	.02	.90	.02	.13	
No. of patients for COVID-19 symptom improvement at day 15[i]	87	96	94	94	133
Had symptom improvement, No. (%)	63 (62.4)	63 (58.9)	69 (68.3)	69 (63.3)	83 (54.6)
Change from baseline to day 15 vs placebo, % (95% CI)	7.8 (-4.6 to 20.1)	4.3 (-8.0 to 16.5)	13.7 (1.7 to 25.8)	8.7 (-3.3 to 20.7)	
P value	.24	.53	.04	.17	
No. of patients for COVID-19 symptom improvement at day 22[i]	87	90	85	96	129
Had symptom improvement, No. (%)	70 (69.3)	69 (64.5)	71 (70.3)	78 (71.6)	96 (63.2)
Change from baseline to day 22 vs placebo, % (95% CI)	6.1 (-5.7 to 18.0)	1.3 (-10.5 to 13.2)	7.1 (-4.6 to 18.9)	8.4 (-3.0 to 19.8)	
P value	.35	.90	.28	.18	

(continued)

Table 2. Outcomes for Primary and Prespecified Secondary End Points (continued)

Outcome	Bamlanivimab monotherapy			Combination therapy (2800 mg of bamlanivimab and 2800 mg of etesevimab) (n = 109)	Placebo (n = 152)
	700 mg (n = 101)	2800 mg (n = 107)	7000 mg (n = 101)		
No. of patients for COVID-19 symptom resolution at day 7[j]	99	98	98	103	143
Had symptom resolution, No. (%)	37 (36.6)	33 (30.8)	34 (33.7)	38 (34.9)	48 (31.6)
Change from baseline to day 7 vs placebo, % (95% CI)	5.1 (-6.9 to 17.0)	-0.7 (-12.2 to 10.7)	2.1 (-9.7 to 13.9)	3.3 (-8.3 to 14.9)	
P value	.42	>.99	.78	.60	
No. of patients for COVID-19 symptom resolution at day 11[j]	95	92	94	95	134
Had symptom resolution, No. (%)	51 (50.5)	43 (40.2)	44 (43.6)	50 (45.9)	56 (36.8)
Change from baseline to day 11 vs placebo, % (95% CI)	13.7 (1.2 to 26.1)	3.3 (-8.7 to 15.4)	6.7 (-5.6 to 19.1)	9.0 (-3.1 to 21.1)	
P value	.04	.61	.30	.16	
No. of patients for COVID-19 symptom resolution at day 15[j]	87	96	94	94	133
Had symptom resolution, No. (%)	56 (55.4)	59 (55.1)	60 (59.4)	63 (57.8)	70 (46.1)
Change from baseline to day 15 vs placebo, % (95% CI)	9.4 (-3.1 to 21.9)	9.1 (-3.2 to 21.4)	13.4 (0.9 to 25.8)	11.7 (-0.5 to 23.9)	
P value	.16	.17	.04	.08	
No. of patients for COVID-19 symptom resolution at day 22[j]	87	90	85	96	129
Had symptom resolution, No. (%)	68 (67.3)	63 (58.9)	62 (61.4)	75 (68.8)	88 (57.9)
Change from baseline to day 22 vs placebo, % (95% CI)	9.4 (-2.6 to 21.5)	1.0 (-11.2 to 13.2)	3.5 (-8.8 to 15.8)	10.9 (-0.8 to 22.6)	
P value	.15	.90	.60	.09	

Abbreviations: COVID-19, coronavirus disease 2019; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.

[a] The (log base 10) viral load was calculated from the cycle threshold value (45 − cycle threshold)/$\log_2 10$, or (45 − cycle threshold)/3.321928. The cycle threshold is the number of polymerase chain reaction cycles required for a viral sample to be detected. If the SARS-CoV-2 viral load for day 11 was missing, the earliest measurement closest to the day 11 visit within 4 days (ie, days 7-15) was used for the day 11 value.

[b] Baseline was defined as the last nonmissing assessment recorded on or prior to the date of first study drug injection. The mixed-model repeated-measure analysis included log base 10–transformed baseline as a covariate and treatment, day, and treatment × day interaction as fixed effects. The stratification factor of duration since symptom onset to randomization was not used in the model to avoid collinearity with baseline viral load.

[c] Time from baseline to day of SARS-CoV-2 viral clearance, COVID-19 symptom improvement, and COVID-19 symptom resolution were ran as Kaplan-Meier product limit curves (eFigures 1-3 in Supplement 1).

[d] This analysis was conducted using a linear model with treatment as a fixed effect and log base 10–transformed baseline viral load as a covariate. No imputations of missing data were conducted. No AUC values from baseline to day 29 were calculated when the day 1 predose or the day 29 value was missing or if there were more than 3 values missing in the profile.

[e] Earliest date of the 2 consecutive negative polymerase chain reaction test results for SARS-CoV-2. Treatment and symptom onset strata were used as factors in the logistic regression analysis (with a Firth penalized likelihood).

[f] All randomized patients were included in this analysis. Treatment and symptom onset strata were used as factors in the logistic regression analysis (with a Firth penalized likelihood). Of the 15 hospitalizations or emergency department visits, 12 were hospitalizations.

[g] The total symptom score has a range from 0 to 24 points based on 8 symptom domains (cough, shortness of breath, feeling feverish, fatigue, body aches and pain, sore throat, chills, headache) that were rated from none or absent (score of 0) to severe (score of 3) and were combined to provide an overall score (excluding loss of appetite, taste, and smell).

[h] Baseline was defined as the last nonmissing assessment recorded on or prior to the date of first study drug injection. The mixed-model repeated-measure analysis included log base 10–transformed baseline as a covariate and treatment, day, and treatment × day interaction as fixed effects.

[i] Defined by (1) all symptoms on the symptom questionnaire scored as moderate or severe at baseline were subsequently scored as mild or absent and (2) all symptoms on the symptom questionnaire scored as mild or absent at baseline were subsequently scored as absent. Treatment and symptom onset strata were used as factors in the logistic regression analysis (with a Firth penalized likelihood).

[j] All symptoms (excluding the loss of appetite and changes in taste and smell symptoms) on the symptom questionnaire were scored as absent. Treatment and symptom onset strata were used as factors in the logistic regression analysis (with a Firth penalized likelihood).

significantly different for the 700 mg group (difference, 16.0% [95% CI, 3.6% to 28.4%]; P = .02) and the 7000 mg group (difference, 15.0% [95% CI, 2.6% to 27.4%]; P = .02), but the change was not significant for the 2800 mg group (difference, 1.4% [95% CI, -10.8% to 13.7%]; P = .90) and the combination treatment group (difference, 9.8% [95% CI, -2.5% to 22.0%]; P = .13). Compared with the placebo group, the change in symptom resolution from baseline to day 11 was statistically significantly different for the 700 mg group (difference, 13.7% [95% CI, 1.2% to 26.1%]; P = .04), but the change was not significant for the 2800 mg group (difference, 3.3% [95% CI, -8.7% to 15.4%]; P = .61), the 7000 mg group (difference, 6.7% [95% CI, -5.6% to 19.1%]; P = .30), or the combination group (difference, 9.0% [95% CI, -3.1% to 21.1%]; P = .16).

The proportion of patients with COVID-19-related hospitalizations or emergency department visits at day 29 was 1.0% (1 event/101 patients) in the 700 mg group, 1.9% (2 events/107 patients) in the 2800 mg group, 2.0% (2 events/101 patients) in the 7000 mg group, 0.9% (1 event/112 patients) in the combination therapy group, and 5.8% (9 events/156 patients) in the placebo group. The difference vs placebo was -4.8% (95% CI, -8.9% to -0.6%; P = .09) for the 700 mg group, -3.9% (95% CI, -8.4% to 0.6%; P = .21) for the 2800 mg group, -3.8% (95% CI, -8.3% to -0.8%; P = .21) for the 7000 mg group, and -4.9% (95% CI, -8.9% to -0.8%; P = .049) for the combination group (Table 2).

The results from additional secondary end points (including time to viral clearance, symptom resolution, and symptom improvement) appear in eFigures 1, 2, and 3 in Supplement 1.

Post Hoc Analyses

Among patients aged 65 years or older or with a BMI of 35 or greater, those who received bamlanivimab monotherapy had a lower hospitalization rate (2.7% [1/37 patients] in the 700 mg group and a difference of -10.8% [95% CI, -21.4% to -0.1%]; 3.3% [1/30 patients] in the 2800 mg group and a difference of -10.1% [95% CI, -21.4% to 1.2%]; and 5.9% [2/34 patients] in the 7000 mg group and a difference of -7.6% [95% CI, -19.8% to 4.6%]) as well as those who received combination therapy (0% [0/31 patients] in the bamlanivimab and etesevimab group and a difference of -13.5% [95% CI, -22.7% to -4.2%]; P = .04) compared with those who received placebo (13.5% [7/52 patients]; eTable 2 in Supplement 1). Only 1 patient in the study (in the placebo group) was admitted to the intensive care unit. Additional post hoc analyses appear in the eResults and eFigure 4 in Supplement 1.

Exploratory Outcomes

Total symptom score AUC from baseline to day 11 was assessed in an exploratory analysis. Compared with placebo, the difference in mean change in total symptom score AUC from baseline to day 11 was -8.28 (95% CI, -14.04 to -2.53; P = .005) for the 700 mg group, -6.59 (95% CI, -12.46 to -0.72; P = .03) for the 2800 mg group, -8.09 (95% CI, -14.05 to -2.13; P = .008) for the 7000 mg group, and -8.63 (95% CI, -14.39 to -2.88; P = .003) for the combination therapy group (eTable 2 in Supplement 1).

In an exploratory analysis to assess the ability of bamlanivimab and etesevimab to reduce the levels of treatment-emergent bamlanivimab-resistant variants, the frequency of these variants in baseline samples across cohorts in the study population was low (0.4% [2/523 patients]) and is similar to the global prevalence of these variants.

Putative treatment-emergent bamlanivimab-resistant variants were detected in 7.1% of patients (7/98) in the 700 mg group, in 9.8% of patients (10/102) in the 2800 mg group, in 11.3% of patients (11/97) in the 7000 mg group, in 1% of patients (1/102) in the bamlanivimab and etesevimab combination group, and in 4.8% of patients (7/145) in the placebo group (eTable 2 in Supplement 1). The patient with a treatment-emergent bamlanivimab-resistant variant in the combination group had a single sample with an S494P spike variant on day 11 at an allele fraction of 0.198 and a viral load of 3.64 (N1 cycle threshold of approximately 32). This variant was transient in nature and was not detected in subsequent samples through study day 25. The bamlanivimab monotherapy groups had a higher frequency of patients who had a variant detected at more than 1 time point during the viral time course (4.1% for the 700 mg group, 5.9% for the 2800 mg group, and 7.2% for the 7000 mg group) than the placebo group or the bamlanivimab and etesevimab combination group (both 0%).

Adverse Events

Serious adverse events unrelated to SARS-CoV-2 infection or considered related to the study drug by the investigator occurred in 0% (0/309) of patients in the bamlanivimab monotherapy groups, in 0.9% (1/112) of patients in the bamlanivimab and etesevimab combination group, and in 0.6% (1/156) of patients in the placebo group (**Table 3**). The serious adverse event observed in the combination group was a urinary tract infection that was deemed unrelated to the study drug. The serious adverse event observed in the placebo group was upper abdominal pain and was deemed unrelated to the study drug.

The most frequently reported adverse events were nausea (3.0% for the 700 mg group, 3.7% for the 2800 mg group, 5.0% for the 7000 mg group, 3.6% for the combination therapy group, and 3.8% for the placebo group) and diarrhea (1.0%, 1.9%, 5.9%, 0.9%, and 4.5%, respectively). Immediate hypersensitivity reactions that could have been infusion related were reported in 9 patients (6 in the bamlanivimab monotherapy groups, 2 in the bamlanivimab and etesevimab group, and 1 in the placebo group). Most reactions occurred during infusion and were reported as mild in severity and not dose related. There were no changes in vital signs and symptoms included pruritus, flushing, rash, and facial swelling. The infusions were completed in all instances.

Discussion

In this phase 2/3 clinical trial that evaluated the efficacy and adverse effects of bamlanivimab monotherapy and bamlanivimab and etesevimab combination therapy in outpatients

Table 3. Adverse Events

	Adverse events, No. (%)[a]				
	Bamlanivimab monotherapy			Combination therapy (2800 mg of bamlanivimab and 2800 mg of etesevimab) (n = 112)	Placebo (n = 156)
	700 mg (n = 101)	2800 mg (n = 107)	7000 mg (n = 101)		
Patients with ≥1 treatment-emergent adverse event[b]	27 (26.7)	26 (24.3)	22 (21.8)	19 (17.0)	42 (26.9)
Severity of treatment-emergent adverse event[b,c]					
Mild	17 (16.8)	18 (16.8)	10 (9.9)	15 (13.4)	21 (13.5)
Moderate	7 (6.9)	5 (4.7)	7 (6.9)	3 (2.7)	18 (11.5)
Severe	2 (2.0)	3 (2.8)	5 (5.0)	1 (0.9)	3 (1.9)
Most common treatment-emergent adverse events (occurring in ≥4 patients)[b]					
Chest discomfort	0	2 (1.9)	1 (1.0)	0	1 (0.6)
Chills	0	1 (0.9)	3 (3.0)	0	0
Diarrhea	1 (1.0)	2 (1.9)	6 (5.9)	1 (0.9)	7 (4.5)
Dizziness	3 (3.0)	3 (2.8)	3 (3.0)	1 (0.9)	3 (1.9)
Headache	3 (3.0)	2 (1.9)	0	0	3 (1.9)
Nasal congestion	2 (2.0)	1 (0.9)	0	0	1 (0.6)
Nausea	3 (3.0)	4 (3.7)	5 (5.0)	4 (3.6)	6 (3.8)
Pruritus	2 (2.0)	3 (2.8)	0	2 (1.8)	1 (0.6)
Pyrexia	1 (1.0)	2 (1.9)	1 (1.0)	1 (0.9)	0
Rash	1 (1.0)	0	1 (1.0)	1 (0.9)	1 (0.6)
Syncope	0	1 (0.9)	1 (1.0)	0	2 (1.3)
Vomiting	1 (1.0)	3 (2.8)	1 (1.0)	1 (0.9)	4 (2.6)
Serious adverse event[d]	0	0	0	1 (0.9)	1 (0.6)

[a] Includes full randomized population that received at least 1 infusion.

[b] A treatment-emergent adverse event was defined as an event that first occurred or worsened in severity after baseline. Adverse events were reported by the participant, or, when appropriate, by a caregiver, surrogate, or the participant's legally authorized representative.

[c] Patients with multiple occurrences of these categories were counted once for each category. Patients with multiple occurrences of the same event were included in the count for the severe category. The investigator assessed the intensity for each adverse event reported during the study and assigned it to one of the following categories, which together with serious criteria (life-threatening or death) were aligned with the Division of AIDS table for grading the severity of adult and pediatric adverse events (trial protocol in Supplement 2; §10.3.3, version 2.1, July 2017).

[d] Defined as any untoward medical occurrence that at any dose resulted in death, was life-threatening, required inpatient hospitalization or prolongation of existing hospitalization, resulted in persistent disability or incapacity, or caused a congenital anomaly (trial protocol in Supplement 2; §10.3.2 with exceptions listed in §10.3.1). No deaths occurred during study treatment.

with recently diagnosed mild to moderate COVID-19, the primary end point, mean change from baseline in log viral load at day 11, was not significantly different for the bamlanivimab monotherapy groups compared with the placebo group, but was significantly different for the bamlanivimab and etesevimab combination therapy group compared with the placebo group.

Among the secondary outcomes, there were no consistent differences between the monotherapy groups or the combination therapy group vs placebo for the other measures of viral load or clinical symptom scores. The proportion of patients with COVID-19–related hospitalizations or emergency department visits was numerically lower for the monotherapy groups and the combination therapy group compared with the placebo group, but the difference was only significant for the combination group. Additional study is needed to understand whether the greater reduction of viral load shown by combination therapy would eventually translate to clinical benefit compared with monotherapy.

Consistent with the literature,[16-19] the post hoc analyses indicated that hospitalization rates were higher in placebo-treated patients with the comorbidities of advanced age (≥65 years) or morbid obesity (BMI ≥35) (13.5%), although no hospitalizations were observed in this high-risk subgroup in the combination therapy group. These preliminary data are hypothesis generating and suggest the need for further study to determine whether patients with these risk factors should be prioritized for this particular treatment.

In the exploratory analysis of ongoing viral sequencing, putative bamlanivimab-resistant variants were observed in all treatment groups, including placebo. Even though the combination group had the largest reductions in viral load, the monotherapy groups all performed comparably with the combination group on several clinical end points (eg, mean total symptom score and hospitalization rate). Therefore, the clinical significance of the resistant variants remains unclear.

Currently, only remdesivir is approved by the US Food and Drug Administration for the treatment of patients with COVID-19 who are seriously ill, although corticosteroids are generally considered the treatment of choice in this population and baricitinib recently received Emergency Use Authorization. COVID-19 convalescent plasma is available for use in hospitalized patients through Emergency Use Authorization; although, efficacy has not been established definitively and it is still considered investigational.[7,20] Recently, the 700 mg dose of bamlanivimab has been authorized

for emergency use in the US and Canada for the treatment of outpatients with mild to moderate COVID-19. Additional studies, including the ongoing subsequent portions of this trial in high-risk patients, are needed to fully elucidate the clinical benefit of therapeutic monoclonal antibodies for COVID-19.

Limitations

This study had several limitations. First, the trial was originally designed as a safety and biomarker study.

Second, the patient population was small, which made detecting clinically meaningful differences between treatment groups more difficult.

Third, only 1 combination dose was chosen for this study. Because the antiviral activity of etesevimab monotherapy or different combination doses was not investigated, it is difficult to determine whether the greater reduction in viral load observed in the combination group was due to additive or synergistic effects vs differential efficacy of etesevimab.

Fourth, the primary end point at day 11 may have been too late in the immune response to optimally detect treatment effects. All patients, including those who received placebo, demonstrated substantial viral reduction by day 11. An earlier time point like day 3 or day 7 could possibly have been more appropriate to measure viral load.

Fifth, the full genotypic and phenotypic analysis of the trial is still ongoing, and the resistance data presented here are limited to the sample sequences that were available at the time of this analysis.

Conclusions

Among nonhospitalized patients with mild to moderate COVID-19 illness, treatment with bamlanivimab and etesevimab, compared with placebo, was associated with a statistically significant reduction in SARS-CoV-2 viral load at day 11; no significant difference in viral load reduction was observed for bamlanivimab monotherapy. Further ongoing clinical trials will focus on assessing the clinical benefit of antispike neutralizing antibodies in patients with COVID-19 as a primary end point.

ARTICLE INFORMATION

Accepted for Publication: January 8, 2021.

Published Online: January 21, 2021. doi:10.1001/jama.2021.0202

Author Affiliations: Baylor University Medical Center and Baylor Scott and White Research Institute, Dallas, Texas (Gottlieb); Eli Lilly and Company, Indianapolis, Indiana (Nirula, Adams, Van Naarden, Custer, Durante, Oakley, Schade, Holzer, Ebert, Higgs, Kallewaard, Sabo, Patel, Klekotka, Shen, Skovronsky); Department of Medicine, Women's Guild Lung Institute, Cedars-Sinai Medical Center, Los Angeles, California (Chen); Vitalink Research, Union, South Carolina (Boscia); Long Beach Clinical Trials, Long Beach, California (Heller); Imperial Health, Lake Charles, Louisiana (Morris); Cook County Health, Chicago, Illinois (Huhn); Indago Research, Hialeah, Florida (Cardona); Las Vegas Medical Research Center, Las Vegas, Nevada (Mocherla); Feinberg School of Medicine, Northwestern University, Chicago, Illinois (Stosor); Franciscan Health, Greenwood, Indiana (Shawa); Georgetown University, Washington, DC (Kumar).

Author Contributions: Drs Gottlieb and Nirula had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Drs Gottlieb and Nirula made equal contributions and are co–first authors.
Concept and design: Nirula, Huhn, Adams, Van Naarden, Custer, Durante, Sabo, Klekotka, Shen, Skovronsky.
Acquisition, analysis, or interpretation of data: Gottlieb, Nirula, Chen, Boscia, Heller, Morris, Huhn, Cardona, Mocherla, Stosor, Shawa, Kumar, Adams, Van Naarden, Custer, Durante, Oakley, Schade, Holzer, Ebert, Higgs, Kallewaard, Patel, Klekotka, Shen, Skovronsky.
Drafting of the manuscript: Gottlieb, Nirula, Adams, Oakley, Holzer, Sabo, Patel, Klekotka, Shen, Skovronsky.
Critical revision of the manuscript for important intellectual content: Gottlieb, Nirula, Chen, Boscia, Heller, Morris, Huhn, Cardona, Mocherla, Stosor, Shawa, Kumar, Adams, Van Naarden, Custer, Durante, Oakley, Schade, Holzer, Ebert, Higgs, Kallewaard, Sabo, Patel, Klekotka, Shen, Skovronsky.
Statistical analysis: Cardona, Adams, Durante, Higgs, Shen.
Obtained funding: Sabo.
Administrative, technical, or material support: Gottlieb, Morris, Huhn, Mocherla, Kumar, Adams, Oakley, Schade, Ebert, Kallewaard, Sabo, Patel, Klekotka.
Supervision: Gottlieb, Nirula, Huhn, Adams, Van Naarden, Custer, Sabo, Klekotka, Shen, Skovronsky.

Conflict of Interest Disclosures: Dr Gottlieb reported receiving personal fees and nonfinancial support (medication for another trial) from Gilead Sciences; and serving on an advisory board for Sentinel. Drs Nirula and Adams, Mr Van Naarden, Dr Custer, Mr Durante, and Drs Oakley, Schade, Holzer, Ebert, Higgs, Kallewaard, Sabo, Patel, Klekotka, Shen, and Skovronsky are all employees and shareholders of Eli Lilly and Company. Dr Chen reported receiving consulting fees from Eli Lilly and Company. Dr Boscia reported receiving honoraria for serving on the GlaxoSmithKline speakers bureau. Dr Huhn reported receiving grants and personal fees from Gilead, Viiv, and Janssen; receiving grants from Proteus and Bristol-Myers Squibb; and receiving personal fees from TheraTechnologies. Dr Kumar reported receiving grants and consulting fees from GlaxoSmithKline, Amgen, TheraTechnologies, Merck, and Gilead Sciences; and owning stock in GlaxoSmithKline, Johnson & Johnson, Merck, Gilead Sciences, and Pfizer. No other disclosures were reported.

Funding/Support: This trial was sponsored and funded by Eli Lilly and Company.

Role of the Funder/Sponsor: Eli Lilly and Company was responsible for the design of the clinical trial; collection, management, analysis, and interpretation of the data; preparation, review, and approval of the manuscript. Eli Lilly and Company did not have the right to veto publication or to control the decision regarding to which journal the paper was submitted. All final content decisions were made by the authors.

Data Sharing Statement: See Supplement 3.

Additional Contributions: We thank David McIlwain, PhD, medical writer and employee of Eli Lilly and Company, for writing and editorial support. The names of those who assisted in this program, including investigators and support staff, are listed in Supplement 1. In addition, we thank the patients and the network of mobile home health research nurses, whose contribution was vital to this project.

Additional Information: Bamlanivimab emerged from the collaboration between Eli Lilly and Company and AbCellera Biologics to create antibody therapies for the prevention and treatment of COVID-19. Eli Lilly and Company developed the antibody after it was discovered by AbCellera Biologics and scientists at the National Institute of Allergy and Infectious Diseases Vaccine Research Center. Etesevimab emerged from the collaboration among Eli Lilly and Company, Junshi Biosciences, and the Institute of Microbiology of the Chinese Academy of Sciences.

REFERENCES

1. Berlin DA, Gulick RM, Martinez FJ. Severe Covid-19. *N Engl J Med*. 2020;383(25):2451-2460. doi:10.1056/NEJMcp2009575

2. Wu C, Chen X, Cai Y, et al. Risk factors associated with acute respiratory distress syndrome and death in patients with coronavirus disease 2019 pneumonia in Wuhan, China. *JAMA Intern Med*. 2020;180(7):934-943. doi:10.1001/jamainternmed.2020.0994

3. Williamson EJ, Walker AJ, Bhaskaran K, et al. Factors associated with COVID-19-related death using OpenSAFELY. *Nature*. 2020;584(7821):430-436. doi:10.1038/s41586-020-2521-4

4. Wang Y, Zhang D, Du G, et al. Remdesivir in adults with severe COVID-19: a randomised, double-blind, placebo-controlled, multicentre trial. *Lancet*. 2020;395(10236):1569-1578. doi:10.1016/S0140-6736(20)31022-9

5. Beigel JH, Tomashek KM, Dodd LE, et al; ACTT-1 Study Group Members. Remdesivir for the treatment of Covid-19—final report. *N Engl J Med*. 2020;383(19):1813-1826. doi:10.1056/NEJMoa2007764

6. Prescott HC, Rice TW. Corticosteroids in COVID-19 ARDS: evidence and hope during the pandemic. *JAMA*. 2020;324(13):1292-1295. doi:10.1001/jama.2020.16747

7. Li L, Zhang W, Hu Y, et al. Effect of convalescent plasma therapy on time to clinical improvement in patients with severe and life-threatening COVID-19: a randomized clinical trial. *JAMA*. 2020;324(5):460-470. Published correction appears in *JAMA*. 2020;324(5):519. doi:10.1001/jama.2020.10044

8. Renn A, Fu Y, Hu X, Hall MD, Simeonov A. Fruitful neutralizing antibody pipeline brings hope to defeat SARS-Cov-2. *Trends Pharmacol Sci*. 2020;41(11):815-829. doi:10.1016/j.tips.2020.07.004

9. Chen P, Nirula A, Heller B, et al; for the BLAZE-1 Investigators. SARS-CoV-2 neutralizing antibody LY-CoV555 in outpatients with Covid-19. *N Engl J Med*. Published online October 28, 2020. doi:10.1056/NEJMoa2029849

10. US Food and Drug Administration. FDA issues Emergency Use Authorization for convalescent plasma as potential promising COVID-19 treatment, another achievement in administration's fight against pandemic. Published August 23, 2020. Accessed December 22, 2020. https://www.fda.gov/news-events/press-announcements/fda-issues-emergency-use-authorization-convalescent-plasma-potential-promising-covid-19-treatment

11. US Food and Drug Administration. Coronavirus (COVID-19) update: FDA authorizes monoclonal antibody for treatment of COVID-19. Published November 9, 2020. Accessed December 22, 2020. https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-monoclonal-antibody-treatment-covid-19

12. US Food and Drug Administration. Coronavirus (COVID-19) update: FDA authorizes monoclonal antibodies for treatment of COVID-19. Published November 21, 2020. Accessed December 22, 2020. https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-authorizes-monoclonal-antibodies-treatment-covid-19

13. Jones BE, Brown-Augsburger PL, Corbett KS, et al. LY-CoV555, a rapidly isolated potent neutralizing antibody, provides protection in a non-human primate model of SARS-CoV-2 infection. *bioRxiv*. Published online October 9, 2020. doi:10.1101/2020.09.30.318972

14. Shi R, Shan C, Duan X, et al. A human neutralizing antibody targets the receptor-binding site of SARS-CoV-2. *Nature*. 2020;584(7819):120-124. doi:10.1038/s41586-020-2381-y

15. Baum A, Fulton BO, Wloga E, et al. Antibody cocktail to SARS-CoV-2 spike protein prevents rapid mutational escape seen with individual antibodies. *Science*. 2020;369(6506):1014-1018. doi:10.1126/science.abd0831

16. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet*. 2020;395(10223):497-506. doi:10.1016/S0140-6736(20)30183-5

17. Garg S, Kim L, Whitaker M, et al. Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019—COVID-NET, 14 States, March 1-30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69:458-464.

18. Petrilli CM, Jones SA, Yang J, et al. Factors associated with hospital admission and critical illness among 5279 people with coronavirus disease 2019 in New York City: prospective cohort study. *BMJ*. 2020;369:m1966. doi:10.1136/bmj.m1966

19. Ko JY, Danielson ML, Town M, et al; COVID-NET Surveillance Team. Risk factors for COVID-19-associated hospitalization: COVID-19-associated hospitalization surveillance network and behavioral risk factor surveillance system. *Clin Infect Dis*. Published online September 18, 2020. doi:10.1093/cid/ciaa1419

20. Joyner MJ, Wright RS, Fairweather D, et al. Early safety indicators of COVID-19 convalescent plasma in 5000 patients. *J Clin Invest*. 2020;130(9):4791-4797. doi:10.1172/JCI140200

Editor's Note

Neutralizing Monoclonal Antibody for Mild to Moderate COVID-19

Preeti N. Malani, MD, MSJ; Robert M. Golub, MD

In this issue of *JAMA*, Gottlieb et al[1] report the findings of the ongoing BLAZE-1 (Blocking Viral Attachment and Cell Entry with SARS-CoV-2 Neutralizing Antibodies) trial, a randomized, phase 2/3 clinical trial of antispike neutralizing monoclonal antibody treatment among 577 outpatients with mild or moderate coronavirus disease 2019 (COVID-19). This report represents the final analysis of the phase 2 portion of this trial and included 5 cohorts (3 groups with varying doses of bamlanivimab monotherapy, 1 group with a combination therapy of bamlanivimab and etesevimab, and a placebo group). The findings for the difference between each of the 3 monotherapy groups compared with the placebo group for the primary end point of change in severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) log viral load at day 11 from baseline were not statistically significant, but were statistically significantly different for the primary end point for the combination therapy group compared with the placebo group.

Related article page 632

In a prior publication from this trial, Chen et al[2] reported findings from an interim analysis for the 3 monotherapy cohorts (no combination group) and the placebo group. The results from that study differ from the final analyses reported in the current study.[1] In the earlier publication, the 2800 mg dose of bamlanivimab, compared with placebo, achieved statistical significance for the primary outcome of the mean change in viral load from baseline at day 11, whereas the 700 mg and 7000 mg doses did not[2]; the effect sizes for all comparisons were different from the final analysis by Gottlieb et al.[1]

Why are the results different? In the earlier publication, follow-up for the placebo group was incomplete at the time of the database lock on September 5, 2020. In the final analysis reported in the current article,[1] the database was locked on October 6, 2020, and the longer follow-up for the placebo group, which is now complete, resulted in changes in the primary outcome among that group. The comparison of the monotherapy groups against the final results for the placebo group led to changes in the effect sizes, and the loss of previously reported statistical significance in the group that received 2800 mg of bamlanivimab.[2]

In addition to reporting different results than the prior interim analysis, the current study raises timely questions about the indications for use of monoclonal antibodies. The US Food and Drug Administration has issued Emergency Use Authorizations for both bamlanivimab and for the combination of casirivimab and imdevimab for outpatients with mild to moderate symptoms of COVID-19 and risk factors for progression to severe disease (such as advanced age, obesity, diabetes, chronic kidney disease, and immunosuppression).

Section 6.0

Telehealth

Simplification of the Telehealth Guideline

Issue: HSD has been working to update their telehealth rules. Many of the details in Ancillary Guideline A5 fall now under HSD rules or are just considered standard of care. A5 should be a coverage guideline, indicating what codes are covered and in what circumstances. As written, much of A5 reads as a practice guideline. Some of the wording in A5 simply reflects CPT descriptions of services or CMS rules. HERC staff have worked to remove wording which could be construed as either rules or practice guidelines in order to streamline A5.

HERC staff recommendation

1) Modify Ancillary Guideline A5 as shown below
    a. Marked up version shown first; version without markup shown second for easier reading

ANCILLARY GUIDELINE A5, TELEHEALTH, TELECONSULTATIONS AND ONLINE/TELEPHONIC SERVICES

Telehealth services include a variety of health services provided by synchronous or asynchronous electronic communications, including secure electronic health portal, audio, or audio and video, ~~as well as~~ remote monitoring devices and clinician-to-clinician virtual consultations.

Criteria for coverage

The clinical value of the telehealth service delivered must reasonably approximate the clinical value of the equivalent services delivered in-person. Coverage of telehealth services requires the same level of documentation, medical necessity, and coverage determinations as in-person visits. ~~Specifically, covered telehealth services must meet all of the following criteria.~~

~~A) Documentation must include all of the following:~~
    ~~1) use model SOAP charting, or as described in program's OAR;~~
    ~~2) include patient history, provider assessment, treatment plan and follow-up instructions;~~
    ~~3) support the assessment and plan;~~
    ~~4) retain encounter in the patient's medical record and be retrievable.~~
~~B) Include medical decision making or service delivery (e.g. behavioral health intervention/psychotherapy, other forms of therapy).~~
~~C) Include permanent storage (online or hard copy) of the encounter.~~
~~D) Meet applicable HIPAA standards for privacy and security, except for regulations for which federal authorities are exercising enforcement discretion. (Certain requirements for encryption will not be enforced by federal authorities (or required by OHP) during the COVID-19 emergency.) This means services such as Facetime, Skype or Google Hangouts can be used for service delivery. See https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html for details.) HIPAA compliant platforms should be used whenever possible.~~
~~E) Include patient-clinician agreement of informed consent, discussed with and agreed to by the patient and documented in the medical record.~~

Examples of ~~reimbursable~~ covered telephone or online services include but are not limited to:

A) Extended counseling when person-to-person contact would involve an unwise delay or exposure to infectious disease.
B) Treatment of relapses that require significant investment of provider time and judgment.
C) Counseling and education for patients with complex chronic conditions.

Examples of ~~non-reimbursable~~ non-covered telehealth services include but are not limited to:

A) Prescription renewal.
B) Scheduling a test.
C) Reporting normal test results.
D) Requesting a referral.
E) Services which are part of care plan oversight or anticoagulation management (CPT codes 99339-99340, 99374-99380 or 99363-99364).
F) Services which relate to or take place within the postoperative period of a procedure provided by the physician are not separately covered. (Such a service is considered part of the procedure and is not be billed separately.)

~~***Telehealth services billed using in-person codes***~~

~~Telehealth services described in this section are synchronous services, generally provided with both audio and video capability and billed with the same procedure codes that would be billed for in-person services, with mode of delivery indicated by the use of specific modifiers and/or place of service codes specified by the plan. Telephone visits are an acceptable replacement for the equivalent service provided by synchronous audio and video, if synchronous audio and video capabilities are not available or feasible.~~

~~The patient may be in the community or in a health care setting. The provider may be in any location in which appropriate privacy can be ensured. If language services are provided, the interpreter may be in any location in which appropriate privacy can be ensured.~~

Codes eligible for telehealth delivery ~~billed in this manner~~ include 90785, 90791, 90792, 90832-90834, 90836, 90837-90840, 90846, 90847, 90951, 90952, 90954, 90955, 90957, 90958, 90960, 90961, 90963, 90964-90970, 96116, 96156-96171, 96160, 96161, 97802-97804, 99201-99205, 99211-99215, 99231-99233, 99307-99310, 99354-99357, 99406-99407, 99495-99498, G0108-G0109, G0270, G0296, G0396, G0397, G0406-G0408, G0420, G0421, G0425-G0427, G0438-G0439, G0442-G0447, G0459, G0506, G0508, G0509, G0513, G0514, G2086-G2088. Additional codes are covered when otherwise appropriate according to this guideline note and other applicable coverage criteria.

The originating site code Q3014 is covered only when the patient is present in an appropriate health care setting and receiving services from a provider in another location.

~~Telehealth services are covered for inpatient, outpatient and emergency services for new or established patients.~~

Clinician to Patient Services billed using specified codes indicating telephone or online service delivery

Covered ~~T~~telephonic and online services~~,~~ include~~ing~~ services related to evaluation, assessment and management ~~diagnostic workup~~ as well as other technology-based services (CPT 98966-98968, 99441-99443, 99421-99423, 98970-98972, ~~G2010,~~ G2012, G2061-G2063, G2251-G2252) ~~are covered for services for new and established patients.~~

Covered telephone and online services billed using these codes do not include either of the following:

A) Services related to a service performed and billed by the physician or qualified health professional within the previous seven days, regardless of whether it is the result of patient-initiated or physician-requested follow-up.
B) Services which result in the patient being seen within 24 hours or the next available appointment.

Clinician-to-Clinician Consultations (telephonic, online or using electronic health record)

Covered ~~Coverage of~~ interprofessional consultations include consultations delivered online, through electronic health records or by telephone (CPT 99446-99449, 99451-99452). ~~is included as follows:~~

~~*Consulting Providers (CPT 99451, 99446-99449)*~~

~~A) For new or established patients.~~
~~B) Consult must be requested by another provider.~~
~~C) Can be for a new or an exacerbated condition.~~
~~D) Cannot be reported more than 1 time per 7 days for the same patient.~~
~~E) Must report cumulative time spent, even if time occurs over multiple days.~~
~~F) Cannot be reported if a transfer of care or request for face-to-face visit occurs as a result of the consultation within the following 14 days.~~
~~G) Cannot be reported if the patient was seen by the consultant within the past 14 days.~~
~~H) The request and reason for consultation is documented in the patient's medical record.~~
~~I) Requires a minimum of 5 minutes of medical consultation, discussion and/or review.~~

~~*Requesting Providers (CPT 99452)*~~

~~A) Consult must be reported by requesting provider. (not for the transfer of a patient or request for face-to-face consult)~~
~~B) Reported only when the patient is not on-site with the requesting provider at the time of consultation.~~
~~C) Cannot be reported more than 1 time per 14 days per patient.~~
~~D) Requires a minimum of 16 minutes. Includes time for referral prep and/or communicating with the consultant.~~
~~E) Can be reported with prolonged services, non-direct.~~

~~Limited information provided by one clinician to another that does not constitute collaboration (e.g., interpretation of an electroencephalogram, report on an x-ray or scan, or reporting the results of a diagnostic test) is not considered a consultation.~~

ANCILLARY GUIDELINE A5, TELEHEALTH, TELECONSULTATIONS AND ONLINE/TELEPHONIC SERVICES

Telehealth services include a variety of health services provided by synchronous or asynchronous electronic communications, including secure electronic health portal, audio, or audio and video, remote monitoring devices and clinician-to-clinician virtual consultations.

Criteria for coverage

The clinical value of the telehealth service delivered must reasonably approximate the clinical value of the equivalent services delivered in-person. Coverage of telehealth services requires the same level of documentation, medical necessity, and coverage determinations as in-person visits.

Examples of covered telephone or online services include but are not limited to:

A) Extended counseling when person-to-person contact would involve an unwise delay or exposure to infectious disease.
B) Treatment of relapses that require significant investment of provider time and judgment.
C) Counseling and education for patients with complex chronic conditions.

Examples of non-covered telehealth services include but are not limited to:

A) Prescription renewal.
B) Scheduling a test.
C) Reporting normal test results.
D) Requesting a referral.
E) Services which are part of care plan oversight or anticoagulation management (CPT codes 99339-99340, 99374-99380 or 99363-99364).
F) Services which relate to or take place within the postoperative period of a procedure provided by the physician are not separately covered. (Such a service is considered part of the procedure and is not be billed separately.)

Codes eligible for telehealth delivery include 90785, 90791, 90792, 90832-90834, 90836, 90837-90840, 90846, 90847, 90951, 90952, 90954, 90955, 90957, 90958, 90960, 90961, 90963, 90964-90970, 96116, 96156-96171, 96160, 96161, 97802-97804, 99201-99205, 99211-99215, 99231-99233, 99307-99310, 99354-99357, 99406-99407, 99495-99498, G0108-G0109, G0270, G0296, G0396, G0397, G0406-G0408, G0420, G0421, G0425-G0427, G0438-G0439, G0442-G0447, G0459, G0506, G0508, G0509, G0513, G0514, G2086-G2088. Additional codes are covered when otherwise appropriate according to this guideline note and other applicable coverage criteria.

The originating site code Q3014 is covered only when the patient is present in an appropriate health care setting and receiving services from a provider in another location.

Clinician to Patient Services billed using specified codes indicating telephone or online service delivery

Covered telephonic and online services include services related to evaluation, assessment and management as well as other technology-based services (CPT 98966-98968, 99441-99443, 99421-99423, 98970-98972, G2012, G2061-G2063, G2251-G2252).

Covered telephone and online services billed using these codes do not include either of the following:

A) Services related to a service performed and billed by the physician or qualified health professional within the previous seven days, regardless of whether it is the result of patient-initiated or physician-requested follow-up.
B) Services which result in the patient being seen within 24 hours or the next available appointment.

Clinician-to-Clinician Consultations (telephonic, online or using electronic health record)

Covered interprofessional consultations include consultations delivered online, through electronic health records or by telephone (CPT 99446-99449, 99451-99452).

410-141-3566
Telehealth Service and Reimbursement Requirements
(1) For the purpose of this rule, the Authority defines telehealth as the use of electronic information and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health and health administration.

(a) Information related to telehealth services may be transmitted via landlines, and wireless communications, including the Internet and telephone networks;

(b) Services can be synchronous (using audio and video, video only or audio only) or asynchronous (using audio and video, audio, or text-based media) and may include transmission of data from remote monitoring devices. Communications may be between providers, or be between one or more providers and one or more patients, family members /caregivers / guardians.

(2) Telehealth encompasses different types of programs, services and delivery mechanisms for medically appropriate services for covered physical, behavioral and oral health conditions within the patient's defined benefit package.
(3) CCOs shall provide reimbursement for telehealth services and reimburse Certified and Qualified Health Care Interpreters (HCIs) for interpretation services provided via telemedicine at the same reimbursement rate as if it were provided in person. This requirement does not supersede the CCOs direct agreement(s) with providers, including but not limited to, alternative payment methodologies, quality and performance measures or Value Based Payment methods described in the CCO contract. However, nothing either in this requirement or within CCO direct agreement(s) with providers referenced herein supersedes any federal or state requirements with regard to the provision and coverage of health care interpreter services.
(4) Providers are prohibited from excluding or otherwise limiting OHP members to using exclusively telehealth services, except where Authority has implemented section (8) of this rule.
(5) CCOs shall ensure patient choice and accommodation encompass the following standards and services:

(a) Consistent with Care Coordination requirements in OAR 410-141- 3865, CCOs shall work with their contracted providers to ensure meaningful access to services by assessing members' capacities to use specific approved methods of telehealth delivery that comply with accessibility standards including alternate formats, and provides the optimal quality of care for the patient given their capacity;

(b) Pursuant to Title VI of the Civil Rights Act of 1964 and Section 1557 of the Affordable Care Act and the corresponding Code of Federal Regulation (CFR) at 45 CFR Part 92 (Section 1557) and The Americans with Disabilities Act and Amendments Act of 2008 (ADA), CCOs shall provide access to auxiliary aids and services to ensure that telehealth services accommodate the needs of individuals who have difficulty communicating due to a medical condition, who need accommodation due to a disability, advanced age or who have limited English proficiency (LEP);

(c) CCOs shall ensure access to health care services for LEP and Deaf and hard of hearing patients and their families through the use of qualified and certified health care interpreters, or third-party interpretive services to provide meaningful language access services as described in OAR 333-002-0040;

(d) CCOs shall ensure that telehealth services provided are culturally and linguistically appropriate as described in the relevant standards:

(A) National Culturally and Linguistically Appropriate Services (CLAS) Standards: https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=53;

(B) Tribal based practice standards https://www.oregon.gov/OHA/HSD/AMH/Pages/EBP.aspx;

(C) Trauma-informed approach to care as defined in 410-141-3500.

(5) Consistent with OAR 410-120-1990, privacy and security standards must be met by satisfying the following:

(a) Prior to the delivery of services via a telehealth modality, a patient informed oral, recorded, or written consent to receive services using a telehealth delivery method shall be obtained and documented annually. Informed consent must be updated at least annually thereafter. For LEP and Deaf and hard of hearing patients and their families, providers must use qualified and certified health care interpreters, when obtaining patient consent.

(b) Consistent with ORS 109.640, provision of birth control information and services shall be provided to any person regardless of age without consent of parent or legal guardian.

(c) Consistent with ORS109.640, provision of any other medical or dental diagnosis and treatment shall be provided to any person 15 years of age or older without consent of parent or legal guardian.

(d) Services provided using a telehealth platform shall comply with Health Insurance Portability and Accountability Act (HIPAA) https://aspe.hhs.gov/report/health-insurance-portability-and-accountability-act- 1996, and with the Authority's Privacy and Confidentiality Rules (Chapter 943 Division 14) except as noted in section (8) below.

(e) The patient may be located in the community or in a health care setting.

(f) Providers may be located in any location where privacy can be ensured.

(g) Persons providing interpretive services and supports shall be in any location where patient privacy and confidentiality can be ensured.

(6) CCOs shall ensure their network providers offer telehealth services that meet the following requirements:

(a) Provide services via telehealth that are within their respective certification or licensing board's scope of practice and comply with telehealth requirements including but not limited to:

(A) Documenting patient and provider agreement of med consent to receive services;

(B) Allowed physical location of provider and patient;

(C) Establishing or maintaining an appropriate provider-patient relationship.

(b) Complying with HIPAA and the Authority's Privacy and Confidentiality Rules and security protections for the patient in connection with the telehealth communications and related records requirements (OAR chapter 943 division 14 and 120, OAR 410-120-1360 and 1380, 42 CFR Part 2, if applicable, and ORS 646A.600 to 646A.628 (Oregon Consumer Identity Theft Protection Act) except as noted in section (8) below;

(c) Obtaining and maintaining technology used in telehealth communication that is compliant with privacy and security standards in HIPAA and the Authority's Privacy and Confidentiality Rules described in subsection (A) except as noted in section (8) below;

(d) Ensuring policies and procedures are in place to prevent a breach in privacy or exposure of patient health information or records (whether oral or recorded in any form or medium) to unauthorized persons;

(e) Maintaining clinical and financial documentation related to telehealth services as required in OAR 410-120-1360;

(f) Complying with all federal and state statutes as required in OAR 410-120-1380.

(7) CCO reimbursement to network providers offering telehealth services shall meet the following requirements:

(a) Services provided shall be medically and clinically appropriate for covered conditions within the Health Evidence Review Commission's (HERC) prioritized list and in compliance with relevant guideline notes;

(b) When allowed by practitioner's certification or licensing boards' scope of practice standards, telehealth delivered services for covered conditions are covered:

(A) When an established relationship exists between a provider and patient as defined by a patient who has received in-person professional services from the physician or other qualified health care professional within the same practice within the past three years; and

(B) For establishing a new patient-provider relationship.

(c) CCOs shall ensure that encounter submissions for services covered using synchronous audio and video include modifiers GT or 95. The Authority will cover the same services billed with the same codes but without modifier 95 or GT when provision of the same service via synchronous audio and video is not available or feasible, when the patient declines to enable video, or necessary consents cannot reasonably be obtained with appropriate documentation in patient's medical record.

(8) In the event of a declared emergency or changes in federal requirements, the Authority may adopt flexibilities to remove administrative barriers and support telehealth delivered services:

(a) The Authority will follow guidance from the US Department of Health and Human Services (HHS) Office for Civil Rights (OCR) which may allow enforcement discretion related to privacy or security requirements;

(b) The Authority may expand network capacity through remote care and telehealth services provided across state lines;

(c) The Authority may expand access to telehealth services for new patients;

(d) Should the Authority exercise options in this section (8), all CCO obligations for Network Adequacy requirements as described in OAR 410-141-3515 remain in full effect.

Statutory/Other Authority: ORS 413.042, 414.572, 414.591, 414.605, 414.615

Statutes/Other Implemented: ORS 414.572

Section 7.0

Previously Discussed Items

Prenatal Genetic Testing Guideline Equity Edits

VBBS March 2021

Issues:

1) The prenatal genetic testing guideline has been criticized as not equitable due to requirements for patients to know their family history to qualify for certain screening tests. In January 2021, HERC removed the requirement to be of Ashkenazi Jewish heritage to get related disease screening, due to the lack of knowledge of ethnic background in some patients. It was suggested that the need for family history be removed from the requirement for screening for fragile X and the requirement to be from a high-risk population for hemoglobinopathy screening. This allows more equitable coverage and removes the requirement for a patient to know their family history. Additionally, these diseases are recessive and there may be no relevant family history. Also, there are two entries for Tay Sachs screening; one should be removed to improve clarity on coverage. The tests listed in the guideline are standard prenatal screening tests and are already being covered widely, without verification of the risk of the mother in many cases.
2) Similar changes need to be made to the non-prenatal genetic testing guideline, but HERC staff feels that this guideline needs more extensive edits, such as consolidation of the preconception testing into a single section. Staff also has questions regarding if some conditions need two entries, one for preconception counseling and one for symptomatic patients. Given the more complicated nature of the possible edits, HERC staff recommend holding off on changes to the non-prenatal genetic testing guideline until GAP can review fully at its 2021 meeting.

HERC staff recommendation:

1) Modify Diagnostic Guideline D17 as shown below
    a. Removes requirement to know family history prior to certain screening tests

DIAGNOSTIC GUIDELINE D17, PRENATAL GENETIC TESTING

The following types of prenatal genetic testing and genetic counseling are covered for pregnant women:

A) Genetic counseling (CPT 96040, HPCPS S0265) for high-risk women who have family history of inheritable disorder or carrier state, ultrasound abnormality, previous pregnancy with aneuploidy, or elevated risk of neural tube defect.
B) Genetic counseling (CPT 96040, HPCPS S0265) prior to consideration of chorionic villus sampling (CVS), amniocentesis, microarray testing, Fragile X, and spinal muscular atrophy screening
C) Validated questionnaire to assess genetic risk in all pregnant women
D) Screening ~~high-risk ethnic groups~~ for hemoglobinopathies (CPT 83020, 83021)
E) Screening for aneuploidy with any of six screening strategies [first trimester (nuchal translucency, beta-HCG and PAPP-A), integrated, serum integrated, stepwise sequential, contingency, and cell free fetal DNA testing] (CPT 76813, 76814, 81508, 81510, 81511, 81420, 81507, 81512, 82105, 82677,84163)
F) Ultrasound for structural anomalies between 18 and 20 weeks gestation (CPT 76811, 76812)
G) CVS or amniocentesis (CPT 59000, 59015, 76945,76946, 82106, 88235, 88261-88264, 88267, 88269, 88280, 88283, 88285, 88289,88291) for a positive aneuploidy screen, maternal age >34, fetal structural anomalies, family history of inheritable chromosomal disorder or elevated risk of neural tube defect.

H) Array CGH (CPT 81228, 81229) when major fetal congenital anomalies are apparent on imaging, or with normal imaging when array CGH would replace karyotyping performed with CVS or amniocentesis in (H) above.
I) FISH testing (CPT 88271, 88272, 88274, 88275, 81171, 81172) only if karyotyping is not possible due a need for rapid turnaround for reasons of reproductive decision-making (i.e. at 22w4d gestation or beyond)
J) ~~Screening for Tay-Sachs carrier status (CPT 81255) in high-risk populations. First step is hex A, and then additional DNA analysis in individuals with ambiguous Hex A test results, suspected variant form of TSD or suspected pseudodeficiency of Hex A~~
K) Screening for cystic fibrosis carrier status once in a lifetime (CPT 81220-81224)
L) Screening for fragile X status (CPT 81243, 81244, 81171. 81172) once in a lifetime ~~in patients with a personal or family history of~~
    ~~a. fragile X tremor/ataxia syndrome~~
    ~~b. premature ovarian failure~~
    ~~c. unexplained early onset intellectual disability~~
    ~~d. fragile X intellectual disability~~
    ~~e. unexplained autism through the pregnant woman's maternal line~~
M) Screening for spinal muscular atrophy (CPT 81329) once in a lifetime
N) Screening for Canavan disease (CPT 81200), familial dysautonomia (CPT 81260), and Tay-Sachs carrier status (CPT 81255) once in a lifetime. Ashkenazi Jewish carrier panel testing (CPT 81412) is covered if the panel would replace and would be of similar or lower cost than individual gene testing including CF carrier testing.
O) Expanded carrier screening only for those genetic conditions identified above

The following genetic screening tests are not covered:

A) Serum triple screen
B) Expanded carrier screening which includes results for conditions not explicitly recommended for coverage

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx.

Acupuncture Guideline Revisions
March 2021

Question: Should two additional lines with substance abuse disorder diagnoses be added to the new SUD entry in the acupuncture guideline?

Question source: HERC staff, Laura Ocker LAc

Issue: At the January 2021 VBBS/HERC meeting, a new entry was added to the acupuncture guideline regarding line 4 SUBSTANCE USE DISORDER as shown below. However, two additional lines have acupuncture CPT codes for use in substance withdrawal and were not included in the January discussion.

Line 4 SUBSTANCE USE DISORDER

Acupuncture is included on this line only when used as part of a program that offer patients a variety of evidence-based interventions including behavioral interventions, social support, and Medication Assisted Treatment (MAT), as appropriate.

The additional lines with SUD diagnoses:
62 SUBSTANCE-INDUCED MOOD, ANXIETY, DELUSIONAL AND OBSESSIVE-COMPULSIVE DISORDERS
65 SUBSTANCE-INDUCED DELIRIUM; SUBSTANCE INTOXICATION AND WITHDRAWAL

HERC staff recommendation:

1) Modify GN92 as shown below

GUIDELINE NOTE 92, ACUPUNCTURE
Lines 1,4,5,12,62,64,65,92,111,112,114,125,129,133,135,157,158,191,199-201,208,210,214,215,229, 234,237,238,258,259,262,271,276,286,287,294,314-316,329,342,361,396,397,402,410,420,434,463, 540,558

Inclusion of acupuncture (CPT 97810-97814) on the Prioritized List has the following limitations:

Line 1 PREGNANCY

Acupuncture pairs on Line 1 for the following conditions and codes.

Hyperemesis gravidarum

ICD-10-CM: O21.0, O21.1

Acupuncture pairs with hyperemesis gravidarum when a diagnosis is made by the maternity care provider and referred for acupuncture treatment for up to 12 sessions of acupressure/acupuncture per pregnancy.

Breech presentation

ICD-10-CM: O32.1

Acupuncture (and moxibustion) is paired with breech presentation when a referral with a diagnosis of breech presentation is made by the maternity care provider, the patient is between 33 and 38 weeks gestation, for up to 6 session per pregnancy.

Back and pelvic pain of pregnancy

ICD-10-CM: O99.89

Acupuncture is paired with back and pelvic pain of pregnancy when referred by maternity care provider/primary care provider for up to 12 sessions per pregnancy.

Acupuncture Guideline Revisions
March 2021

Lines 4 SUBSTANCE USE DISORDER, 62 SUBSTANCE-INDUCED MOOD, ANXIETY, DELUSIONAL AND OBSESSIVE-COMPULSIVE DISORDERS, 65 SUBSTANCE-INDUCED DELIRIUM; SUBSTANCE INTOXICATION AND WITHDRAWAL

Acupuncture is included on ~~this line~~ these lines only when used as part of a program that offer patients a variety of evidence-based interventions including behavioral interventions, social support, and Medication Assisted Treatment (MAT), as appropriate.

Line 5 TOBACCO DEPENDENCE

Acupuncture is included on this line for a maximum of 12 sessions per quit attempt up to two quit attempts per year; additional sessions may be authorized if medically appropriate.

Lines 92, 111, 112, 114, 125, 129, 133, 135, 157, 158, 191, 199, 200, 208, 210, 214, 215, 229, 234, 237, 238, 258, 259, 261, 262, 271, 276, 286, 287, 294, 314, 315, 316, 329, 342, 372, 396, 397, 420, 434 and 558

Acupuncture is paired only with the ICD-10 code G89.3 (Neoplasm related pain (acute) (chronic)) when there is active cancer and limited to 12 total sessions per year; patients may have additional visits authorized beyond these limits if medically appropriate.

Line 201 CHRONIC ORGANIC MENTAL DISORDERS INCLUDING DEMENTIAS

Acupuncture is paired with the treatment of post-stroke depression only. Treatments may be billed to a maximum of 30 minutes face-to-face time and limited to 12 total sessions per year, with documentation of meaningful improvement; patients may have additional visits authorized beyond these limits if medically appropriate.

Line 361 SCOLIOSIS

Acupuncture is included on this line with visit limitations as in Guideline Note 56 NON-INTERVENTIONAL TREATMENTS FOR CONDITIONS OF THE BACK AND SPINE.

Line 402 CONDITIONS OF THE BACK AND SPINE

Acupuncture is included on this line with visit limitations as in Guideline Note 56 NON-INTERVENTIONAL TREATMENTS FOR CONDITIONS OF THE BACK AND SPINE.

Line 410 MIGRAINE HEADACHES

Acupuncture pairs on Line 410 for migraine (ICD-10-CM G43.0, G43.1, G43.5, G43.7, G43.8, G43.9), for up to 12 sessions per year.

Line 463 OSTEOARTHRITIS AND ALLIED DISORDERS

Acupuncture pairs on Line 463 for osteoarthritis of the knee only (ICD-10-CM M17), for up to 12 sessions per year.

*Line 540 TENSION HEADACHES

Acupuncture is included on Line 540 for treatment of tension headaches (ICD-10-CM G44.2), for up to 12 sessions per year.

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx

*Below the current funding line.

Section 8.0

New Discussion Items

Coding Specification Review 2021
Coding Specifications with Existing Guideline Notes

Issue: HERC staff have been tasked with converting coding specifications into guideline notes when possible. Guideline notes are more enforceable for the CCOs and more easily searchable in the billing systems. HERC staff have identified multiple coding specifications on lines that already have guidelines attached that would be appropriate to merge the coding specification into.

Current Prioritized List status:

1) Line 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
    a. Coding specification: CPT code 96110 can be billed in addition to other CPT codes, such as evaluation and management (E&M) codes or preventive visit codes.
    b. Guideline note: GUIDELINE NOTE 106, PREVENTIVE SERVICES
2) Line 8 TYPE 1 DIABETES MELLITUS
    a. Coding specification: CPT 95250 and 95251 are included on this line for services related to real-time continuous glucose monitoring but not retrospective (professional) continuous glucose monitoring
    b. Guideline note: GUIDELINE NOTE 108, CONTINUOUS GLUCOSE MONITORING
3) Line 40 PANHYPOPITUITARISM, IATROGENIC AND OTHER PITUITARY DISORDERS, Line 386 PITUITARY DWARFISM and line 652 ENDOCRINE AND METABOLIC CONDITIONS WITH NO OR MINIMALLY EFFECTIVE TREATMENTS OR NO TREATMENT NECESSARY
    a. Coding specification on line 40 and line 386: ICD-10-CM E23.0 is included on this line for conditions other than adult human growth hormone deficiency
    b. Coding specification on line 652: ICD-10-CM E23.0 is included on this line only for adult human growth hormone deficiency
    c. Guideline note: GUIDELINE NOTE 74, GROWTH HORMONE TREATMENT
4) Line 55 COMPLICATED STONES OF THE GALLBLADDER AND BILE DUCTS; CHOLECYSTITIS and line 641 GALLSTONES WITHOUT CHOLECYSTITIS
    a. Coding specification on both lines: ICD-10 K82.8 (Other specified diseases of gallbladder) is included on Line 55 when the patient has porcelain gallbladder or gallbladder dyskinesia with a gallbladder ejection fraction <35%. Otherwise, K82.8 is included on Line 641
    b. Guideline note: GUIDELINE NOTE 167, CHOLECYSTECTOMY FOR CHOLECYSTITIS AND BILIARY COLIC
5) Line 71 NEUROLOGICAL DYSFUNCTION IN BREATHING, EATING, SWALLOWING, BOWEL, OR BLADDER CONTROL CAUSED BY CHRONIC CONDITIONS; ATTENTION TO OSTOMIES and Line 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS
    a. Coding specification on both lines: CPT codes 62320-3 are only included on Lines 71 and 292 for trials of antispasmodics in preparation for placement of a baclofen pump.
    b. Guideline note: GUIDELINE NOTE 170, INTRATHECAL OR EPIDURAL DRUG INFUSION
6) Line 426 SEVERE INFLAMMATORY SKIN DISEASE Modify GUIDELINE NOTE 21, SEVERE INFLAMMATORY SKIN DISEASE
    a. Coding specification: ICD-10-CM Q82.8 is included on this line only for Darier disease.
    b. Guideline note: GUIDELINE NOTE 21, SEVERE INFLAMMATORY SKIN DISEASE

Coding Specification Review 2021
Coding Specifications with Existing Guideline Notes

HERC staff recommendations:

1) Modify Guideline Note 106 as shown below
    a. Merge the coding specification on line 3 PREVENTION SERVICES WITH EVIDENCE OF EFFECTIVENESS
        i. Delete the coding specification from line 3
            ~~1. CPT code 96110 can be billed in addition to other CPT codes, such as evaluation and management (E&M) codes or preventive visit codes.~~

GUIDELINE NOTE 106, PREVENTIVE SERVICES
Lines 3,622
Included on Line 3 are the following preventive services:

A) US Preventive Services Task Force (USPSTF) "A" and "B" Recommendations in effect and issued prior to January 1, 2020.
    1) http://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/
        a) Treatment of falls prevention with exercise interventions is included on Line 292.
    2) USPSTF "D" recommendations are not included on this line or any other line of the Prioritized List.

B) American Academy of Pediatrics (AAP) Bright Futures Guidelines:
    1) http://brightfutures.aap.org. Periodicity schedule available at http://www.aap.org/en-us/professional-resources/practice-support/Periodicity/Periodicity Schedule_FINAL.pdf.
    2) Screening for lead levels is defined as blood lead level testing and is indicated for Medicaid populations at 12 and 24 months. In addition, blood lead level screening of any child between ages 24 and 72 months with no record of a previous blood lead screening test is indicated.

C) Health Resources **and Services Administration (HRSA) Women's Preventive Services-Required Health Plan Coverage Guidelines a**s updated by HRSA in December 2019. Available at https://www.hrsa.gov/womens-guidelines-2019 as of September 4, 2020.

D) Immunizations as recommended by the Advisory Committee on Immunization Practices (ACIP): http://www.cdc.gov/vaccines/schedules/hcp/index.html or approved for the Oregon Immunization Program: https://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/ImmunizationProviderResources/Documents/DMAPvactable.pdf
    1) COVID-19 vaccines are intended to be included on this line even if the specific administration code(s) do not yet appear on the line when the vaccine has both 1) FDA approval or FDA emergency use authorization (EUA) and 2) ACIP recommendation.

Colorectal cancer screening is included on Line 3 for average-risk adults aged 50 to 75, using one of the following screening programs:

A) Colonoscopy every 10 years
B) Flexible sigmoidoscopy every 5 years
C) Fecal immunochemical test (FIT) every year
D) Guaiac-based fecal occult blood test (gFOBT) every year

Colorectal cancer screening for average-risk adults aged 76 to 85 is covered only for those who

A) Are healthy enough to undergo treatment if colorectal cancer is detected, and
B) Do not have comorbid conditions that would significantly limit their life expectancy.

Note: CPT code 96110 (Developmental screening (eg, developmental milestone survey, speech and language delay screen), with scoring and documentation, per standardized instrument) can be billed in addition to other CPT codes, such as evaluation and management (E&M) codes or preventive visit codes.

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx

2) Modify GUIDELINE NOTE 108 as shown below

a) Merge in the coding specification on Line 8 TYPE 1 DIABETES MELLITUS

b) Delete the coding specification from line 8:

~~i. CPT 95250 and 95251 are included on this line for services related to real-time continuous glucose monitoring but not retrospective (professional) continuous glucose monitoring~~

.

GUIDELINE NOTE 108, CONTINUOUS GLUCOSE MONITORING

Line 8

Real-time (personal) continuous glucose monitoring (CGM) is included on Line 8 for:

A) Adults with type 1 diabetes mellitus not on insulin pump management:
   1) Who have received or will receive diabetes education specific to the use of CGM AND
   2) Who have used the device for at least 50% of the time at their first follow-up visit AND
   3) Who have baseline HbA1c levels greater than or equal to 8.0%, frequent or severe hypoglycemia, or impaired awareness of hypoglycemia (including presence of these conditions prior to initiation of CGM).
B) Adults with type 1 diabetes on insulin pump management (including the CGM-enabled insulin pump):
   1) Who have received or will receive diabetes education specific to the use of CGM AND
   2) Who have used the device for at least 50% of the time at their first follow-up visit.
C) Women with type 1 diabetes who are pregnant or who plan to become pregnant within six months without regard to HbA1c levels.
D) Children and adolescents under age 21 with type 1 diabetes:
   1) Who have received or will receive diabetes education specific to the use of CGM AND
   2) Who have used the device for at least 50% of the time at their first follow-up visit.

CPT 95250 and 95251 (Ambulatory continuous glucose monitoring) are included on this line for services related to real-time continuous glucose monitoring but not retrospective (professional) continuous glucose monitoring

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx.

3) Modify GUIDELINE NOTE 74, GROWTH HORMONE TREATMENT as shown below

a) Merge in the coding specifications from Line 40 PANHYPOPITUITARISM, IATROGENIC AND OTHER PITUITARY DISORDERS, Line 386 PITUITARY DWARFISM and and line 652 ENDOCRINE AND METABOLIC CONDITIONS WITH NO OR MINIMALLY EFFECTIVE TREATMENTS OR NO TREATMENT NECESSARY

b) Delete the coding specifications from line 40 and line 386

i) ~~ICD-10-CM E23.0 is included on this line for conditions other than adult human growth hormone deficiency~~

c) Delete the coding specification from line 652:

ii) ~~ICD-10-CM E23.0 is included on this line only for adult human growth hormone deficiency~~

GUIDELINE NOTE 74, GROWTH HORMONE TREATMENT

Lines 40,386,469,652

Treatment with growth hormone should continue only until adult height as determined by bone age is achieved. ICD-10-CM E23.0 (Hypopituitarism) is included on lines 40 and 386 for conditions other than adult human growth hormone deficiency. ICD-10-CM E23.0 is included on line 652 only for adult human growth hormone deficiency.

4) Modify GUIDELINE NOTE 167, CHOLECYSTECTOMY FOR CHOLECYSTITIS AND BILIARY COLIC as shown below

a) Merge in the coding specification from line 55 COMPLICATED STONES OF THE GALLBLADDER AND BILE DUCTS; CHOLECYSTITIS and line 641 GALLSTONES WITHOUT CHOLECYSTITIS

b) Delete the coding specification from lines 55 and 641

iii) ~~ICD-10 K82.8 (Other specified diseases of gallbladder) is included on Line 55 when the patient has porcelain gallbladder or gallbladder dyskinesia with a gallbladder ejection fraction <35%. Otherwise, K82.8 is included on Line 641~~

GUIDELINE NOTE 167, CHOLECYSTECTOMY FOR CHOLECYSTITIS AND BILIARY COLIC

Lines 55,641

Cholecystectomy for cholecystitis and biliary colic are including on Line 55 when meeting the following criteria:

A) For cholecystitis, with either:
   1) The presence of right upper quadrant abdominal pain, mass, tenderness or a positive Murphy's sign, AND
   2) Evidence of inflammation (e.g. fever, elevated white blood cell count, elevated C reactive protein) OR

3) Ultrasound findings characteristic of acute cholecystitis or non-visualization of the gall bladder on oral cholecystegram or HIDA scan, or gallbladder ejection fraction of < 35%.

B) For biliary colic (i.e. documented clinical encounter for right upper quadrant or epigastric pain with gallstones seen on imaging during each episode) without evidence of cholecystitis or other complications is included on Line 55 only when
1) Recurrent (i.e. 2 or more episodes in a one year period) OR
2) A single episode in a patient at high risk for complications with emergent cholecystitis (e.g. immunocompromised patients, morbidly obese patients, diabetic patients) OR
3) When any of the following are present: elevated pancreatic enzymes, elevated liver enzymes or dilated common bile duct on ultrasound.

Otherwise, biliary colic is included on Line 641.

ICD-10 K82.8 (Other specified diseases of gallbladder) is included on Line 55 when the patient has porcelain gallbladder or gallbladder dyskinesia with a gallbladder ejection fraction <35%. Otherwise, K82.8 is included on Line 641.

5) Modify GUIDELINE NOTE 170, INTRATHECAL OR EPIDURAL DRUG INFUSION as shown below
a) Merge in the coding specifications from Line 71 NEUROLOGICAL DYSFUNCTION IN BREATHING, EATING, SWALLOWING, BOWEL, OR BLADDER CONTROL CAUSED BY CHRONIC CONDITIONS; ATTENTION TO OSTOMIES and Line 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS
b) Delete the coding specifications from line 71 and line 292
~~i) CPT codes 62320-3 are only included on Lines 71 and 292 for trials of antispasmodics in preparation for placement of a baclofen pump~~

GUIDELINE NOTE 170, INTRATHECAL OR EPIDURAL DRUG INFUSION
Lines 71,285,292,491
Implantation, revision and replacement of devices for intrathecal or epidural drug infusion systems is only included on these lines when the patient meets the criteria for at least one of the categories (A or B) below:

A) Placed for administration of baclofen for spasticity where all of the following (1-3) occur:
1) The patient has had an adequate trial of non-invasive methods of spasticity control and not had adequate control of spasticity or had intolerable side effects with these methods.
2) The spasticity is causing difficulties with at least one of the following (a, b or c):
a) Posture or function
b) Balance or locomotion
c) Self-care (or ease of care by parents or caregivers)
3) The patient has a favorable response to a trial intrathecal dosage of the anti-spasmodic drug prior to pump implantation.

B) Palliation for severe, intractable pain due to life-limiting active cancer which
1) Has not been responsive to non-invasive systemic pain control strategies or had intolerable side effects from such strategies, AND

2) Where the patient has a favorable response to a trial of an intrathecal dose of the analgesic drug prior to pump implantation

Intrathecal or epidural drug infusion pump insertion, revision, and replacement are included on Line 662 for use with chronic non-malignant pain and all other indications not listed above. See Guideline Note 173 INTERVENTIONS THAT ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS FOR CERTAIN CONDITIONS. Removal of pumps placed for such indications is included on Line 285.

Maintenance (i.e. reprogramming, medication refill) of epidural or intrathecal medication infusion pumps for any condition is only included on these lines for patients who

A) have no significant complications with the current medication regimen or pump delivery system AND
B) are continuing to receive adequate benefit from the pump-delivered medication.

Maintenance (but not replacement) of these infusion systems may be paired with ICD-10-CM Z45.49 (Encounter for adjustment and management of other implanted nervous system device).

CPT codes 62320-62323 (Injection(s), of diagnostic or therapeutic substance(s) (eg, anesthetic, antispasmodic, opioid, steroid, other solution), interlaminar epidural or subarachnoid) are only included on Lines 71 and 292 for trials of antispasmodics in preparation for placement of a baclofen pump.

6) Modify GUIDELINE NOTE 21, SEVERE INFLAMMATORY SKIN DISEASE as shown below

a) Merge in the coding specifications from Line 426 SEVERE INFLAMMATORY SKIN DISEASE
b) Delete the coding specification on line 426:
   i) ~~ICD-10-CM Q82.8 is included on this line only for Darier disease~~.

GUIDELINE NOTE 21, SEVERE INFLAMMATORY SKIN DISEASE

Lines 426,482,504,532,541,656

Inflammatory skin conditions included in this guideline are:

A) Psoriasis
B) Atopic dermatitis
C) Lichen planus
D) Darier disease
E) Pityriasis rubra pilaris
F) Discoid lupus

The conditions above are included on Line 426 if severe, defined as having functional impairment as indicated by Dermatology Life Quality Index (DLQI) ≥ 11 or Children's Dermatology Life Quality Index (CDLQI) ≥ 13 (or severe score on other validated tool) AND one or more of the following:

A) At least 10% of body surface area involved
B) Hand, foot or mucous membrane involvement.

Otherwise, these conditions above are included on Lines 482, 504, 532, 541 and 656.

For severe psoriasis, first line agents include topical agents, phototherapy and methotrexate. Second line agents include other systemic agents and oral retinoids and should be limited to those who fail, or have contraindications to, or do not have access to first line agents. Biologics are included on this line only for the indication of severe plaque psoriasis; after documented failure of first line agents and failure of (or contraindications to) a second line agent.

For severe atopic dermatitis/eczema, first-line agents include topical moderate- to high- potency corticosteroids and narrowband UVB. Second line agents include topical calcineurin inhibitors (e.g. pimecrolimus, tacrolimus), topical phosphodiesterase (PDE)-4 inhibitors (e.g. crisaborole), and oral immunomodulatory therapy (e.g. cyclosporine, methotrexate, azathioprine, mycophenolate mofetil, or oral corticosteroids). Use of the topical second line agents (e.g. calcineurin inhibitors and phosphodiesterase (PDE)-4 inhibitors) should be limited to those who fail or have contraindications to first line agents. Biologic agents are included on this line for atopic dermatitis only after failure of or contraindications to at least one agent from each of the following three classes: 1) moderate to high potency topical corticosteroids, 2) topical calcineurin inhibitors or topical phosphodiesterase (PDE)-4 inhibitors, and 3) oral immunomodulator therapy.

ICD-10-CM Q82.8 (Other specified congenital malformations of skin) is included on line 426 only for Darier disease.

Coding Specification Review 2021
Coding Specifications Requiring New Guideline Notes

Issue: HERC staff have been tasked with converting coding specifications into guideline notes when possible. Guideline notes are more enforceable for the CCOs and more easily searchable in the billing systems. HERC staff have identified multiple coding specifications on lines that would require new guideline line note creation for the removal of the coding specification.

Current Prioritized List status:

1) Line 83 DIABETES MELLITUS WITH END STAGE RENAL DISEASE
    a. Coding specification: SPK included for type I diabetes mellitus with end stage renal disease (E10.2), PAK only included for other type I diabetes mellitus with secondary diagnosis of Z94.0.
2) Line 174 GENERALIZED CONVULSIVE OR PARTIAL EPILEPSY WITHOUT MENTION OF IMPAIRMENT OF CONSCIOUSNESS
    a. Coding specification: CPT 61885 is included on this line only for vagal nerve stimulation. It is not included on this line for deep brain stimulation.
    b. Note: this topic is currently being reviewed as a coverage guidance
3) Line 205 SUPERFICIAL ABSCESSES AND CELLULITIS and Line 559 SPASTIC DYSPHONIA
    a. Coding specification: ICD-10 J38.3 is included on Line 205 for treatment of abscesses and cellulitis of the vocal cords; it is included on Line 559 for treatment of spastic dysphonia.
4) Line 227 INTESTINAL MALABSORPTION
    a. Coding specification: ICD-10-CM code K90.89 (Other intestinal malabsorption) is included on this line only for chronic steatorrhea, exudative enteropathy, and protein-losing enteropathy
5) Line 258 CANCER OF PENIS AND OTHER MALE GENITAL ORGANS
    a. Coding specification: CPT 96567, 96573 and 96574 are included on this line only for pairing with ICD-10-CM D07.4.
6) Line 262 CANCER OF LUNG, BRONCHUS, PLEURA, TRACHEA, MEDIASTINUM AND OTHER RESPIRATORY ORGANS
    a. Coding specification: ICD-10-CM code I87.1 is included on this line for superior vena cava syndrome only.
7) Line 280 BUDD-CHIARI SYNDROME, AND OTHER VENOUS EMBOLISM AND THROMBOSIS
    a. Coding specification: Catheter directed thrombolysis (CPT 37212-37214) is not paired on this line with peripheral DVT (ICD-10-CM I82.6, I82.7, I82.A, I82.B, I82.8, I82.9).
8) Line 287 CANCER OF ORAL CAVITY, PHARYNX, NOSE AND LARYNX
    a. Coding specification: ICD-10-CM code D11.0 is included on this line only for parotid gland pleomorphic adenomas
9) Line 356 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE
    a. Coding specification: Knee arthroscopy (29871, 29873-29876, 29884-29887) is not included on this line when paired with osteoarthritis/osteoarthrosis of the knee (M17.0-M17.9).
10) Line 381 BULIMIA NERVOSA AND UNSPECIFIED EATING DISORDERS
    a. Coding specification: ICD-10 F50.89 is included on Line 381 for psychogenic loss of appetite. ICD-10 F50.89 is included on Line 631 for pica in adults and for all other diagnoses using this code.

   b. Note: ICD10 F50.89 (Other specified eating disorder) appears on lines 149 FEEDING AND EATING DISORDERS OF INFANCY OR CHILDHOOD, 381, and 631 PICA
      i. There is no appropriate subdiagnosis for line 149
      ii. ICD10 F50.89 subdiagnoses: pica in adults, psychogenic loss of appetite

11) Line 383 CENTRAL SEROUS CHORIORETINOPATHY
   a. Coding specification: CPT 67027 (Implantation of intravitreal drug delivery system) is included on this line for use with medications other than intraocular steroid implants.
12) Line 393 STRABISMUS WITHOUT AMBLYOPIA AND OTHER DISORDERS OF BINOCULAR EYE MOVEMENTS; CONGENITAL ANOMALIES OF EYE; LACRIMAL DUCT OBSTRUCTION IN CHILDREN
   a. Coding specification: CPT 92065 is included on Line 393 only for pairing with ICD-10 H50.31 intermittent monocular esotropia), H50.32 (Intermittent alternating esotropia), H50.33 (Intermittent monocular exotropia), and H50.34 (Intermittent alternating exotropia).
13) Line 424 COMPLICATIONS OF A PROCEDURE USUALLY REQUIRING TREATMENT
   a. Coding specification: ICD-10-CM codes L58.0, L64.0 and L65.8 are only included on this line for pairing with HCPC A9282.
14) Line 539 LESION OF PLANTAR NERVE; PLANTAR FASCIAL FIBROMATOSIS
   a. Coding specification: CPT 20550 only appears on this line for corticosteroid injections. The treatment is appropriate to the condition, but has limited evidence of effectiveness
15) Line 540 TENSION HEADACHES
   a. Coding specification: Osteopathic manipulative treatment and chiropractic manipulative treatment (CPT 98926-98929, 98940- 98943) pair on this line only with cervicogenic headache (R51).
16) Line 631 PICA
   a. Coding specification: ICD-10 F50.89 is included on Line 381 for psychogenic loss of appetite. ICD-10 F50.89 is included on Line 631 for pica in adults and for all other diagnoses using this code.

Coding Specification Review 2021
Coding Specifications Requiring New Guideline Notes

HERC staff recommendations:

1) Create a new guideline note for Line 83 DIABETES MELLITUS WITH END STAGE RENAL DISEASE as shown below
    a. Delete the coding specification from line 83
        ~~i. SPK included for type I diabetes mellitus with end stage renal disease (E10.2), PAK only included for other type I diabetes mellitus with secondary diagnosis of Z94.0~~

    GUIDELINE NOTE XXX PANCREAS/KIDNEY TRANSPLANTS
    Line 83
    Simultaneous pancreas kidney transplant (SPT) is only included on this line for type I diabetes mellitus with end stage renal disease (E10.2). Pancreas after kidney transplant (PAK) is only included on this line for other type I diabetes mellitus with secondary diagnosis of Z94.0 (Kidney transplant status).

2) Create a new guideline note for lines 205 SUPERFICIAL ABSCESSES AND CELLULITIS and 559 SPASTIC DYSPHONIA
    a. Delete the coding specification from lines 205 and 559:
        ~~i. ICD-10 J38.3 is included on Line 205 for treatment of abscesses and cellulitis of the vocal cords; it is included on Line 559 for treatment of spastic dysphonia.~~

    GUIDELINE NOTE XXX OTHER DISEASES OF VOCAL CORDS
    Lines 205, 559
    ICD-10 J38.3 (Other diseases of vocal cords) is included on Line 205 for treatment of abscesses and cellulitis of the vocal cords; it is included on Line 559 for treatment of spastic dysphonia.

3) Create a new guideline note for Line 227 INTESTINAL MALABSORPTION as shown below
    a. Delete the coding specification form line 227:
        ~~i. ICD-10-CM code K90.89 (Other intestinal malabsorption) is included on this line only for chronic steatorrhea, exudative enteropathy, and protein-losing enteropathy~~
    b. Add ICD-10 K90.89 (Other intestinal malabsorption) to line 552 OTHER NONINFECTIOUS GASTROENTERITIS AND COLITIS

    GUIDELINE NOTE XXX OTHER INTESTINAL MALABSORPTION
    Line 227,552
    ICD-10-CM code K90.89 (Other intestinal malabsorption) is included on this line only for chronic steatorrhea, exudative enteropathy, and protein-losing enteropathy. Otherwise, it is included on line 552.

4) Create a new guideline note for Line 258 CANCER OF PENIS AND OTHER MALE GENITAL ORGANS as shown below
    a. Note additional CPT codes were added to guideline as they are also included on this line and similar to CPT 96567 and 96573
    b. Delete the coding specification from line 258:

~~i. CPT 96567, 96573 and 96574 are included on this line only for pairing with ICD-10-CM D07.4.~~

GUIDELINE NOTE XXX CARCINOMA IN SITU OF PENIS
Line 258
CPT 96567-96573 (Photodynamic therapy) and 96574 (Debridement of premalignant hyperkeratotic lesion) are included on this line only for pairing with ICD-10-CM D07.4 (Carcinoma in situ of penis).

5) Create a new guideline note for line 262 CANCER OF LUNG, BRONCHUS, PLEURA, TRACHEA, MEDIASTINUM AND OTHER RESPIRATORY ORGANS and line 639 VARICOSE VEINS OF LOWER EXTREMITIES WITHOUT ULCER OR OTHER MAJOR COMPLICATION as shown below
   a. Note addition of line 639 VARICOSE VEINS OF LOWER EXTREMITIES WITHOUT ULCER OR OTHER MAJOR COMPLICATION
   b. Delete the coding specification from line 262:
      ~~i. ICD-10-CM code I87.1 is included on this line for superior vena cava syndrome only.~~

GUIDELINE NOTE XXX COMPRESSION OF VEIN
Line 262,639
ICD-10-CM code I87.1 (Compression of vein) is included on line 262 for superior vena cava syndrome only. Otherwise it is included on line 639.

6) Create a new guideline note for Line 280 BUDD-CHIARI SYNDROME, AND OTHER VENOUS EMBOLISM AND THROMBOSIS as shown below
   a. Delete the coding specification from line 280
      ~~i. Catheter directed thrombolysis (CPT 37212-37214) is not paired on this line with peripheral DVT (ICD-10-CM I82.6, I82.7, I82.A, I82.B, I82.8, I82.9).~~

GUIDELINE NOTE XXX CATHETER DIRECTED THROMBOLYSIS
Line 280
Catheter directed thrombolysis (CPT 37212-37214) is not paired on this line with peripheral DVT (ICD-10-CM I82.6, I82.7, I82.A, I82.B, I82.8, I82.9).

7) Create a new guideline note for lines 287 CANCER OF ORAL CAVITY, PHARYNX, NOSE AND LARYNX and 627 BENIGN NEOPLASMS OF SKIN AND OTHER SOFT TISSUES as shown below
   a. Note the addition of line 627 BENIGN NEOPLASMS OF SKIN AND OTHER SOFT TISSUES
   b. Delete the coding specification from line
      ~~i. ICD-10-CM code D11.0 is included on this line only for parotid gland pleomorphic adenomas~~

GUIDELINE NOTE XXX BENIGN NEOPLASM OF PAROTID GLAND
Line 287,627

ICD-10-CM code D11.0 (Benign neoplasm of parotid gland) is included on line 287 only for parotid gland pleomorphic adenomas. Otherwise it is included on line 627.

8) Create a new guideline note for Line 356 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE as shown below
    a. Delete the coding specification from line 356:
        i. ~~Knee arthroscopy (29871, 29873-29876, 29884-29887) is not included on this line when paired with osteoarthritis/osteoarthrosis of the knee (M17.0-M17.9).~~

    GUIDELINE NOTE XXX KNEE ATHROSCOPY
    Line 356
    Knee arthroscopy (29871, 29873-29876, 29884-29887) is not included on this line when paired with osteoarthritis/osteoarthrosis of the knee (M17.0-M17.9).

9) Create a new guideline note for lines 381 BULIMIA NERVOSA AND UNSPECIFIED EATING DISORDERS and 631 PICA as shown below
    a. Delete the coding specification from line 381
        i. ~~ICD-10 F50.89 is included on Line 381 for psychogenic loss of appetite. ICD-10 F50.89 is included on Line 631 for pica in adults and for all other diagnoses using this code~~.
    b. Remove ICD10 F50.89 from line 149 FEEDING AND EATING DISORDERS OF INFANCY OR CHILDHOOD as there is no appropriate subdiagnosis for this line

    GUIDELINE NOTE XXX OTHER SPECIFIED EATHING DISORDER
    Line 381,631
    ICD-10 F50.89 (Other specified eating disorder) is included on Line 381 for psychogenic loss of appetite. ICD-10 F50.89 is included on Line 631 for pica in adults and for all other diagnoses using this code.

10) Create a new guideline note for Line 383 CENTRAL SEROUS CHORIORETINOPATHY as shown below
    a. Delete the coding specification from line 383:
        i. ~~CPT 67027 (Implantation of intravitreal drug delivery system) is included on this line for use with medications other than intraocular steroid implants~~.

    GUIDELINE NOTE XXX IMPLANTATION OF INTRAVITREAL DRUG DELIVERY SYSTEM
    Line 383
    CPT 67027 (Implantation of intravitreal drug delivery system) is included on this line for use with medications other than intraocular steroid implants.

11) Create a new guideline note for Line 393 STRABISMUS WITHOUT AMBLYOPIA AND OTHER DISORDERS OF BINOCULAR EYE MOVEMENTS; CONGENITAL ANOMALIES OF EYE; LACRIMAL DUCT OBSTRUCTION IN CHILDREN as shown below
    a. Delete the coding specification from line 393
        i. ~~CPT 92065 is included on Line 393 only for pairing with ICD-10 H50.31 intermittent monocular esotropia), H50.32 (Intermittent alternating esotropia), H50.33 (Intermittent monocular exotropia), and H50.34 (Intermittent alternating exotropia).~~

    GUIDELINE NOTE XXX ORTHOPTIC AND/OR PLEOPTIC TRAINING
    Line 393
    CPT 92065 (Orthoptic and/or pleoptic training) is included on Line 393 only for pairing with ICD-10 H50.31 (Intermittent monocular esotropia), H50.32 (Intermittent alternating esotropia), H50.33 (Intermittent monocular exotropia), and H50.34 (Intermittent alternating exotropia).

12) Create a new guideline note for lines 424 COMPLICATIONS OF A PROCEDURE USUALLY REQUIRING TREATMENT and 586 DISEASE OF NAILS, HAIR AND HAIR FOLLICLES as shown below
    a. Delete the coding specification from line 424
        i. ~~ICD-10-CM codes L58.0, L64.0 and L65.8 are only included on this line for pairing with HCPC A9282.~~

    GUIDELINE NOTE XXX WIGS
    Line 424,586
    ICD-10-CM codes L58.0 (Acute radiodermatitis), L64.0 (Drug-induced androgenic alopecia) and L65.8 (Other specified nonscarring hair loss) are only included on this line for pairing with HCPC A9282 (Wig). Otherwise these ICD10 codes are included on line 586.

13) Create a new guideline note for Line 539 LESION OF PLANTAR NERVE; PLANTAR FASCIAL FIBROMATOSIS as shown below
    a. Delete the coding specification from line 539
        i. ~~CPT 20550 only appears on this line for corticosteroid injections. The treatment is appropriate to the condition, but has limited evidence of effectiveness~~

    GUIDELINE NOTE XXX PLANTAR FASCIA INJECTION
    Line 539
    CPT 20550 (Plantar fascia injection) only appears on this line for corticosteroid injections. The treatment is appropriate to the condition, but has limited evidence of effectiveness.

14) Create a new guideline note for Line 540 TENSION HEADACHES as shown below
    a. Delete the coding specification from line 540:
        i. ~~Osteopathic manipulative treatment and chiropractic manipulative treatment (CPT 98926-98929, 98940-98943) pair on this line only with cervicogenic headache (R51).~~

GUIDELINE NOTE XXX CERVICOGENIC HEADACHE

Line 540

Osteopathic manipulative treatment and chiropractic manipulative treatment (CPT 98926-98929, 98940- 98943) pair on this line only with cervicogenic headache (R51).

Coding Specification Review 2021
Coding Specifications for Deletion Only

Issue: HERC staff have been tasked with converting coding specifications into guideline notes when possible. Guideline notes are more enforceable for the CCOs and more easily searchable in the billing systems. HERC staff have identified two coding specifications on lines that can be deleted as no longer being required.

Current Prioritized List status:

1) Line 327 FUNCTIONAL AND MECHANICAL DISORDERS OF THE GENITOURINARY SYSTEM INCLUDING BLADDER OUTLET OBSTRUCTION
    a. Coding specification: ICD-10-CM codes N40.1 and N40.3 are only included on this line when post-void residuals are at least 150 cc's.
    b. Note: ICD10 N40.3 does not appear on line 327
    c. Guideline note: GUIDELINE NOTE 145 TREATMENTS FOR BENIGN PROSTATE ENLARGEMENT WITH LOWER URINARY TRACT SYMPTOMS
2) Line 444 ADJUSTMENT DISORDERS
    a. Coding specification: ICD-10-CM codes Z71.89, Other specified counseling, and Z63.4, Disappearance and death of family member are only included in this line when identified as secondary diagnoses with a primary diagnosis of F43.8, Other reactions to severe stress.
        i. Z71.89 has 50+ subdiagnoses including various medication counseling, counseling regarding drug use, marital counseling, pregnancy counseling, etc.

GUIDELINE NOTE 145, TREATMENTS FOR BENIGN PROSTATE ENLARGEMENT WITH LOWER URINARY TRACT SYMPTOMS

Line 327

For men with lower urinary tract symptoms (LUTS) due to benign prostate enlargement, surgical procedures are included on these lines only if symptoms are severe, and if drug treatment and conservative management options have been unsuccessful or are not appropriate.

Prostatic urethral lift procedures (CPT 52441, 52442, HCPCS C9739, C9740) are included on Line 327 when the following criteria are met:

- Age 50 or older
- Estimated prostate volume < 80 cc
- International Prostate Symptom Score (IPSS) ≥ 13
- No obstructive median lobe of the prostate identified on cystoscopy at the time of the procedure

The following interventions for benign prostate enlargement are not included on Line 327 due to lack of evidence of effectiveness:

- Botulinum toxin
- HIFU (High Intensity Focused Ultrasound)
- TEAP (Transurethral Ethanol Ablation of the Prostate)
- Laser coagulation (for example, VLAP/ILC)
- Prostatic artery embolization

Coding Specification Review 2021
Coding Specifications for Deletion Only

The development of this guideline note was informed by a HERC coverage guidance. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx

HERC staff recommendations:

1) Delete the coding specification form line 327:
   a) ~~ICD-10-CM codes N40.1 and N40.3 are only included on this line when post-void residuals are at least 150 cc's~~
   b) The coding specification is no longer needed as there is greater specificity in Guideline Note 145
2) Delete the coding specification from line 444
   a) ~~ICD-10-CM codes Z71.89, Other specified counseling, and Z63.4 Disappearance and death of family member are only included in this line when identified as secondary diagnoses with a primary diagnosis of F43.8, Other reactions to severe stress.~~
   b) Both Z codes are appropriate for counseling and other services on this line

Coding Specification Review 2021
Chemodenervation Coding Specifications

Question: Should all of the coding specifications regarding chemodenervation (botulinum toxin treatment) be changed from coding specifications to guideline note(s)?

Question source: Holly Jo Hodges, MD, CCO medical director

Issue: There are multiple coding specifications regarding chemodenervation, as well as two guidelines regarding chemodenervation. Dr. Hodges requested consideration of changing all of the coding specifications into one or more guideline notes as guideline notes are more searchable and more enforceable than coding specifications. Additionally, it is confusing that some restrictions on chemodenervation are guidelines and some are coding specifications.

Chemodenervation refers to treatment with nerve agents like botulinum toxin.

Current Prioritized List status:

1) Line 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS
    a. Coding specification: Chemodenervation with botulinum toxin injection (CPT 64642-64647) is included on this line for treatment of upper and lower limb spasticity (ICD-10-CM codes G24.02, G24.1, G35, G36.0, I69.03- I69.06 and categories G71, and G80-G83.)
2) Line 351 STRABISMUS DUE TO NEUROLOGIC DISORDER
    a. Coding specification: Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).
3) Line 362 DYSTONIA (UNCONTROLLABLE); LARYNGEAL SPASM
    a. Coding specification: Chemodenervation with botulinum toxin injection (CPT 64612, 64616) is included on this line only for treatment of blepharospasm (ICD-10-CM G24.5), spasmodic torticollis (ICD-10-CM G24.3), and other fragments of torsion dystonia (ICD-10-CM G24.9)
4) Line 378 ESOPHAGEAL STRICTURE; ACHALASIA
    a. Coding specification: Chemodenervation with botulinum toxin injection (CPT 43201) is included on this line for treatment of achalasia (ICD-10 K22.0)
5) Line 393 STRABISMUS WITHOUT AMBLYOPIA AND OTHER DISORDERS OF BINOCULAR EYE MOVEMENTS; CONGENITAL ANOMALIES OF EYE; LACRIMAL DUCT OBSTRUCTION IN CHILDREN
    a. Coding specifications:
        i. CPT 92065 is included on Line 393 only for pairing with ICD-10 H50.31 intermittent monocular esotropia), H50.32 (Intermittent alternating esotropia), H50.33 (Intermittent monocular exotropia), and H50.34 (Intermittent alternating exotropia).
        ii. Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).
6) Line 517 DISORDERS OF SWEAT GLANDS
    a. Coding specification: Chemodenervation with botulinum toxin injection (CPT 64650, 64653) is included on this line for the treatment of axillary hyperhidrosis and palmar hyperhidrosis (ICD-10 L74.52, R61)

GUIDELINE NOTE 42, CHEMODENERVATION FOR CHRONIC MIGRAINE

Line 410

Chemodenervation for treatment of chronic migraine (CPT 64615) is included on this line for prophylactic treatment of adults who meet all of the following criteria:

A) have chronic migraine defined as headaches on at least 15 days per month of which at least 8 days are with migraine
B) has not responded to or have contraindications to at least three prior pharmacological prophylaxis therapies (e.g. beta-blocker, anticonvulsant or tricyclic antidepressant)
C) their condition has been appropriately managed for medication overuse
D) treatment is administered in consultation with a neurologist or headache specialist.

Treatment is limited to two injections given 3 months apart. Additional treatment requires documented positive response to therapy. Positive response to therapy is defined as a reduction of at least 7 headache days per month compared to baseline headache frequency

GUIDELINE NOTE 45, CHEMODENERVATION OF THE BLADDER

Line 327

Chemodenervation of the bladder (CPT 52287) is included on this line only for treatment of idiopathic detrusor over-activity or neurogenic detrusor over-activity (ICD-10-CM N32.81) in patients who have not responded to or been unable to tolerate at least two urinary incontinence antimuscarinic therapies (e.g. fesoterodine, oxybutynin, solifenacin, darifenacin, tolterodine, trospium). Treatment is limited to 90 days, with additional treatment only if the patient shows documented positive response. Positive response to therapy is defined as a reduction of urinary frequency of 8 episodes per day or urinary incontinence of 2 episodes per day compared to baseline frequency

Coding Specification Review 2021
Chemodenervation Coding Specifications

HERC staff recommendations:

1) Combine all mentions of chemodenervation into a single guideline note to increase clarity and usability; modeled after the acupuncture guideline
2) Delete GN42 and GN45
3) Delete the chemodenervation coding specifications below
   a) Line 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS
      i) ~~Chemodenervation with botulinum toxin injection (CPT 64642-64647) is included on this line for treatment of upper and lower limb spasticity (ICD-10-CM codes G24.02, G24.1, G35, G36.0, I69.03- I69.06 and categories G71, and G80-G83.)~~
   b) Line 351 STRABISMUS DUE TO NEUROLOGIC DISORDER
      i) ~~Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).~~
   c) Line 362 DYSTONIA (UNCONTROLLABLE); LARYNGEAL SPASM
      i) ~~Chemodenervation with botulinum toxin injection (CPT 64612, 64616) is included on this line only for treatment of blepharospasm (ICD-10-CM G24.5), spasmodic torticollis (ICD-10-CM G24.3), and other fragments of torsion dystonia (ICD-10-CM G24.9)~~
   d) Line 378 ESOPHAGEAL STRICTURE; ACHALASIA
      i) ~~Chemodenervation with botulinum toxin injection (CPT 43201) is included on this line for treatment of achalasia (ICD-10 K22.0)~~
   e) Line 393 STRABISMUS WITHOUT AMBLYOPIA AND OTHER DISORDERS OF BINOCULAR EYE MOVEMENTS; CONGENITAL ANOMALIES OF EYE; LACRIMAL DUCT OBSTRUCTION IN CHILDREN
      i) ~~Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).~~
   f) Line 517 DISORDERS OF SWEAT GLANDS
      i) ~~Chemodenervation with botulinum toxin injection (CPT 64650, 64653) is included on this line for the treatment of axillary hyperhidrosis and palmar hyperhidrosis (ICD-10 L74.52, R61)~~

GUIDELINE NOTE XXX CHEMODENERVATION
Lines 292,327,351,362,378,393,410,517

Inclusion of chemodenervation on the Prioritized List has the following limitations for the lines specified below:

Line 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS

Chemodenervation with botulinum toxin injection (CPT 64642-64647) is included on this line for treatment of upper and lower limb spasticity (ICD-10-CM codes G24.02, G24.1, G35, G36.0, I69.03-I69.06 and categories G71, and G80-G83.)

Line 327 FUNCTIONAL AND MECHANICAL DISORDERS OF THE GENITOURINARY SYSTEM INCLUDING BLADDER OUTLET OBSTRUCTION

Chemodenervation of the bladder (CPT 52287) is included on this line only for treatment of idiopathic detrusor over-activity or neurogenic detrusor over-activity (ICD-10-CM N32.81) in patients who have not responded to or been unable to tolerate at least two urinary incontinence antimuscarinic therapies (e.g. fesoterodine, oxybutynin, solifenacin, darifenacin, tolterodine, trospium). Treatment is limited to 90 days, with additional treatment only if the patient shows documented positive response. Positive response to therapy is defined as a reduction of urinary frequency of 8 episodes per day or urinary incontinence of 2 episodes per day compared to baseline frequency

Line 351 STRABISMUS DUE TO NEUROLOGIC DISORDER

Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).

Line 362 DYSTONIA (UNCONTROLLABLE); LARYNGEAL SPASM

Chemodenervation with botulinum toxin injection (CPT 64612, 64616) is included on this line only for treatment of blepharospasm (ICD-10-CM G24.5), spasmodic torticollis (ICD-10-CM G24.3), and other fragments of torsion dystonia (ICD-10-CM G24.9)

Line 378 ESOPHAGEAL STRICTURE; ACHALASIA

Chemodenervation with botulinum toxin injection (CPT 43201) is included on this line for treatment of achalasia (ICD-10 K22.0)

Line 393 STRABISMUS WITHOUT AMBLYOPIA AND OTHER DISORDERS OF BINOCULAR EYE MOVEMENTS; CONGENITAL ANOMALIES OF EYE; LACRIMAL DUCT OBSTRUCTION IN CHILDREN

Chemodenervation with botulinum toxin injection (CPT 67345) is included on this line for the treatment of strabismus due to other neurological disorders (ICD-10 H50.89).

Line 410 MIGRAINE HEADACHES

Chemodenervation for treatment of chronic migraine (CPT 64615) is included on this line for prophylactic treatment of adults who meet all of the following criteria:

A) have chronic migraine defined as headaches on at least 15 days per month of which at least 8 days are with migraine
B) has not responded to or have contraindications to at least three prior pharmacological prophylaxis therapies (e.g. beta-blocker, anticonvulsant or tricyclic antidepressant)
C) their condition has been appropriately managed for medication overuse
D) treatment is administered in consultation with a neurologist or headache specialist.

Treatment is limited to two injections given 3 months apart. Additional treatment requires documented positive response to therapy. Positive response to therapy is defined as a reduction of at least 7 headache days per month compared to baseline headache frequency

Line 517 DISORDERS OF SWEAT GLANDS

Chemodenervation with botulinum toxin injection (CPT 64650, 64653) is included on this line for the treatment of axillary hyperhidrosis and palmar hyperhidrosis (ICD-10 L74.52, R61)

~~**GUIDELINE NOTE 42, CHEMODENERVATION FOR CHRONIC MIGRAINE**~~

~~*Line 410*~~

~~Chemodenervation for treatment of chronic migraine (CPT 64615) is included on this line for prophylactic treatment of adults who meet all of the following criteria:~~

E) have chronic migraine defined as headaches on at least 15 days per month of which at least 8 days are with migraine
F) has not responded to or have contraindications to at least three prior pharmacological prophylaxis therapies (e.g. beta-blocker, anticonvulsant or tricyclic antidepressant)
G) their condition has been appropriately managed for medication overuse
H) treatment is administered in consultation with a neurologist or headache specialist.

Treatment is limited to two injections given 3 months apart. Additional treatment requires documented positive response to therapy. Positive response to therapy is defined as a reduction of at least 7 headache days per month compared to baseline headache frequency

GUIDELINE NOTE 45, CHEMODENERVATION OF THE BLADDER

Line 327

Chemodenervation of the bladder (CPT 52287) is included on this line only for treatment of idiopathic detrusor over-activity or neurogenic detrusor over-activity (ICD-10-CM N32.81) in patients who have not responded to or been unable to tolerate at least two urinary incontinence antimuscarinic therapies (e.g. fesoterodine, oxybutynin, solifenacin, darifenacin, tolterodine, trospium). Treatment is limited to 90 days, with additional treatment only if the patient shows documented positive response. Positive response to therapy is defined as a reduction of urinary frequency of 8 episodes per day or urinary incontinence of 2 episodes per day compared to baseline frequency

Biomarkers for Prostate Cancer

Question: Should Oncotype Dx and/or other biomarkers for prostate cancer be added for coverage on the Prioritized List?

Question source: Exact Sciences

Issue: Oncotype Dx and other biomarkers for prostate cancer were last reviewed in January, 2018, and placed on line 662/GN173 due to lack of evidence for effectiveness. The manufacturer of this proprietary test is requesting re-review. Since the last review of this topic, the Washington HTA and AHRQ have both conducted evidence reviews which included evaluation of Oncotype Dx for prostate cancer.

Oncotype Dx for prostate cancer is a proprietary test done on prostate cancer tissue which is designed to help with risk stratification (low vs intermediate vs high risk). Men with newly diagnosed low and favorable intermediate risk prostate cancer can use this information to inform their treatment decision between Active Surveillance (AS) and immediate intervention.

Oncotype Dx for prostate cancer was reviewed as part of a coverage guidance in 2017-2018, and had a strong recommendation for non-coverage. "Gene expression profiling tests for prostate cancer (including Prolaris, Oncotype DX, and Decipher) are not recommended for coverage *(strong recommendation)."* This Coverage Guidance included 4 studies: 1 database study, 2 cohort studies, and 1 practitioner survey.

Other biomarkers for prostate cancer include Decipher and Prolaris. These tests were also included in the coverage guidance review in 2017-2018.

Evidence

1) **AHRQ 2020,** Therapies for Clinically Localized Prostate Cancer
    a. N=17 RCTs
    b. Key question: How do tumor characteristics modify comparative effectiveness and harms of CLPC therapies?
        i. Biomarker Status
            1. Decipher (Genomic Classifier)
            2. Oncotype Dx (Genomic Prostate Score)
            3. Prolaris (Cell Cycle Progression)
    c. We found no evidence that met our predefined inclusion criteria for the newer prognostic (proprietary) biomarkers such as Decipher, Oncotype Dx and Prolaris as it relates to comparative effectiveness modification
2) **Washington HTA 2018**, Gene expression profile testing of cancer tissue
    a. N=8 studies regarding prostate cancer, all rated high risk of bias
    b. For Oncotype DX and Prolaris, however, there were consistent findings associating the use of the tests with decreased treatment intensity. Two studies on the Prolaris test found that for between 40% and 70% of patients, the recommended or actual treatments were less invasive or intensive with the use of the test than before test results were available. Similar results were reported for all four of the Oncotype DX studies, which found that more men had recommendations for watchful waiting or active surveillance rather than more intensive forms of treatment in three of the studies

c. The magnitude of these changes to noninvasive forms of treatment varied by study, but ranged from 21% to 51% of subjects compared to the group without the test. The fourth study reported that treatment intensity decreased for 15.8%, increased for 8.9% and was unchanged for 38.7%.
d. No studies found on impact of any of these tests on mortality or morbidity
e. Very low evidence found regarding patient management decisions
f. Very low evidence found on impact on quality of life
g. No evidence found on harms
h. Low evidence found on cost-effectiveness
i. The overall quality of evidence for these findings is very low because of substantial limitations, including use of before-after designs and recommended rather than actual treatments, in addition to the lack of important patient outcomes such as survival or treatment-related morbidity.
j. Conclusion: There is a mix of low-quality, very low-quality, and no evidence to support the other included tests for prostate cancer, colon cancer, and multiple myeloma. Multiple ongoing clinical trials on most of the tests will be reporting results in the next few years and will hopefully improve the evidence base for decision making regarding the clinical usefulness and economic effects of these tests.

Expert guidelines

1) **NCCN 2020**, Prostate Cancer
    a. Initial risk stratification and staging workup for clinically localized disease
        i. For low risk for favorable intermediate risk men with life expectancy ≥ 10 yrs, the NCCN algorithm branches are radiation, surgery or active surveillance. If active surveillance is chosen, then patients should be followed with PSA and repeat prostate biopsy no more than once per year. To enter this pathway, clinicians and patients can "consider mpMRI and/or prostate biopsy and/or molecular tumor analysis to confirm candidacy for active surveillance."
            1. Therefore, molecular tumor analysis is not required to enter the active surveillance pathway. Furthermore, if a patient is considering active surveillance, molecular assays are only one option to give information on a patient's candidacy
        ii. The footnote regarding molecular assays states: "Men with low or favorable intermediate-risk disease and life expectancy ≥ 10 yrs *may consider* the use of the following tumor-based molecular assays: Decipher, Oncotype DX Prostate, Prolaris, and Promark" [emphasis HERC staff]

Other payer policies

1) **Washington Medicaid**:
    a. Changed coverage policy with 2019 review to cover:
        i. Prostate cancer tests *Oncotype DX* and *Prolaris* are covered only for low risk or favorable intermediate risk disease.
        ii. Prostate cancer test *Decipher* is covered for men deciding between active surveillance and adjuvant radiotherapy after radical prostatectomy.

   b. Coverage change appears to be based on Medicaid LCDs, ASCO and NCCN recommendations
2) **Aetna 2021**, Biomarkers
   a. Oncotype DX Prostate for the following indications post biopsy:
      i. men with NCCN very-low-risk, low-risk, and favorable intermediate-risk prostate cancer who have greater than 10 year life expectancy and who have not received treatment for prostate cancer and are candidates for active surveillance or definitive therapy; or
      ii. men with intermediate-risk prostate cancer when deciding whether to add androgen-deprivation therapy to radiation.
   b. NOTE: this is a change from the coverage policy (investigational) in place during the coverage guidance review
3) Evicore 2021, Oncotype DX for Prostate Cancer
   a. This test (oncotype dx prostate cancer) is considered investigational and/or experimental
      i. Investigational and experimental (I&E) molecular and genomic (MolGen) tests refer to assays involving chromosomes, DNA, RNA, or gene products that have insufficient data to determine the net health impact, which typically means there is insufficient data to support that a test accurately assesses the outcome of interest (analytical and clinical validity), significantly improves health outcomes (clinical utility), and/or performs better than an existing standard of care medical management option. Such tests are also not generally accepted as standard of care in the evaluation or management of a particular condition

HERC staff summary

Since the 2017-2018 review, new systematic reviews from trusted sources (AHRQ, WA HTA) have not found evidence to support the use of biomarkers for prostate cancer, including Decipher (CPT 81542), Oncotype DX Prostate, and Prolaris (CPT 81541). However, Washington Medicaid felt there was enough evidence from the HTA review to change coverage policy, with their discussion mainly centered around expert guideline recommendations. Additionally, some private payers have changed their coverage policies since the coverage guidance review, generally to align with NCCN. The NCCN guideline however does not require gene expression testing to determine eligibility for active surveillance.

HERC staff recommendation:

1) Update GN173 entry for prostate cancer gene expression tests as shown below
    a. Updates review date
    b. Standardizes rationale statement
    c. CPT 81541 is used for Prolaris; CPT 81542 is used for Decipher

GUIDELINE NOTE 173, INTERVENTIONS THAT ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS FOR CERTAIN CONDITIONS

Line 662

The following Interventions are prioritized on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS:

Procedure Code	Intervention Description	Rationale	Last Review
Prostate Cancer Gene Expression tests billed with nonspecific codes (e.g. 81479, 81599, 84999)	• Oncotype DX Genomic Prostate Score • Decipher RP for prostate cancer	~~Unproven Intervention~~ Insufficient evidence of effectiveness	~~January, 2018~~ March 2021 Coverage guidance
81541	Oncology (prostate), mRNA gene expression profiling by real-time RT-PCR of 46 genes (31 content and 15 housekeeping)	~~Unproven Intervention~~ Insufficient evidence of effectiveness	~~August, 2015~~ March 2021
81542	Oncology (prostate), mRNA, microarray gene expression profiling of 22 content genes, utilizing formalin-fixed paraffin-embedded tissue, algorithm reported as metastasis risk score	Insufficient evidence of effectiveness	~~January 2018~~ March 2021

2) Modify GN148 as shown below
    a. Adds CPT code for Prolaris

GUIDELINE NOTE 148, BIOMARKER TESTS OF CANCER TISSUE

Lines 157,184,191,229,262,271,329

The use of tissue of origin testing (e.g. CPT 81504) is included on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS.

For early stage breast cancer, the following breast cancer genome profile tests are included on Line 191 when the listed criteria are met. One test per primary breast cancer is covered when the patient is willing to use the test results in a shared decision-making process regarding adjuvant chemotherapy. Lymph nodes with micrometastases less than 2 mm in size are considered node negative.

- Oncotype DX Breast Recurrence Score (CPT 81519) for breast tumors that are estrogen receptor positive, HER2 negative, and either lymph node negative, or lymph node positive with 1-3 involved nodes.
- EndoPredict (CPT 81522) and Prosigna (CPT 81520 or PLA 0008M) for breast tumors that are estrogen receptor positive, HER2 negative, and lymph node negative.
- MammaPrint (using CPT 81521 or HCPCS S3854) for breast tumors that are estrogen receptor or progesterone receptor positive, HER2 negative, lymph node negative, and only in those cases categorized as high clinical risk.

EndoPredict, Prosigna, and MammaPrint are not included on Line 191 for early stage breast cancer with involved axillary lymph nodes. Oncotype DX Breast Recurrence Score is not included on Line 191 for breast cancer involving four or more axillary lymph nodes or more extensive metastatic disease.

Oncotype DX Breast DCIS Score (CPT 81479) and Breast Cancer Index (CPT 81518) are included on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS.

For melanoma, BRAF gene mutation testing (CPT 81210) is included on Line 229.

For lung cancer, epidermal growth factor receptor (EGFR) gene mutation testing (CPT 81235) is included on Line 262 only for non-small cell lung cancer. KRAS gene mutation testing (CPT 81275) is not included on this line.

For colorectal cancer, KRAS gene mutation testing (CPT 81275) is included on Line 157. BRAF (CPT 81210) and Oncotype DX are not included on this line. Microsatellite instability (MSI) is included on the Line 662.

For bladder cancer, Urovysion testing is included on Line 662.

For prostate cancer, Oncotype DX Genomic Prostate Score, Prolaris Score Assay (CPT 81541), and Decipher Prostate RP (CPT 81542) are included on Line 662.

The development of this guideline note was informed by a HERC coverage guidance on Biomarkers Tests of Cancer Tissue for Prognosis and Potential Response to Treatment; the prostate-related portion of that coverage guidance was superseded by a Coverage Guidance on Gene Expression Profiling for Prostate Cancer. See https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Evidence-based-Reports.aspx.

Comparative Effectiveness Review
Number 230

Therapies for Clinically Localized Prostate Cancer

AHRQ
Agency for Healthcare
Research and Quality

Therapies for Clinically Localized Prostate Cancer

Structured Abstract

Objective. To update findings from previous Agency for Healthcare Research and Quality (AHRQ)- and American Urological Association (AUA)-funded reviews evaluating therapies for clinically localized prostate cancer (CLPC).

Sources. Bibliographic databases (2013–January 2020); ClinicalTrials.gov; systematic reviews

Methods. Controlled studies of CLPC treatments with duration ≥5 years for mortality and metastases and ≥1 year for quality of life and harms. One investigator rated risk of bias (RoB), extracted data, and assessed certainty of evidence; a second checked accuracy. We analyzed English-language studies with low or medium RoB. We incorporated findings from randomized controlled trials (RCTs) identified in the prior reviews if new RCTs provided information on the same intervention comparison.

Results. We identified 67 eligible references; 17 were unique RCTs. Among clinically rather than prostate-specific antigen (PSA) detected CLPC, Watchful Waiting (WW) may increase mortality and metastases versus Radical Prostatectomy (RP) at 20+ years. Urinary and erectile dysfunction were lower with WW versus RP. WW's effect on mortality may vary by tumor risk and age but not by race, health status, comorbidities, or PSA. Active Monitoring (AM) probably results in little to no difference in mortality in PSA-detected CLPC versus RP or external beam radiation (EBR) plus Androgen Deprivation (AD) regardless of tumor risk. Metastases were slightly higher with AM. Harms were greater with RP than AM and mixed between EBR plus AD versus AM. 3D-conformal EBR and AD plus low-dose-rate brachytherapy (BT) provided a small reduction in all-cause mortality versus three-dimensional conformal EBR and AD but little to no difference on metastases. EBR plus AD versus EBR alone may result in a small reduction in mortality and metastases in higher risk disease but may increase sexual harms. EBR plus neoadjuvant AD versus EBR plus concurrent AD may result in little to no difference in mortality and genitourinary toxicity. Conventionally fractionated EBR versus ultrahypofractionated EBR may result in little to no difference in mortality and metastases and urinary and bowel toxicity. Active Surveillance may result in fewer harms than photodynamic therapy and laparoscopic RP may result in more harms than robotic-assisted RP. Little information exists on other treatments. No studies assessed provider or hospital factors of RP comparative effectiveness.

Conclusions. RP reduces mortality versus WW in clinically detected CLPC but causes more harms. Effectiveness may be limited to younger men or to those with intermediate-risk disease and requires many years to occur. AM results in little to no mortality difference versus RP or EBR plus AD. EBR plus AD reduces mortality versus EBR alone in higher risk CLPC but may worsen sexual function. Adding low-dose-rate BT to 3D-conformal EBR and AD may reduce mortality in higher risk CLPC. RCTs in PSA-detected and MRI staged CLPC are needed.

Washington State Health Care Authority

Health Technology Clinical Committee
Findings and Decision

Topic: Gene expression profile testing of cancer tissue
Meeting date: March 16, 2018
Final adoption: May 18, 2018

Meeting materials are available on the HTA website.

Number and coverage topic:

20180316A - Gene expression profile testing of cancer tissue

HTCC coverage determination:

Gene expression profile testing is a **covered benefit with conditions** for breast or prostate cancer.

Gene expression profile testing is **not a covered benefit** for multiple myeloma or colon cancer.

HTCC reimbursement determination:

Limitations of coverage:

Gene expression profile (GEP) testing of breast and prostate cancer tissue is a covered benefit at a rate of one test per twelve (12) months per index cancer and when test results will impact treatment decisions.

Additional conditions for breast cancer tests:

Oncotype DX, EndoPredict, Prosigna, and MammaPrint tests are covered for Stage 1 or 2 disease when:

- Estrogen receptor positive and Human Epidermal growth factor Receptor 2 (HER2-NEU) negative, AND
- Lymph node negative or 1-3 lymph node(s) positive.

Additional conditions by test:

- *Mammostrat* and *Breast Cancer Index (BCI)* are covered only for women with stage 1 or 2 cancer deciding about hormone therapy.
- Prostate cancer tests *Oncotype DX* and *Prolaris* are covered only for low risk or favorable intermediate risk disease.
- Prostate cancer test *Decipher* is covered for men deciding between active surveillance and adjuvant radiotherapy after radical prostatectomy.

Non-covered indicators: N/A

Agency contact information:

Agency	Phone Number
Labor and Industries	1-800-547-8367
Public Employees Health Plan	1-800-200-1004
Washington State Medicaid	1-800-562-3022

HTCC coverage vote and formal action:

Committee decision

Based on the deliberations of key health outcomes the committee decided that it had the most complete information: a comprehensive and current evidence report, public comments, and state agency utilization information. The committee decided that the current evidence on gene expression profile testing of cancer tissue is sufficient to make a determination on this topic. The committee discussed and voted on the evidence for use of gene expression profile testing of cancer tissue The committee considered the evidence and gave greatest weight to the evidence it determined, based on objective factors, to be the most valid and reliable.

Based on these findings, the committee voted to cover with conditions gene expression profile testing of breast and prostate cancer tissue.

Separately, the committee voted to not cover gene expression profile testing of cancer tissue for colon cancer and multiple myeloma.

	Not covered	Covered under certain conditions	Covered unconditionally
Breast cancer	1	7	0
Prostate cancer	1	7	0
Colon cancer	7	1	0
Multiple myeloma	8	0	0

Discussion

The committee reviewed and discussed the available studies of Gene expression profile testing of cancer tissue. Details of study design, inclusion criteria, outcomes, technology used and other factors affecting study quality were discussed. A majority of committee members found the evidence sufficient to determine that select use of gene expression profile testing of cancer tissue could impact treatment decisions.

Limitations

N/A

Action

The committee checked for availability of a Medicare national coverage decision (NCD). Medicare does not have an NCD on gene profile expression testing for breast, prostate, or colon cancers or multiple myeloma. The committee discussed clinical guidelines identified for gene expression profile testing of cancer tissue from the following organizations:

- American Society of Clinical Oncology (ASCO) Use of Biomarkers to Guide Decisions on Adjuvant Systemic Therapy for Women with Early-Stage Invasive Breast Cancer, (2016).
- The American Society for Clinical Pathology, College of American Pathologists, Association for Molecular Pathology, and American Society of Clinical Oncology, Molecular Biomarkers in Colon Cancer, (2017).
- European Group on Tumor Markers (EGTM) Use of biomarkers in breast cancer, (2017).

- European Group on Tumor Markers (EGTM) Use of biomarkers in multiple myeloma, (2017).
- European Group on Tumor Markers (EGTM) Use of biomarkers in colon cancer, (2016).
- European Society for Medical Oncology (ESMO) Clinical Practice Guidelines Breast Cancer, (2015).
- NCCN National Comprehensive Cancer Network Guidelines for Treatment of Cancer by Site: Breast Cancer, (2017).
- NCCN National Comprehensive Cancer Network Guidelines for Treatment of Cancer by Site: Prostate Cancer, (2017).
- NCCN National Comprehensive Cancer Network Guidelines for Treatment of Cancer: Multiple Myeloma, (2017).
- NCCN National Comprehensive Cancer Network Guidelines for Treatment of Cancer by Site: Colon Cancer, (2017).
- NICE National Institute for Health and Care Excellence, Breast Cancer, (2013).

The committee chair directed HTA staff to prepare a findings and decision document on use of gene expression profile testing of cancer tissue for public comment; followed by consideration for final approval at the next public meeting.

Health Technology Clinical Committee Authority:

Washington State's legislature believes it is important to use a science-based, clinician-centered approach for difficult and important health care benefit decisions. Pursuant to chapter 70.14 RCW, the legislature has directed the Washington State Health Care Authority (HCA), through its Health Technology Assessment (HTA) program, to engage in an evaluation process that gathers and assesses the quality of the latest medical evidence using a scientific research company and that takes public input at all stages.

Pursuant to RCW 70.14.110 a Health Technology Clinical Committee (HTCC) composed of eleven independent health care professionals reviews all the information and renders a decision at an open public meeting. The Washington State HTCC determines how selected health technologies are covered by several state agencies (RCW 70.14.080-140). These technologies may include medical or surgical devices and procedures, medical equipment, and diagnostic tests. HTCC bases its decisions on evidence of the technology's safety, efficacy, and cost effectiveness. Participating state agencies are required to comply with the decisions of the HTCC. HTCC decisions may be re-reviewed at the determination of the HCA Director.

Pre-Bariatric Surgery Weight Loss Clarification

Question: Should the bariatric surgery guideline be clarified to better indicate that the HERC does not require weight loss prior to surgery?

Question source: Multiple claims reconsiderations; HERC staff

Issue: The current bariatric surgery guideline requires that a prospective patient have a nutrition consult, which needs to evaluate prior weight loss attempts. If no adequate prior attempts, then there must be a 6 month medically supervised weight loss attempt. However, there is no requirement that the patient actually lose weight, which is based on evidence. HSD has had multiple cases in which a patient waiting for surgery does not lose weight, or gains weight, but has had a nutrition consult that there was an adequate past attempt. Reviewers are questioning whether the current guideline requires evidence of weight loss prior to approving surgery.

As nearly all patients considering bariatric surgery have had prior dietary attempts to lose weight, the HERC intent in requiring a nutrition consult is to discuss healthy eating and the limitations that the patient can expect in their diet after surgery. It is unclear whether the HERC intends that a patient have stable or lower weight after the nutrition consult prior to surgery.

The current wording in GN8:

1) Dietician evaluation: (Conducted by licensed dietician)
    a) Evaluation of adequacy of prior dietary efforts to lose weight. If no or inadequate prior dietary effort to lose weight, must undergo six-month clinically supervised weight reduction program (including intensive nutrition and physical activity counseling as defined by the USPSTF).
    b) Counseling in dietary lifestyle changes

Evidence

Systematic reviews and meta-analyses

1) **Roman 2018,** systematic review and meta-analysis of preoperative weight loss on surgical outcomes
    a. N=4 RCTs and 12 cohort studies (N=6060 patients)
        i. All had some methodological limitations
        ii. Various types of bariatric surgery
    b. Intervention: dietary interventions (with or without exercise) to achieve weight loss before surgery
        i. Controls comprised patients not receiving dietary interventions (with or without exercise), or alternative goal-directed therapy groups.
        ii. Note: actual weight loss was not necessarily measured
    c. Random-effects meta-analysis did not show a statistically significant difference in mortality between the intervention and control groups (OR 1.41, 95 per cent CI 0.24 to 8.40; *P* =0.71), with no inconsistency (*I*2 =0 per cent, *P* =0.66)
    d. Although operating time was shorter in the intervention groups, this finding was not statistically significant: MD –11·58 (–26.41 to 3.26) min (*P* =0.13). There was severe inconsistency for this outcome (*I*2 =95 per cent, *P* <0.001).

e. The pooled effect estimate suggested that length of hospital stay was shorter in the intervention groups (mean 3.2 *versus* 4.4 days): MD –1.26 (–2.10 to –0.41) days (*P* =0.003). There was severe inconsistency for this outcome (*I*2 =97 per cent, *P* <0·001).
f. The use of a preoperative weight loss intervention did not result in a reduction in perioperative bleeding (OR 1.00, 95 per cent CI 0.44 to 2.31; *P* =0·99), with mild inconsistency (*I*2 =3 per cent, *P* =0.39).
g. The preoperative weight loss intervention did not reduce postoperative infection rates (OR 0.79, 0.53 to 1.18; *P* =0.25), with no inconsistency (*I*2 =0 per cent, *P* =0.89).
h. The preoperative weight loss intervention did not significantly decrease overall reoperation rates (OR 1.21, 0.33 to 4.42; *P*= 0.78), with no inconsistency (*I*2 =0 per cent, *P* =0.51).
a. The pooled effect estimate suggested that the interventions resulted in significant weight reduction relative to that in controls: MD –7·42 (95 per cent CI –10·09 to –4·74) kg (*P* <0·001). However, there was severe inconsistency for this outcome (*I*2 =97 per cent, *P* <0·001)
a. Conclusion: This limited preoperative weight loss has advantages but may not alter the postoperative morbidity or mortality risk.

2) **Gerber 2014,** systematic review of weight loss prior to bariatric surgery
   a. N=23 studies and 2 review articles
   b. Various definitions of weight loss used; various types of interventions for weight loss used
   c. For operating time and intraoperative complications including blood loss and recovery, inconsistent data were reported. Most studies included low number of patients and with heterogenic designs, and the results could not form the base for recommendations.
   d. For post operative weight loss:
      i. RCTs:
         1. One RCT found no difference in weight loss at 6 months between patients with 10% pre-operative weight loss compared to no weight loss; however, at 12 month follow up, there was a statistically significant improvement in weight loss for patients who lost >5% of estimated body weight compared to those who did not lose weight
         2. Another RCT found no difference in weight loss at 3 months
      ii. Retrospective cohort studies: varying results in weight loss at 6 and 24 months post-operatively between pre-operative weight loss groups vs no weight loss (protocols for weight loss varied greatly)
      iii. Due to these inconclusive data and lack of controlled data from studies with sufficient power, it is not entirely clear whether preoperative weight loss predisposes to better weight development after bariatric surgery.
   e. *Conclusion:* Although a large amount of data in the current literature on the effects of weight loss prior to bariatric surgery are inconsistent for many outcome parameters, recently published results regarding effects on postoperative complications and weight development over time strongly suggest that such a regimen should be recommended. Whether a certain degree of weight loss should be mandatory before being accepted for bariatric surgery is, however, still controversial.

3) **Cassie 2011,** systematic review of preoperative weight loss on bariatric surgical outcomes
   a. N=27 trials (6686 patients)
   b. 17 trials found preoperative weight loss beneficial
   c. 10 studies deemed preoperative weight loss to be of no benefit.

d. The operative time was 12.5 minutes shorter for the preoperative weight loss patients undergoing laparoscopic Roux-en-Y gastric bypass.
e. No difference in hospital length of stay
f. 9 of the studies, involving 852 patients, found no significant difference in the rate of operative and postoperative complications, and 2 studies, involving 1234 patients, found a significantly decreased complication rate after preoperative weight loss.
    i. When the data from the 8 studies with precise numbers reported were pooled, preoperative weight loss resulted in an 18.8% ± 10.6% complication rate compared with 21.4% ± 13.1% in the non-preoperative weight loss patients (*P* = .02).
    ii. The only RCT to date (Alami et al 2007) randomized patients to requiring a 10% weight loss prior to surgery or not requiring weight loss. Of 61 patients (26 weight loss group, 35 non-weight loss group) for whom follow up data was available, no difference in post-surgical weight loss was seen between groups at 6 months or 1 year.

a. With regard to the effects of preoperative weight loss on postoperative weight loss, 9 studies (39%) reported a positive correlation, and 15 (62.5%) reported no benefit. Nine studies reporting perioperative complications (852 patients) revealed no difference in the complication rates, and 2 studies (1234 patients) suggested a significant decrease was associated with preoperative weight loss.
    iii. Studies followed-up at 12 months; 6 studies followed patients to 36 months (3 showed no effect, 3 showed positive effect on post op weight loss)
b. **Conclusion:** This systematic review suggests little evidence is available to support or refute the routine use of preoperative weight reduction in bariatric surgery. Clearly, a large-scale, multicenter, randomized, controlled trial with sufficient power is necessary to clarify this significant aspect of preoperative care.

Cohort study not included in systematic reviews

1) **Sun 2020**, association of preoperative weight loss with risk of death after bariatric surgery
    a. N=480,075 patients
        i. Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program registry
    b. compared with no preoperative weight loss, the multivariable-adjusted odds ratios for 30-day mortality for patients with weight loss of more than 0% to less than 5.0%, 5.0% to 9.9%, and 10.0%and greater were 0.76 (95%CI, 0.60-0.96), 0.69 (95%CI, 0.53-0.90), and 0.58 (95%CI, 0.41-0.82), respectively (*P* for trend = .003).
    c. CONCLUSIONS AND RELEVANCE In this study, even moderate weight loss (ie, >0% to <5%) before bariatric surgery was associated with a lower risk of 30-day mortality. These findings may help inform future updates of clinical guidelines regarding bariatric surgery.

<u>Expert group recommendations</u>

1) **ASMBS 2016** position statement on weight loss prior to bariatric surgery
    a. There are no data from any randomized controlled trial, large prospective study, or meta-analysis to support the practice of insurance mandated preoperative weight loss. The discriminatory, arbitrary, and scientifically unfounded practice of insurance-mandated preoperative weight loss contributes to patient attrition, causes unnecessary

delay of life saving treatment, leads to the progression of life-threatening co-morbid conditions, is unethical, and should be abandoned.

HERC staff summary:
Based on systematic reviews and meta-analyses, there does not appear to be a significant improvement in perioperative complications with documented pre-surgical weight loss or participation in a weight loss program. Pre-surgical weight loss may or may not affect post-surgical weight loss based on conflicting study results. Experts strongly recommends against a pre-surgical weight loss requirement base on lack of data on effectiveness and concern with patient attrition or progression of co-morbid conditions.

HERC staff recommendation:

1) Clarify GN8 to indicate that the current guideline does not require weight loss prior to surgery

GUIDELINE NOTE 8, BARIATRIC SURGERY

Line 320

Bariatric/metabolic surgery (limited to Roux-en-Y gastric bypass, and sleeve gastrectomy) is included on Line 320 when the following criteria are met:

A) Age ≥ 18
B) The patient has obesity with a:
    1) BMI ≥ 40 OR
    2) BMI ≥ 35 with:
        a) Type 2 diabetes, OR
        b) at least two of the following other serious obesity-related comorbidities: hypertension, coronary heart disease, mechanical arthropathy in major weight bearing joint, sleep apnea
D) Repeat bariatric surgery is included when it is a conversion from a less intensive (such as gastric band or sleeve gastrectomy) to a more intensive surgery (e.g. Roux-en-Y). Repair of surgical complications (excluding failure to lose sufficient weight) are also included on this and other lines. Reversal of surgical procedures and devices is included on this line when benefits of reversal outweigh harms.
E) Participate in the following four evaluations and meet criteria as described.
    1) Psychosocial evaluation: (Conducted by a licensed mental health professional)
        a) Evaluation to assess potential compliance with post-operative requirements.
        b) Must remain free of abuse of or dependence on alcohol during the six-month period immediately preceding surgery. No current use of any nicotine product or illicit drugs and must remain abstinent from their use during the six-month observation period. Testing will, at a minimum, be conducted within 1 month of the quit date and within 1 month of the surgery to confirm abstinence from illicit drugs. Tobacco and nicotine abstinence to be confirmed in active users by negative cotinine levels at least 6 months apart, with the second test within one month of the surgery date.
        c) No mental or behavioral disorder that may interfere with postoperative outcomes[1].
        d) Patient with psychiatric illness must be stable for at least 6 months.
    2) Medical evaluation: (Conducted by OHP primary care provider)
        a) Pre-operative physical condition and mortality risk assessed with patient found to be an appropriate candidate.

b) Optimize medical control of diabetes, hypertension, or other co-morbid conditions.
c) Female patient not currently pregnant with no plans for pregnancy for at least 2 years post-surgery. Contraception methods reviewed with patient agreement to use effective contraception through 2nd year post-surgery.

3) Surgical evaluation: (Conducted by a licensed bariatric surgeon associated with program[2])
   a) Patient found to be an appropriate candidate for surgery at initial evaluation and throughout period leading to surgery.
   b) Received counseling by a credentialed expert on the team regarding the risks and benefits of the procedure and understands the many potential complications of the surgery (including death) and the realistic expectations of post-surgical outcomes.
4) Dietician evaluation: (Conducted by licensed dietician)
   ~~a) Evaluation of adequacy of prior dietary efforts to lose weight. If no or inadequate prior dietary effort to lose weight, must undergo six-month clinically supervised weight reduction program (including intensive nutrition and physical activity counseling as defined by the USPSTF).~~
   b) Counseling in dietary lifestyle changes
   c) Counseling on post-operative dietary change requirements

F) Participate in additional evaluations:
   1) Post-surgical attention to lifestyle, an exercise program and dietary changes and understands the need for post-surgical follow-up with all applicable professionals (e.g. nutritionist, psychologist/psychiatrist, exercise physiologist or physical therapist, support group participation, regularly scheduled physician follow-up visits).

[1] Many patients (>50%) have depression as a co-morbid diagnosis that, if treated, would not preclude their participation in the bariatric surgery program.

[2] All surgical services must be provided by a program with current accreditation (as a comprehensive center or low acuity center) by the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP)

Systematic review

Meta-analysis of the influence of lifestyle changes for preoperative weight loss on surgical outcomes

M. Roman[1], A. Monaghan[1], G. F. Serraino[1], D. Miller[1], S. Pathak[1], F. Lai[1], F. Zaccardi[2], A. Ghanchi[1], K. Khunti[2], M. J. Davies[2] and G. J. Murphy[1]

[1]Department of Cardiovascular Sciences and National Institute for Health Research Leicester Biomedical Research Unit in Cardiovascular Medicine, University of Leicester, Glenfield Hospital, and [2]Diabetes Research Centre, University of Leicester, Leicester General Hospital, Leicester, UK

Correspondence to: Dr M. Roman, Department of Cardiovascular Sciences and National Institute for Health Research Leicester Biomedical Research Unit in Cardiovascular Medicine, University of Leicester, Clinical Sciences Wing, Glenfield Hospital, Leicester LE3 9QP, UK (e-mail: mr345@le.ac.uk)

Background: **The aim was to investigate whether preoperative weight loss results in improved clinical outcomes in surgical patients with clinically significant obesity.**

Methods: **This was a systematic review and aggregate data meta-analysis of RCTs and cohort studies. PubMed, MEDLINE, Embase and CINAHL Plus databases were searched from inception to February 2018. Eligibility criteria were: studies assessing the effect of weight loss interventions (low-energy diets with or without an exercise component) on clinical outcomes in patients undergoing any surgical procedure. Data on 30-day or all-cause in-hospital mortality were extracted and synthesized in meta-analyses. Postoperative thromboembolic complications, duration of surgery, infection and duration of hospital stay were also assessed.**

Results: **A total of 6060 patients in four RCTs and 12 cohort studies, all from European and North American centres, were identified. Most were in the field of bariatric surgery and all had some methodological limitations. The pooled effect estimate suggested that preoperative weight loss programmes were effective, leading to significant weight reduction compared with controls: mean difference −7·42 (95 per cent c.i. −10·09 to −4·74) kg ($P < 0·001$). Preoperative weight loss interventions were not associated with a reduction in perioperative mortality (odds ratio 1·41, 95 per cent c.i. 0·24 to 8·40; $I^2 = 0$ per cent, $P = 0·66$) but the event rate was low. The weight loss groups had shorter hospital stay (by 27 per cent). No differences were found for morbidity.**

Conclusion: **This limited preoperative weight loss has advantages but may not alter the postoperative morbidity or mortality risk.**

Paper accepted 21 August 2018

Published online 17 October 2018 in Wiley Online Library (www.bjs.co.uk). **DOI:** 10.1002/bjs.11001

Introduction

Globally, obesity has more than doubled since 1980. In 2016, more than 1·9 billion adults were overweight and over 600 million were obese[1]. As a consequence, overweight and obese patients are increasingly being referred for surgical treatments[2]. This presents challenges to healthcare workers as operations may be technically more difficult in obese patients, perioperative care may be more complex, and the presence of obesity-associated co-morbidities, such as diabetes, hypertension or obstructive sleep apnoea, increases the risks of postoperative complications and infections[3,4].

It is common for treatment to be deferred in obese and overweight patients until they have lost weight, typically following dietary modification with or without exercise[3]. In some countries, overweight and obese patients have restrictions to routine surgery unless they have undergone a successful weight loss programme[2,5,6]. In contrast, observational analyses[7–9] suggest that overweight and obese patients may have improved outcomes after surgery compared with normal-weight or underweight patients. To address this apparent contradiction, a systematic review was undertaken to evaluate the evidence supporting preoperative bodyweight reduction through lifestyle changes in obese subjects undergoing any type of surgery. Previous systematic reviews were identified as part of this search, but these either assessed only the correlation between preoperative and postoperative weight loss, without review of other clinical outcomes[10], were limited to bariatric

REVIEW Scandinavian Journal of Surgery 104: 33–39, 2014

WEIGHT LOSS PRIOR TO BARIATRIC SURGERY: AN UPDATED REVIEW OF THE LITERATURE

P. Gerber[1,2], C. Anderin[1,2], A. Thorell[1,2]

[1] Karolinska Institutet, Department of Clinical Sciences, Danderyds Hospital, Stockholm, Sweden
[2] Department of Surgery, Ersta Hospital, Stockholm, Sweden

ABSTRACT

Background and Aims: **Prior to bariatric surgery, a preoperative weight-reducing regimen is usually adhered to in most centers. The clinical effects of such a regimen are yet to be determined.**

Material and Methods: **We reviewed the current literature by searching in PubMed for publications reporting clinical effects resulting from a preoperative weight loss regimen prior to bariatric surgery published from January 1, 1995 to April 30, 2014.**

Results: **In total, we identified 23 original publications and 2 review articles which met all inclusion criteria. These were included and fully analyzed with regard to effects of preoperative weight loss. In general, for parameters such as operating time and intraoperative complications including blood loss and recovery, inconsistent data were reported. Most studies included low number of patients and with heterogenic designs, and the results could not form the base for recommendations. However, for outcomes such as postoperative complications and weight development over time, data from large-scale studies and randomized controlled trials suggest beneficial effects following adherence to weight loss prior to bariatric surgery.**

Conclusion: **Although a large amount of data in the current literature on the effects of weight loss prior to bariatric surgery are inconsistent for many outcome parameters, recently published results regarding effects on postoperative complications and weight development over time strongly suggest that such a regimen should be recommended. Whether a certain degree of weight loss should be mandatory before being accepted for bariatric surgery is, however, still controversial.**

Key words: Bariatric surgery; preoperative; weight loss; very low-calorie intake; low-calorie intake; complications

Correspondence:
Anders Thorell, M.D., Ph.D.
Department of Surgery
Ersta Hospital,
116 91 Stockholm
Sweden
Email: anders.thorell@erstadiakoni.se

ELSEVIER

Surgery for Obesity and Related Diseases 7 (2011) 760–768

SURGERY FOR OBESITY AND RELATED DISEASES

Review article

Effect of preoperative weight loss in bariatric surgical patients: a systematic review

Scott Cassie, M.D.[a], Carlos Menezes, M.D., F.R.C.S.[b], Daniel W. Birch, M.Sc., M.D., F.R.C.S.C., F.A.C.S.[b], Xinzhe Shi, M.P.H.[b], Shahzeer Karmali, M.D., F.R.C.S.C., F.A.C.S.[b,*]

[a]*Department of Surgery, University of Calgary Faculty of Medicine, Calgary, Alberta, Canada*

[b]*Center for the Advancement of Minimally Invasive Surgery, Royal Alexandria Hospital, Edmonton, Alberta, Canada*

Received January 20, 2011; accepted August 6, 2011

Abstract

Background: The potential benefit of preoperative weight loss in patients undergoing bariatric surgery has led many bariatric surgeons to recommend an aggressive weight reduction regimen to their patients. Some surgeons might withhold bariatric procedures if a certain threshold of preoperative weight loss is not achieved. It is unclear whether this practice has any scientific evidence supporting it. Our study aimed to examine the current evidence surrounding this issue in a systematic review. The setting was a university hospital.

Methods: A systematic search of multiple databases, including MEDLINE, Google Scholar, EMBASE, the Cochrane Library, and conference proceedings were reviewed, yielding a final total of 27 studies. Of the 27 studies, 7 were prospective studies (2 randomized controlled trials from the same patient population), 14 were retrospective studies (2 chart reviews from the same patient population), 1 was an editorial, and a number were conference presentations.

Results: A total of 17 trials, including approximately 4611 patients, deemed preoperative weight loss beneficial, and 10 studies, including 2075 patients, deemed preoperative weight loss to be of no benefit. The operative time was 12.5 minutes shorter for the preoperative weight loss patients undergoing laparoscopic Roux-en-Y gastric bypass. With regard to the effects of preoperative weight loss on postoperative weight loss, 9 studies (39%) reported a positive correlation, and 15 (62.5%) reported no benefit. Nine studies reporting perioperative complications (852 patients) revealed no difference in the complication rates, and 2 studies (1234 patients) suggested a significant decrease was associated with preoperative weight loss.

Conclusion: This systematic review suggests little evidence is available to support or refute the routine use of preoperative weight reduction in bariatric surgery. Clearly, a large-scale, multicenter, randomized, controlled trial with sufficient power is necessary to clarify this significant aspect of preoperative care. (Surg Obes Relat Dis 2011;7:760–768.)

Keywords: Preoperative weight loss; Bariatric surgery; Percentage of excess weight loss

Obesity has become a major health concern in Western society. In the United States, obesity is an issue of epidemic proportions, with an estimated 26.7% of the population now classified as obese (body mass index [BMI] $\geq$30 kg/m^2) [1]. Six million Americans are now considered morbidly obese (BMI $\geq$40 kg/m^2) and almost 10 million fit the criteria for severe obesity (BMI $\geq$35–40 kg/m^2). Even more concerning is that these numbers are increasing at alarming rates,

*Correspondence: Shahzeer Karmali, M.D., F.R.C.S.C., F.A.C.S., Center for the Advancement of Minimally Invasive Surgery, Royal Alexandria Hospital, Room 405 CSC, 10240 Kingsway Avenue, Edmonton, AB T5H 3V9 Canada.

E-mail: shahzeer@ualberta.ca.

1550-7289/11/$ – see front matter
doi:10.1016/j.soard.2011.08.011

JAMA Network Open

Original Investigation | Surgery

Association of Preoperative Body Weight and Weight Loss With Risk of Death After Bariatric Surgery

Yangbo Sun, MD, PhD; Buyun Liu, MD, PhD; Jessica K. Smith, MD; Marcelo L. G. Correia, MD, PhD; Dana L. Jones, DNP; Zhanyong Zhu, MD; Adeyinka Taiwo, MD; Lisa L. Morselli, MD, PhD; Katie Robinson, PhD; Alexander A. Hart, MPH; Linda G. Snetselaar, PhD; Wei Bao, MD, PhD

Abstract

IMPORTANCE Perception of weight loss requirements before bariatric surgery varies among patients, physicians, and health insurance payers. Current clinical guidelines do not require preoperative weight loss because of a lack of scientific support regarding its benefits.

OBJECTIVE To examine the association of preoperative body mass index (BMI) and weight loss with 30-day mortality after bariatric surgery.

DESIGN, SETTING, AND PARTICIPANTS This cohort study used data from 480 075 patients who underwent bariatric surgery from 2015 to 2017 in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program, which covers more than 90% of all bariatric surgery programs in the United States and Canada. Clinical and demographic data were collected at all participating institutions using a standardized protocol. Data analysis was performed from December 2018 to November 2019.

EXPOSURES Preoperative BMI and weight loss.

MAIN OUTCOMES AND MEASURES 30-day mortality after bariatric surgery.

RESULTS Of the 480 075 patients (mean [SD] age 45.1 [12.0] years; 383 265 [79.8%] women), 511 deaths (0.1%) occurred within 30 days of bariatric surgery. Compared with patients with a preoperative BMI of 35.0 to 39.9, the multivariable-adjusted odds ratios for 30-day mortality for patients with preoperative BMI of 40.0 to 44.9, 45.0 to 49.9, 50.0 to 54.9, and 55.0 and greater were 1.37 (95% CI, 1.02-1.83), 2.19 (95% CI, 1.64-2.92), 2.61 (95% CI, 1.90-3.58), and 5.03 (95% CI, 3.78-6.68), respectively (*P* for trend < .001). Moreover, compared with no preoperative weight loss, the multivariable-adjusted odds ratios for 30-day mortality for patients with weight loss of more than 0% to less than 5.0%, 5.0% to 9.9%, and 10.0% and greater were 0.76 (95% CI, 0.60-0.96), 0.69 (95% CI, 0.53-0.90), and 0.58 (95% CI, 0.41-0.82), respectively (*P* for trend = .003).

CONCLUSIONS AND RELEVANCE In this study, even moderate weight loss (ie, >0% to <5%) before bariatric surgery was associated with a lower risk of 30-day mortality. These findings may help inform future updates of clinical guidelines regarding bariatric surgery.

JAMA Network Open. 2020;3(5):e204803. doi:10.1001/jamanetworkopen.2020.4803

Key Points

Question Are preoperative body mass index and weight loss associated with 30-day mortality after bariatric surgery?

Findings In a cohort study of 480 075 patients who underwent bariatric surgery from 2015 to 2017, even modest weight loss before bariatric surgery was associated with lower risk of 30-day mortality after the procedure. Compared with patients with no preoperative weight loss, patients with weight loss greater than 0% to less than 5.0%, 5.0% to 9.9%, and 10.0% and greater had 24%, 31%, and 42%, respectively, lower risk of 30-day mortality.

Meaning In this study of patients who underwent bariatric surgery, even moderate weight loss (ie, >0% to <5%) before the procedure was associated with lower risk of 30-day mortality; these findings may help to inform future updates of clinical guidelines regarding bariatric surgery.

+ Invited Commentary

+ Supplemental content

Author affiliations and article information are listed at the end of this article.

recent retrospective study looked specifically at the effect of insurance-mandated medical weight management programs on weight loss outcomes and included patients who underwent LSG, LRYGB, and LAGB. A total of 1432 patients were reviewed and stratified by payor mix based on whether their insurance mandated preoperative weight loss and resulted in 500 patients for analysis after bucket matching algorithm. The regression model found no significant difference in weight loss outcomes between the mandated weight management group and the comparison group at 1 and 2 years [32].

Overall, there is no evidence of any kind that insurance-mandated preoperative weight loss or preoperative weight loss in general has any clear impact on postoperative outcomes or weight loss. No published RCT, systematic review, or retrospective review has identified any postoperative outcomes benefit after insurance mandated preoperative weight loss. Nor is there any precedent for requiring weight loss or proof of lifestyle compliance before authorization of any other elective surgical procedure.

In conclusion, it is the position of the ASMBS that insurance-mandated preoperative weight loss is not supported by medical evidence and has not been shown to be effective for preoperative weight loss before bariatric surgery or to provide any benefit for bariatric outcomes.

Recommendations

1. There are no data from any randomized controlled trial, large prospective study, or meta-analysis to support the practice of insurance mandated preoperative weight loss. The discriminatory, arbitrary, and scientifically unfounded practice of insurance-mandated preoperative weight loss contributes to patient attrition, causes unnecessary delay of lifesaving treatment, leads to the progression of life-threatening co-morbid conditions, is unethical, and should be abandoned.
2. There is no Level I data in the surgical literature or consensus in the medical literature (based on over 40 published RCTs) that has clearly identified any 1 dietary regimen, duration, or type of weight loss program that is optimal for patients with clinically severe obesity.
3. Patients seeking surgical treatment for clinically severe obesity should be evaluated based on their initial BMI and co-morbid conditions. The provider is best able to determine what constitutes failed weight loss efforts for their patient.

Disclaimer

This Position Statement is not intended to provide inflexible rules or requirements of practice and is not intended, nor should it be used to state or establish a local, regional, or national legal standard of care. Ultimately, choice of treatment should be individualized for each patient; surgeons must use their judgment in selecting from among the different feasible treatment options.

The ASMBS cautions against the use of this Position Statement in litigation in which the clinical decisions of a physician have been called into question. The ultimate judgment regarding the appropriateness of any treatment must be made by the individual physician, taking into consideration the available evidence and circumstances presented. Thus, an approach that differs from the Position Statement, standing alone, does not necessarily imply that the approach was below the standard of care. A conscientious physician could responsibly adopt a course of action different from that set forth in the Position Statement when, in the reasonable judgment of the physician, such a course of action is indicated by the condition of the patient, the limitations of available resources, or advances in knowledge or technology. All that should be expected is that the physician will follow a reasonable course of action on the basis of current knowledge, available resources, and the needs of the patient to deliver effective and safe medical care. The sole purpose of this Position Statement is to assist practitioners in achieving this objective.

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

References

[1] Brethauer S. ASMBS position statement on preoperative supervised weight loss requirements. Surg Obes Relat Dis 2011;7(3):257–60.
[2] Health implications of obesity. National Institutes of Health Consensus Development Conference Statement. Ann Intern Med 1985;103(1):147–51.
[3] Flegal KM, Kit BK, Orpana H, Graubard BI. Association of all-cause mortality with overweight and obesity using standard body mass index categories: a systematic review and meta-analysis. JAMA 2013;309(1):71–82.
[4] U.S. Department of Health and Human Services. The Surgeon General's vision for a healthy and fit nation fact sheet [monograph on the Internet]. Washington, D.C.: U.S. Department of Health & Human Services [cited 2016 June 7]. Available from: http://www.surgeongeneral.gov/priorities/healthy-fit-nation/obesityvision_factsheet.html.
[5] Finkelstein EA. How big of a problem is obesity? Surg Obes Relat Dis 2014;10(4):569–70
[6] Kim J, Eisenberg D, Azagury D, Campos GM. American Society for Metabolic and Bariatric Surgery position statement on long-term survival benefit after bariatric surgery. Surg Obes Relat Dis. Epub 2015 Nov 27.
[7] Gallagher SF, Banasiak M, Gonzalvo JP, et al. The impact of bariatric surgery on the Veterans Administration healthcare system: a cost analysis. Obes Surg 2003;13(2):245–8.
[8] Sampalis JS, Liberman M, Auger S, Christou NV. The impact of weight reduction surgery on health-care costs in morbidly obese patients. Obes Surg 2004;14(7):939–47.

Osteochondritis Dissecans

Question: Should osteochondral allographs, including mosaicplasty, be paired for osteochondritis dissecans of the knee? If so, should there be any restrictions or guidelines for these procedures?

Question source: Alison Little, CCO medical director

Issue: Osteochondritis dissecans of the knee (ICD10 M93.26) appears on line 356 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE, with all the other ICD10 codes for other joints affected by osteochondritis dissecans. However, the treatments for this condition appear on the knee specific line, 431 INTERNAL DERANGEMENT OF KNEE AND LIGAMENTOUS DISRUPTIONS OF THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT. Additionally, the arthroscopic version of mosaicplasty (CPT 29866 and 29867) appear on line 662/GN173 but the open version (CPT 27416) is on line 431. CPT 29866 and 29867 have not been reviewed for placement since 2007, and the review at that time was very superficial. Dr. Little requested a review of the pairing of these procedures.

Osteochondritis dissecans is an idiopathic, focal, subchondral-bone abnormality that can cause instability or detachment of a bone fragment and overlying articular cartilage, with subsequent progression to osteoarthritis. It is typically diagnosed in adolescence, but can also affect children and adults.

There is no uniform approach to managing cartilage defects in the knee. Treatment options depend on the size of the defect and its location. There are 2 main categories of procedure: those intended primarily for symptom relief and those that also try to re-establish the articular surface. Treatments to provide symptom relief include NSAIDs, physical therapy, and joint injections. Interventions that aim to re-establish the articular surface include marrow stimulation techniques (such as abrasion arthroplasty, Pridie drilling and microfracture), mosaicplasty (also known as osteochondral transplantation) and autologous chondrocyte implantation (in which chondrocytes harvested from the knee are cultured and implanted into the damaged cartilage). Mosaicplasty (also called osteochondral autologous transfer mosaicplasty) is a technique for creating an osteochondral autograft. Small cylindrical osteochondral plugs are harvested from the periphery of the patellofemoral area (because it bears less weight) and inserted into drilled tunnels in the affected weight-bearing part of the knee joint.

HSC/HERC history

HOSC April 1999 minutes

Surgical Treatment of Osteochondritis Dissecans

Kathy Weaver stated that osteochondritis dissecans currently appears on line 670 of the 4/1/99 Prioritized List and this is not currently a funded line. Weaver outlined improved diagnostic and treatment options and recommended a technical correction, moving osteochondritis dissecans to line 376 of the 4/12/99 List along with the surgical treatment of rheumatoid arthritis. This would involve moving ICD-9-CM code 732.7 from line 668 to line 376. Isabel Bickle from the Office of Medical Assistance Programs (OMAP) noted the financial impact would be minimal as they do not see claims for this condition very often.

Alan Bates made a motion to move the surgical treatment for osteochondritis dissecans from line 668 to line 376 on the 4/12/99 Prioritized List. There was a second, and the motion was approved unanimously.

Osteochondritis Dissecans

HOSC November 2007 minutes
Knee arthroscopy
Smits reviewed the placement of shoulder arthroscopy codes based on matching with similar open codes and on discussions with Orthopedists. Three procedures (29866-29868) involving osteochondral autographs and meniscal transplantation were proposed for addition to the list by the Orthopedic consultants. However, no literature was forwarded for review. The Subcommittee decided to table these codes until supporting information is received.

Decision: Changes approved as outlined in meeting materials.
29866-29868 tabled until more information received

HOSC August 2011 minutes
Topic: Arthroscopy for osteochondritis dissecans
Discussion: Smits introduced a summary document discussing several procedures proposed for pairing with osteochondritis dissecans, a degenerative joint disorder. There was no discussion.
Actions:
1) Add 29891 (Arthroscopy, ankle, surgical, excision of osteochondral defect of talus and/or tibia, including drilling of the defect) and 29892 (Arthroscopically aided repair of large osteochondritis dissecans lesion, talar dome fracture, or tibial flafond fracture, with or without internal fixation (includes arthroscopy)) to line 384 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE
2) Make no change to the placement of 27698

Based on the brief November 2007 discussion, CPT 29866-29868 were later placed on line 662/GN173.

Osteochondritis Dissecans

Current Prioritized List status

ICD10 Code	Code description	Current placement
M93.26	Osteochondritis dissecans, knee	356 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE,
CPT Code	**Code Description**	**Current Placement**
27415	Osteochondral allograft, knee, open	431 INTERNAL DERANGEMENT OF KNEE AND LIGAMENTOUS DISRUPTIONS OF THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT 598 CONGENITAL DEFORMITIES OF KNEE
27416	Osteochondral autograft(s), knee, open (eg, mosaicplasty) (includes harvesting of autograft[s])	431,598
29866	Arthroscopy, knee, surgical; osteochondral autograft(s)/allograft(s) (eg, mosaicplasty)	662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS
29867	Arthroscopy, knee, surgical; osteochondral autograft(s)/allograft(s) (eg, mosaicplasty)	662
29877	Arthroscopy, knee, surgical; debridement/shaving of articular cartilage (chondroplasty)	132,355,431,598

GUIDELINE NOTE 173, INTERVENTIONS THAT ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS FOR CERTAIN CONDITIONS

Line 662

The following Interventions are prioritized on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS:

Procedure Code	Intervention Description	Rationale	Last Review
29866-29867	Arthroscopy, knee, surgical; osteochondral autograft(s)/allograft(s) (eg, mosaicplasty)	Insufficient evidence of effectiveness	November 2007

Evidence

1) **NICE 2018**, Mosaicplasty for symptomatic articular cartilage defects of the knee
    a. Decision: Current evidence on the safety and efficacy of mosaicplasty for knee cartilage defects is adequate to support the use of this procedure
    b. Evidence (**NICE 2017**):
        i. *Clinical outcomes*:
            1. In a systematic review (SR) including 6 randomized controlled trials (RCTs) and 3 non-randomized controlled studies (NRCS) with a total of 607 patients, the outcomes of several surgical procedures to treat knee cartilage defects were compared. The studies were reported on individually.
            2. In an RCT of 50 patients, clinical and functional outcomes were better in athletes younger than 30 years who had osteochondral autologous transfer mosaicplasty (OATM) than in older patients (p=0.008) at 4-year follow-up.
            3. In an NRCS of 70 patients, there was no statistically significantly difference in functional outcomes or postoperative MRI evaluations between patients who had OATM, autologous chondrocyte implantation (ACI) or microfracture (MF) at 3-year follow-up. In an RCT of 25 patients, there was no statistically significantly difference between OATM and MF in patient-reported outcomes, muscle strength or radiological outcomes at 10-year follow-up; however, there were more reoperations in the MF group (p value not reported).
            4. In an NRCS of 40 patients, clinical outcomes at 2-year follow-up were better in patients who had OATM than in those who had ACI (p value not reported).
            5. An RCT of 60 patients who had OATM reported improved HSS scores at 3-year follow-up (from a mean of 77 preoperatively to 91, p value not reported).
            6. In the RCT of 50 patients, clinical outcomes in pediatric patients with cartilage lesions greater than 3 cm2 who had OATM were worse than those in patients with smaller lesions (p value not reported). Similarly, in another RCT of 60 patients, there was a higher rate of return to sport in patients who had OATM for lesion smaller than 2 cm2 than in patients given treatment for larger lesions (p value not reported). The same RCT found no difference in clinical outcome between patients who had OATM for lesions of the medial or lateral femoral condyle
        ii. *Activity levels and quality of life*:
            1. In the NRCS of 100 patients in the SR of 607 patients, the level of activity post OATM and concomitant ACL repair was assessed using the Tegner score; preoperative scores decreased from 7.3 to 7.1 at 3-year follow-up. Nonetheless, the delta decline (0.2) was smaller for patients who had OATM compared with the patients who had MF and debridement. The same NRCS reported an improvement in IKDC score from mean preoperative values of 46 to 88 in patients who had OATM, at 3-year follow-up.

2. In the NRCS of 70 patients, Lysholm scores increased from 53 to 85, Tegner scores from 2.7 to 5.4 and HSS scores from 79 to 88 at 5-year follow-up.
3. In the SR of 10 studies (n=610), mean time to weight bearing in patients who had OATM (n=221) was 4.7 weeks and mean time to full activity was 13.7 weeks. The same SR included 5 studies of 119 patients who had OATM that did not find statistically significantly difference in mean Tegner scores from preoperative to postoperative values (0.76, 95% CI -0.83 to 2.36, p=0.35). IKDC scores reported in 3 studies (n=70) statistically significantly improved by 42.4% (95% CI 31.8 to 53.1, p<0.001) from baseline assessment. Lysholm scores reported in 3 studies (n=104) also statistically significantly improved by 21.1 (95% CI 12.2 to 30, p<0.01) from baseline assessment.

iii. *Treatment failure*:

1. In the network meta-analysis of 855 patients, there was no statistically significantly difference in reoperation rates at 2-year follow-up between OATM, MF or ACI. However, reoperation rates were statistically significantly lower in patients who had OATM compared with MF (OR 0.03, 95% CI 0.00 to 0.49) and compared with ACI (OR 0.03, 95% CI 0.00 to 0.59) at the 5-year follow-up. Reoperation rates at 10-year follow-up were higher in patients who had OATM compared with ACI (OR 5.81, 95% CI 2.33 to 14.47).
2. In the SR of 10 studies (n=610), mean OATM treatment failure was 28% and mean reoperation rate was 19%. There were 112 reoperations reported in 7 of the 10 studies: 54% were surgical debridement because of symptoms in the same joint, 28% were revision cartilage surgeries, 14% were knee arthroplasties, 3% were high tibial or distal femoral osteotomies, and 2% were surgeries unrelated to the original cartilage defect. Factors that had a statistically significantly positive correlation with OATM failure were: age at the time of surgery (r=0.775, p<0.01), previous surgery (r=-0.689, p<0.01) and defect size (r=0.952, p<0.01). Failure rate had a statistically significantly negative correlation with concomitant surgical procedures (r=-0.663, p<0.01). Age at the time of surgery had a statistically significantly positive correlation with reoperation rate (r=0.896, p<0.01) and so did defect size (r=0.863, p<0.01). Reoperation rate had a statistically significantly negative correlation with concomitant surgical procedures (r=-0.790, p<0.01).

2) **Washington HTA 2011**: Health Technology Assessment of Osteochondral Allograft/Autograft Transplantation (OAT) https://www.hca.wa.gov/assets/program/oats_final_report.pdf

a. The overall quality of the literature, particularly with respect to allograft, is poor.
a. Efficacy and effectiveness

i. OAT/mosaicplasty versus microfracture

1. SOE: low
2. Two poor quality RCTs (N=104 total), one in young athletes, the other in children.
3. Function: OAT was associated with statistically better patient-reported and clinician-reported outcomes.

4. Longevity of treatment effect: Differences between treatments remained significant up to the last follow-up (maximum 48 months). Functional scores in young athletes improved for OAT recipients up to 36 months. In children following initial improvement at 12 months, ICRS scores decreased slightly, but remained stable up to 48 months.
5. Return to activity: A greater proportion of patients treated by OAT versus MF had returned to pre-injury activity levels at pre-specified time points.

ii. OAT/mosaicplasty versus autologous chondrocyte implantation (ACI)
1. SOE: low
2. Two poor quality RCTs in general (older) populations were found. One enrolled >40% of participants who had prior surgeries (N =140 total). In the other RCT, ≥50% of persons did not receive treatment (n treated = 23/44 randomized), as authors reported "spontaneous improvement" in the six months following initial debridement.
3. Function: Patient-reported outcomes were better for OAT/mosaicplasty but statistical significance was not uniformly achieved in the two small RCTS. In the largest RCT (n = 100) a significantly smaller proportion of participants receiving mosaicplasty had excellent or good outcomes (author's modification of the Cincinnati Rating Scale) and one of the smaller RCTs reported no significant differences in the Meyer score. Both these studies included substantial proportions of participants who had prior surgeries. Differences in outcomes measures used makes comparison across studies difficult.
4. Longevity of treatment effect: In one study (N =40), functional scores for both OAT and ACI increased over time for the Lysholm, Tegner and Myers scores; only for the Lysholm Knee Scoring Scale were significant differences between treatment sustained over time favoring OAT.

iii. OAT/mosaicplasty versus various treatments
1. SOE: very low
2. Four small, poor quality nonrandomized studies compared OAT alone or in combination with other procedures. Confounding by indication was present in all and heterogeneity across studies precludes effective comparison across them.
3. For most functional outcomes, there were no differences between treatment groups.
    a. In one small (N =18) study, post-operative mean Modified Lysholm score was significantly less for OAT versus matrix assisted chondrocyte transplantation (MACT).
    b. Range of motion appeared to be substantially greater among patients treated by OAT with realignment versus realignment alone in another study (n =49)

b. Safety
i. SOE: low
ii. Data from three RCTs, 3 nonrandomized comparative studies, and 5 case series of osteochondral autograft transfer were used
1. Surgical complications (infection, deep vein thrombosis, and hemarthrosis) are infrequent (<7%).

2. In 3 RCTs, revisions of OAT procedures were performed significantly less often than revisions following microfracture (1% vs. 33%). Re-operations following OATs were 17% across seven case series (variety of procedures)
3. Rates of donor site morbidity were 10% in two RCTs and 11% across three case series. No deaths directly attributable to OAT were found in the studies reviewed.

Expert guideline

1) **American Academy of Orthopedic Surgeons 2010**, TREATMENT OF OSTEOCHONDRITIS DISSECANS
    a. We are unable to recommend for or against non-operative treatment (casting, bracing, splinting, unloader brace, electrical or ultrasound bone stimulators, or activity restriction alone) for **asymptomatic** skeletally immature patients with OCD
    b. We are unable to recommend for or against arthroscopic drilling in **symptomatic** skeletally immature patients with a stable lesion(s) who have failed to heal with non operative treatment for at least three months.
    c. In the absence of reliable evidence, it is the opinion of the work group that **symptomatic** skeletally immature patients with salvageable unstable or displaced OCD lesions be offered the option of surgery
    d. We are unable to recommend for or against a specific cartilage repair technique in **symptomatic** skeletally immature patients with unsalvageable fragment.
    e. In the absence of reliable evidence, it is the opinion of the work group that **symptomatic** skeletally mature patients with salvageable unstable or displaced OCD lesions be offered the option of surgery.
    f. We are unable to recommend for or against a specific cartilage repair technique in **symptomatic** skeletally mature patients with an unsalvageable OCD lesions

Other payer coverage

1) Washington Medicaid
    a. Osteochondral Allograft/Autograft Transplantation (OAT) is a covered benefit with conditions
        i. Osteochondral Allograft/Autograft Transplantation for the knee is a covered benefit when the following conditions are met:
            1) Age <50, older at the discretion of the agency;
            2) Excluding malignancy, degenerative and inflammatory arthritis in the joint; and
            3) Single focal full-thickness articular cartilage defect
    b. Osteochondral Allograft/Autograft Transplantation (OAT) for joints other than the knee is not a covered benefit

CCO medical director input

From the CareOregon medical director group:

> Standard treatments for knee cartilage replacement/repair – microfracture or mosaicplasty - have very variable results, really only useful for small defects, whereas osteochondritis dissecans produces diffuse disease. The one effective treatment for big cartilage defects in patients too young for a total knee – MACI- is insanely expensive, not because of the surgery, because of the matrix used to grow the patients own chondrocytes.
>
> Also, I would expect variable results depending on skill level of the surgeon. The inclination would be not to cover it, and make rare exceptions for orthopedists we have vetted for training, experience and outcomes. Otherwise, you risk opening the flood gates for anyone with an arthroscope, which is every sports medicine doc.

Osteochondritis Dissecans

HERC staff summary

Osteochondral allografts and mosaicplasty have low level evidence of effectiveness for treatment of chondral defects of the knee. These procedures have only been evaluated in comparison to other similar procedures, and not to conservative treatment. However, the existing evidence finds statistically better outcomes compared with microfracture and autologous chondrocyte implantation, although it is unclear if these are clinically significant. Based on the existing evidence, two trusted evidence-based sources (NICE and WA HTA) found enough evidence to cover these procedures.

Currently, open mosaicplasty is covered on the surgical treatment of knee injuries line. The arthroscopic version is on line 662. Based on lack of evidence of ineffectiveness, HERC staff does not recommend removing open mosaicplasty from the knee line. Based on the usual practice of covering the minimally invasive surgery when the open surgery is covered, HERC staff recommends moving the arthroscopic mosaicplasty from line 662 to the knee line.

HERC staff recommendations:

1) Remove ICD10 M93.26 family (Osteochondritis dissecans, knee) from line 356 RHEUMATOID ARTHRITIS, OSTEOARTHRITIS, OSTEOCHONDRITIS DISSECANS, AND ASEPTIC NECROSIS OF BONE
2) Add ICD10 M93.26 family to line 431 INTERNAL DERANGEMENT OF KNEE AND LIGAMENTOUS DISRUPTIONS OF THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT
    a. Will then pair with osteochondral allograft, osteochondral autograft, and chondroplasty of the knee
3) Remove CPT 29866-29867 (Arthroscopy, knee, surgical; osteochondral autograft(s)/allograft(s) (eg, mosaicplasty)) from line 662 and modify GN173 as shown below
4) Add CPT 29866-29867 to line 431 INTERNAL DERANGEMENT OF KNEE AND LIGAMENTOUS DISRUPTIONS OF THE KNEE, RESULTING IN SIGNIFICANT INJURY/IMPAIRMENT
    a. Open version of mosaicplasty is already on this line
5) Add a new guideline to line 431 as shown below
    a. Based on Washington Medicaid coverage with input from CCO medical directors and experts

GUIDELINE NOTE 173, INTERVENTIONS THAT ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS FOR CERTAIN CONDITIONS

Line 662

The following Interventions are prioritized on Line 662 CONDITIONS FOR WHICH CERTAIN INTERVENTIONS ARE UNPROVEN, HAVE NO CLINICALLY IMPORTANT BENEFIT OR HAVE HARMS THAT OUTWEIGH BENEFITS:

Procedure Code	Intervention Description	Rationale	Last Review
~~29866-29867~~	~~Arthroscopy, knee, surgical; osteochondral autograft(s)/allograft(s) (eg, mosaicplasty)~~	~~Insufficient evidence of effectiveness~~	~~November 2007~~

GUIDELINE NOTE XXX OSTEOCHONDRAL ALLOGRAFT/AUTOGRAFT TRANSPLANTATION (OAT) OF THE KNEE

Line 431

Osteochondral Allograft/Autograft Transplantation (OAT) is included on this line only when ALL of the following conditions are met:

1) The patient is skeletally mature; AND
2) The patient is younger than age 50; AND
3) There is no malignancy, degenerative or inflammatory arthritis in the joint; AND
4) The patient has focal full thickness lesions (Grade III or IV) of the weight bearing surface with absent degenerative changes of the surrounding articular cartilage (Outerbridge grade II or less) and normal appearing cartilage around the defect; AND
5) The patient is not a candidate for total knee replacement; AND
6) The patient has failed standard conservative treatment including medication management and completed course of physical therapy; AND
7) The patient has normal knee alignment and stability

NICE guidance

Mosaicplasty for symptomatic articular cartilage defects of the knee

Interventional procedures guidance
Published: 14 March 2018
www.nice.org.uk/guidance/ipg607

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

This guidance replaces IPG162.

1 Recommendations

1.1 Current evidence on the safety and efficacy of mosaicplasty for knee cartilage defects is adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent and audit.

1.2 The procedure should only be done by surgeons experienced in cartilage surgery and with specific training in mosaicplasty for knee cartilage defects.

1.3 Clinicians should enter data from all patients having the procedure onto the ICRS Patient Registry.

2 The condition, current treatments and procedure

The condition

2.1 Chondral damage (that is, localised damage to the articular cartilage) in the knee can be caused by injury or arthritis, or it can occur spontaneously (a condition called osteochondritis dissecans). It can also occur because of knee instability, muscle weakness or abnormal unbalanced pressures, for example, after an injury to a ligament or meniscal cartilage. In young people, the most common cause of cartilage damage is sporting injuries. Symptoms associated with cartilage loss include pain, swelling, instability, and joint catching and locking, and may lead to degenerative changes in the joint (osteoarthritis).

Current treatments

2.2 There is no uniform approach to managing cartilage defects in the knee. Treatment options depend on the size of the defect and its location. There are 2 main categories of procedure: those intended primarily for symptom relief and those that also try to re-establish the articular surface. Interventions that aim to re-establish the articular surface include marrow stimulation techniques

(such as abrasion arthroplasty, Pridie drilling and microfracture), mosaicplasty (also known as osteochondral transplantation) and autologous chondrocyte implantation (in which chondrocytes harvested from the knee are cultured and implanted into the damaged cartilage). Interventions that aim to relieve symptoms include knee washout (lavage) with or without debridement, osteotomy and knee replacement.

The procedure

2.3 Mosaicplasty (also called osteochondral autologous transfer mosaicplasty) is a technique for creating an osteochondral autograft. Small cylindrical osteochondral plugs are harvested from the periphery of the patellofemoral area (because it bears less weight) and inserted into drilled tunnels in the affected weight-bearing part of the knee joint. The procedure is done in a single sitting, commonly by open surgery but sometimes arthroscopically when perpendicular access to the harvesting and implantation sites is feasible. The harvesting and implantation process is repeated until about 70% of the defective area is filled, with minimal spacing between plugs. The number and size of plugs used may vary depending on lesion size and mosaicplasty technique. A drain may be needed postoperatively, and the patient is advised not to weight bear for 4 to 8 weeks depending on the size and location of the treated defect. Passive mobilisation after surgery is done for 2 to 4 weeks, progressing to active mobilisation and physiotherapy that is continued for several months.

3 Committee considerations

The evidence

3.1 To inform the committee, NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 9 sources, which was discussed by the committee. The evidence included 1 network meta-analysis, 3 systematic reviews, 1 randomised control trial, 3 case series and 1 non-randomised comparative study, and is presented in table 2 of the interventional procedures overview. Other relevant literature is in additional relevant papers in the overview.

3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: restoration of functional hyaline cartilage in weight-bearing areas, improved mobility, return to usual activities, less pain including in the long term, and a reduction in subsequent joint degeneration and need for revision surgery.

3.3 The specialist advisers and the committee considered the key safety outcomes to be: infection, thrombosis, donor-site morbidity (including acceleration of wear at the donor site), procedure failure and joint stiffness.

3.4 Patient commentary was sought but none was received.

Committee comments

3.5 The committee noted that earlier mobilisation may lead to better outcomes.

3.6 Most of the evidence was from patients aged between 16 years and 30 years.

3.7 Outcomes are better and donor-site morbidity is less when the procedure is used to treat smaller defects.

ISBN: 978-1-4731-2861-3

Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.

Accreditation

Health Technology Clinical Committee
Findings & Decision
Topic: **Osteochondral Allograft/Autograft Transplantation (OAT)**
Meeting Date: **November 18, 2011**
Final Adoption: **March 16, 2012**

Number and Coverage Topic

20111118B – Osteochondral Allograft/Autograft Transplantation (OAT)

HTCC Coverage Determination

Osteochondral Allograft/Autograft Transplantation (OAT) is a **covered benefit with conditions**

Osteochondral Allograft/Autograft Transplantation (OAT) for joints other than the knee is **not a covered benefit**

HTCC Reimbursement Determination

❖ Limitations of Coverage

Osteochondral Allograft/Autograft Transplantation for the knee is a covered benefit when the following conditions are met:

- Age <50, older at the discretion of the agency;
- Excluding malignancy, degenerative and inflammatory arthritis in the joint; and
- Single focal full-thickness articular cartilage defect

❖ Non-Covered Indicators

Osteochondral Allograft/Autograft Transplantation for joints other than the knee are not covered.

❖ Agency Contact Information

Agency	Contact Phone Number
Labor and Industries	1-800-547-8367
Public Employees Health Plan	1-800-762-6004
Health and Recovery Services Administration	1-800-562-3022

P.O. Box 42712 • Olympia, Washington 98504 • www.hta.hca.wa.gov • 360-923-2742 • FAX 360-923-2835 • TTY 360-923-2701

HTCC COVERAGE VOTE AND FORMAL ACTION

November 18th, 2011 Meeting Transcript can be found here: http://www.hta.hca.wa.gov/schedule.html

Committee Decision

Based on the deliberations of key health outcomes, the committee decided that it had the most complete information: a comprehensive and current evidence report, public comments, and agency and state utilization information. The committee concluded that the current evidence on Osteochondral Allograft/Autograft Transplantation (OAT) for the knee demonstrates that there is sufficient evidence to cover with conditions. The committee concluded that the current evidence on Osteochondral Allograft/Autograft Transplantation (OAT) for joints other than the knee demonstrates that there is insufficient evidence to cover. The committee considered all the evidence and gave greatest weight to the evidence it determined, based on objective factors, to be the most valid and reliable. Based on these findings, the committee voted to not cover Osteochondral Allograft/Autograft Transplantation (OAT) for joints other than the knee. Based on these findings, the committee voted to cover with conditions Osteochondral Allograft/Autograft Transplantation (OAT) for the knee.

Osteochondral Allograft/Autograft Transplantation (OAT) Coverage Vote

Osteochondral Allograft/Autograft Transplantation Vote: Based on the evidence provided and the information and comments presented, the committee moved to a vote on coverage.

HTCC COMMITTEE COVERAGE DETERMINATION VOTE			
	Not covered	**Covered Unconditionally**	**Covered Under Certain Conditions**
Osteochondral Allograft/Autograft Transplantation (OAT) for the Knee	0	0	**10**
Osteochondral Allograft/Autograft Transplantation (OAT) for Joints other than the Knee	**7**	0	**3**

- ✓ *Discussion:* The Chair called for discussion on conditions related to OAT due to the majority voting for coverage. The following conditions were discussed and approved by a majority:
- ✓ *Limitations of Coverage:* Osteochondral Allograft/Autograft Transplantation for the knee is a covered benefit when the following conditions are met:
  - Age <50, older at the discretion of the agency;
  - Excluding malignancy, degenerative and inflammatory arthritis in the joint; and
  - Single focal full-thickness articular cartilage defect
- ➢ *Action:* The committee chair directed HTA staff to prepare a Findings and Coverage document on OATS reflective of the majority vote.

The committee reviewed the clinical guidelines and Medicare decision. The Centers for Medicare and Medicaid Services have no published national coverage determinations (NCD) for Osteochondral Allograft/Allograft Transplantation (OAT).

P.O. Box 42712 • Olympia, Washington 98504 • www.hta.hca.wa.gov • 360-923-2742 • FAX 360-923-2835 • TTY 360-923-2701

Health Technology Clinical Committee Authority

Washington State's legislature believes it is important to use a scientific based, clinician centered approach for difficult and important health care benefit decisions. Pursuant to chapter 70.14 RCW, the legislature has directed the Washington State Health Care Authority, through its Health Technology Assessment program to engage in a process for evaluation process that gathers and assesses the quality of the latest medical evidence using a scientific research company and takes public input at all stages. Pursuant to RCW 70.14.110 a Health Technology Clinical Committee (HTCC) composed of eleven independent health care professionals reviews all the information and renders a decision at an open public meeting. The Washington State Health Technology Clinical Committee (HTCC) determines how selected health technologies are covered by several state agencies (RCW 70.14.080-140). These technologies may include medical or surgical devices and procedures, medical equipment, and diagnostic tests. HTCC bases their decisions on evidence of the technology's safety, efficacy, and cost effectiveness. Participating state agencies are required to comply with the decisions of the HTCC. HTCC decisions may be re-reviewed at the determination of the HCA Administrator.

P.O. Box 42712 • Olympia, Washington 98504 • www.hta.hca.wa.gov • 360-923-2742 • FAX 360-923-2835 • TTY 360-923-2701

Summary of Recommendations

The following is a summary of the recommendations in the AAOS' clinical practice guideline, The Diagnosis and Treatment of Osteochondritis Dissecans (OCD) of the Knee. The scope of this guideline is specifically limited to Osteochondritis Dissecans of the Knee. This summary does not contain rationales that explain how and why these recommendations were developed nor does it contain the evidence supporting these recommendations. ***All readers of this summary are strongly urged to consult the full guideline and evidence report for this information.*** We are confident that those who read the full guideline and evidence report will also see that the recommendations were developed using systematic evidence-based processes designed to combat bias, enhance transparency, and promote reproducibility. This summary of recommendations is not intended to stand alone. Treatment decisions should be made in light of all circumstances presented by the patient. Treatments and procedures applicable to the individual patient rely on mutual communication between patient, physician and other healthcare practitioners.

1. In a patient with knee symptoms (pain, swelling, locking, catching, popping, giving way) and/or signs (tenderness, effusion, loss of motion, crepitus), x-rays (including AP, lateral, sunrise/Merchant, and tunnel views) are an option.

   Strength of Recommendation: Limited*

   Description: Evidence from two or more "Low" strength studies with consistent findings, or evidence from a single "Moderate" quality study recommending for or against the intervention or diagnostic. A **Limited** recommendation means the quality of the supporting evidence that exists is unconvincing, or that well-conducted studies show little clear advantage to one approach versus another.

   Implications: Practitioners should exercise clinical judgment when following a recommendation classified as **Limited**, and should be alert to emerging evidence that might negate the current findings. Patient preference should have a substantial influencing role.

   **To see the description of the evidence linked to the strength of the recommendations, please refer to Table 1; "Strength of Recommendation descriptions" in the guideline.*

2. We are unable to recommend for or against x-rays on the contralateral asymptomatic knee in patients with confirmed OCD of one knee.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

3. In a patient with a known OCD lesion on x-ray, an MRI of the knee is an option to characterize the OCD lesion or when concomitant knee pathology is suspected such as meniscal pathology, ACL injury, or articular cartilage injury.

   Strength of Recommendation: Limited

   Description: Evidence from two or more "Low" strength studies with consistent findings, or evidence from a single "Moderate" quality study recommending for or against the intervention or diagnostic. A **Limited** recommendation means the quality of the supporting evidence that exists is unconvincing, or that well-conducted studies show little clear advantage to one approach versus another.

   Implications: Practitioners should exercise clinical judgment when following a recommendation classified as **Limited**, and should be alert to emerging evidence that might negate the current findings. Patient preference should have a substantial influencing role.

4. We are unable to recommend for or against non-operative treatment (casting, bracing, splinting, unloader brace, electrical or ultrasound bone stimulators, or activity restriction alone) for **asymptomatic** skeletally immature patients with OCD.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

5. We are unable to recommend for or against a specific non-operative treatment (casting, bracing, splinting, unloader brace, electrical or ultrasound bone stimulators, or activity restriction alone) for **symptomatic** skeletally immature patients with OCD.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

6. We are unable to recommend for or against arthroscopic drilling in **symptomatic** skeletally immature patients with a stable lesion(s) who have failed to heal with non operative treatment for at least three months.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

7. In the absence of reliable evidence, it is the opinion of the work group that **symptomatic** skeletally immature patients with salvageable unstable or displaced OCD lesions be offered the option of surgery.

   Strength of Recommendation: Consensus

   Description: The supporting evidence is lacking and requires the work group to make a recommendation based on expert opinion by considering the known potential harm and benefits associated with the treatment. A **Consensus** recommendation means that expert opinion supports the guideline recommendation even though there is no available empirical evidence that meets the inclusion criteria of the guideline's systematic review.

   Implications: Practitioners should be flexible in deciding whether to follow a recommendation classified as **Consensus,** although they may give it preference over alternatives. Patient preference should have a substantial influencing role.

8. We are unable to recommend for or against a specific cartilage repair technique in **symptomatic** skeletally immature patients with unsalvageable fragment.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

9. We are unable to recommend for or against repeat MRI for **asymptomatic** skeletally mature patients.

   Strength of Recommendation: Inconclusive

   Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

   Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

10. We are unable to recommend for or against treating asymptomatic skeletally mature patients with OCD progression (as identified by X-ray or MRI) like symptomatic patients.

    Strength of Recommendation: Inconclusive

    Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

    Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

11. In the absence of reliable evidence, it is the opinion of the work group that **symptomatic** skeletally mature patients with salvageable unstable or displaced OCD lesions be offered the option of surgery.

    Strength of Recommendation: Consensus

    Description: The supporting evidence is lacking and requires the work group to make a recommendation based on expert opinion by considering the known potential harm and benefits associated with the treatment. A **Consensus** recommendation means that expert opinion supports the guideline recommendation even though there is no available empirical evidence that meets the inclusion criteria of the guideline's systematic review.

    Implications: Practitioners should be flexible in deciding whether to follow a recommendation classified as **Consensus,** although they may give it preference over alternatives. Patient preference should have a substantial influencing role.

12. We are unable to recommend for or against a specific cartilage repair technique in **symptomatic** skeletally mature patients with an unsalvageable OCD lesions.

    Strength of Recommendation: Inconclusive

    Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

    Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

13. In the absence of reliable evidence, it is the opinion of the work group that patients who remain symptomatic after treatment for OCD have a history and physical examination, x-rays and/or MRI to assess healing.

    Strength of Recommendation: Consensus

    Description: The supporting evidence is lacking and requires the work group to make a recommendation based on expert opinion by considering the known potential harm and benefits associated with the treatment. A **Consensus** recommendation means that expert opinion supports the guideline recommendation even though there is no available empirical evidence that meets the inclusion criteria of the guideline's systematic review.

    Implications: Practitioners should be flexible in deciding whether to follow a recommendation classified as **Consensus,** although they may give it preference over alternatives. Patient preference should have a substantial influencing role.

14. We are unable to recommend for or against physical therapy for patients with OCD treated non-operatively.

    Strength of Recommendation: Inconclusive

    Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

    Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

15. In the absence of reliable evidence, it is the opinion of the work group that patients who have received surgical treatment of OCD be offered post-operative physical therapy.

    Strength of Recommendation: Consensus

    Description: The supporting evidence is lacking and requires the work group to make a recommendation based on expert opinion by considering the known potential harm and benefits associated with the treatment. A **Consensus** recommendation means that expert opinion supports the guideline recommendation even though there is no available empirical evidence that meets the inclusion criteria of the guideline's systematic review.

    Implications: Practitioners should be flexible in deciding whether to follow a recommendation classified as **Consensus,** although they may give it preference over alternatives. Patient preference should have a substantial influencing role.

16. We are unable to recommend for or against counseling patients about whether activity modification and weight control prevents onset and progression of OCD to osteoarthritis (osteoarthrosis).

    Strength of Recommendation: Inconclusive

    Description: Evidence from a single low quality study or conflicting findings that do not allow a recommendation for or against the intervention. An **Inconclusive** recommendation means that there is a lack of compelling evidence resulting in an unclear balance between benefits and potential harm.

    Implications: Practitioners should feel little constraint in following a recommendation labeled as **Inconclusive,** exercise clinical judgment, and be alert for emerging evidence that clarifies or helps to determine the balance between benefits and potential harm. Patient preference should have a substantial influencing role.

Chiropractic/Osteopathic Manipulation of Non-Spinal Regions

Question: Should the procedure codes specific for spinal chiropractic/osteopathic manipulation be removed from lines with no spinal diagnoses?

Question source: HERC staff

Issue: A new MED report was issued regarding non-spinal chiropractic manipulation. In review of current coverage of chiropractic manipulation, staff became aware that the codes for spinal manipulation (chiropractic and osteopathic) appear on multiple lines with no spinal diagnoses.

Currently, non-spinal chiropractic manipulation appears only on line 608 SPRAINS AND STRAINS OF ADJACENT MUSCLES AND JOINTS, MINOR

Current Prioritized List status

CPT code	Code description	Current placement
98925	Osteopathic manipulative treatment (OMT); 1-2 body regions involved	46 RHEUMATOID ARTHRITIS AND OTHER INFLAMMATORY POLYARTHROPATHIES 292 NEUROLOGICAL DYSFUNCTION IN POSTURE AND MOVEMENT CAUSED BY CHRONIC CONDITIONS 361 SCOLIOSIS 402 CONDITIONS OF THE BACK AND SPINE 416 PERIPHERAL NERVE ENTRAPMENT; PALMAR FASCIAL FIBROMATOSIS 418 DISORDERS OF SHOULDER, INCLUDING SPRAINS/STRAINS GRADE 4 THROUGH 6 463 OSTEOARTHRITIS AND ALLIED DISORDERS 467 BRACHIAL PLEXUS LESIONS 540 TENSION HEADACHES 608 SPRAINS AND STRAINS OF ADJACENT MUSCLES AND JOINTS, MINOR
98926	3-4 body regions involved	46,292,361,402,416,418,463,467,540,608
98927	5-6 body regions involved	46,292,361,402,416,418,463,467,540,608
98928	7-8 body regions involved	46,292,361,402,416,418,463,467,540,608
98929	9-10 body regions involved	46,292,361,402,416,418,463,467,540,608
98940	Chiropractic manipulative treatment (CMT); spinal, 1-2 regions	46,292,361,402,416,418,463,467,540,608
98941	Chiropractic manipulative treatment (CMT); spinal, 3-4 regions	46,292,361,402,416,418,463,467,540,608
98942	Chiropractic manipulative treatment (CMT); spinal, 5 regions	46,292,361,402,416,418,463,467,540,608
98943	Chiropractic manipulative treatment (CMT); extraspinal, 1 or more regions	608 SPRAINS AND STRAINS OF ADJACENT MUSCLES AND JOINTS, MINOR

Chiropractic/Osteopathic Manipulation of Non-Spinal Regions

Lines without any spinal diagnoses:
416 PERIPHERAL NERVE ENTRAPMENT; PALMAR FASCIAL FIBROMATOSIS
418 DISORDERS OF SHOULDER, INCLUDING SPRAINS/STRAINS GRADE 4 THROUGH 6
463 OSTEOARTHRITIS AND ALLIED DISORDERS
467 BRACHIAL PLEXUS LESIONS

HERC staff recommendation:

1) Remove osteopathic and chiropractic spinal manipulation (CPT 98925-98929, 98940-98943) from lines without spinal diagnoses
    a. 416 PERIPHERAL NERVE ENTRAPMENT; PALMAR FASCIAL FIBROMATOSIS
    b. 418 DISORDERS OF SHOULDER, INCLUDING SPRAINS/STRAINS GRADE 4 THROUGH 6
    c. 463 OSTEOARTHRITIS AND ALLIED DISORDERS
    d. 467 BRACHIAL PLEXUS LESIONS