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Guidelines for Field Triage of Injured Patients (Exhibit 2) and Trauma Team Activation (Exhibit 3)
Rule Advisory Committee
October 4, 2022
9:00 – 12:00 p.m. via Zoom

RAC MEMBER ATTENDEES
Ann Rust, Trauma Medical Director, Good Shepherd Medical Center, ATAB 9
Corena Bray, Trauma Program Manager, Legacy Emanuel Medical Center, ATAB 1
Dana Pursley-Haner, Sherman County EMS, ATAB 6, State EMS for Children Advisory Committee representative
Daniel Hull, MD, FACEP Rural EMS Director, State EMS Committee representative
Danielle Meyer, Director of Public Policy, Oregon Association of Hospital and Health Systems
Frank Ehrmantraut, EMS Chief, Polk County Fire District No. 1, ATAB 2
Jennifer Serfin, Trauma Medical Director, Good Samaritan Regional Medical Center, ATAB 2
Jeremy Buller, Trauma Program Coordinator, St. Charles Medical Center, ATAB 7
Jerimiah Kenfield, Battalion Chief, Crook County Fire and Rescue, ATAB 7
Jonathan Jones, Clinical Trauma Coordinator, Providence Medford Medical Center, ATAB 5
Kathy Tompkins, Trauma PIPs Coordinator, ATAB 2
Mackenzie Cook, Trauma Surgeon, Oregon Health & Science University, ATAB 1
Matt Dale, EMS Chief, Canby Fire, ATAB 1
Matthew Edinger, Trauma Coordinator, Asante Rogue Regional Medical Center, ATAB 5
Mike Kissell, Division Chief of EMS, Corvallis Fire Department, ATAB 2
Mindy Stinnett, Trauma Program Manager, Blue Mountain Hospital, ATAB 7
Randy Saucier, Trauma Nurse Coordinator, Willamette Valley Medical Center, ATAB 2
Sarah Doherty, Trauma Nurse Coordinator, St. Anthony Hospital, Pendleton, ATAB 9
Stacey Holmes, Trauma Program Manager, Sky Lakes Medical Center, ATAB 7
Timothy Novotny, EMS Operations Officer, Bay Cities/Umpqua Valley Ambulance, ATAB 3
Trisha Preston, EMS Operations Officer, Dallas Fire and EMS, ATAB 2
INTERESTED PARTY ATTENDEES
Anthony Huacuja, Adventist Health Tillamook
Carrie Allison, Trauma Medical Director, Salem Health
Charlette Lumby, Trauma PIPS Coordinator, Salem Health
Dr. Foss, Adventist Health Tillamook
Dr. Gasner, St. Charles Medical Center
Eric Swanson, President, Adventist Health Tillamook
Ethan Lodwig, Interim Trauma Program Director, Sacred Heart Medical Center at Riverbend
Heather Wong, OHSU
Jackie Fox, Adventist Health Tillamook
Jean Benson, Trauma Coordinator/Registrar, Samaritan Lebanon Community Hospital
Jerad Ogao, Trauma Medical Director, Sky Lakes Medical Center
Joey Van Winckel, Trauma Nurse Coordinator, West Valley Hospital
Judy Gabriel, Trauma Nurse Coordinator, Good Shepherd Hermiston

Kalissa Dubois, Trauma Registrar, Sky Lake Medical Center
Lazeni Koulibali, Medical Director, Keizer Fire
Linda Sheffield, Trauma Nurse Coordinator, Santiam Hospital
Martin Schreiber, Trauma Medical Director , OHSU
May Condron, position?, St. Charles Medical Center
Mike Woll, St. Charles Medical Center
Tara Buhr, Trauma Nurse Coordinator, McKenzie Willamette Medical Center
Tyson Lane, EMS Director, Lake Health District EMS

Oregon Health Authority Staff	
Dana Selover	Public Health Division, Health Care Regulation & Quality Improvement
David Lehrfeld	Public Health Division, EMS and Trauma Systems
Madeleine Parmley	Public Health Division, EMS and Trauma Systems
Mellony Bernal	Public Health Division, Health Care Regulation and Quality Improvement
Rachel Ford	Public Health Division, EMS and Trauma Systems

Welcome, Housekeeping and Agenda Review

Mellony Bernal introduced self and welcomed attendees to the Guidelines for Field Triage of Injured Patients (Exhibit 2) and Trauma Team Activation (Exhibit 3) Rules Advisory Committee (RAC).

- Staff instructed persons on the virtual meeting to identify themselves by typing their name, organization and title into the Chat and identify themselves as a RAC member or member of the public.
- Staff shared that members of the public may listen to the discussion but may not participate. Members of the public are welcome to submit comments or questions at the conclusion of the RAC meeting by emailing Mellony Bernal, Rachel Ford or Madeleine Parmley and comments will be considered. Email addresses were shared via Chat.
- RAC members were instructed to use the Chat feature to indicate if they wanted to speak by typing the word "Comment." RAC members who do not want to speak but want the EMS program to consider information were asked to type into the Chat “For the Record” and include the information they wish to share. Persons were told they would be called upon in the order they appeared on the Chat.
- It was noted that after the RAC process has concluded, there will be an opportunity for persons to provide oral public comments at a public hearing or to send written comments during the public comment period. Information about the notice of proposed rulemaking and public hearing will be shared by email
- The agenda was reviewed by M. Bernal.

Rules Advisory Committee Overview and Scope

Overview

M. Bernal noted the following:

- State agencies convene RACs for a variety of reasons including when the legislature passes laws that require rules be adopted, when the legislature delegates broad statutory authority

and the agency must interpret those laws by rule, and amending, repealing or suspending existing rules.

- RAC members include persons and communities that are most likely to be affected by the proposed rules including representation from licensed facilities, special interest groups, and associations.
- The EMS and Trauma Systems Program drafts the rule text and convenes the RAC to seek input and suggestions on the rule text and consider possible changes, concerns, issues, etc. Additionally, the RAC will review the Statement of Need and Fiscal Impact (SNFI) which also includes a statement on how the proposed rules may affect racial equity in Oregon.
- The RAC's role is advisory only and consensus is not necessary. The EMS program retains the final decision on final rule text.
- Considering information provided by the RAC, the EMS and Trauma Systems Program will finalize proposed rule text and submit notice of proposed rulemaking to the Secretary of State along with the SNFI.
- A public hearing will be scheduled where persons can present oral testimony or submit written comments. The public hearing's officer that presides over the public hearing will generate a report summarizing the comments.
- The EMS and Trauma Systems Program will review and consider the testimony and comments received and determine whether additional changes to the rule are necessary based on those comments. The EMS and Trauma Systems Program will provide a response to the testimony and comments received.
- The EMS and Trauma Systems Program will finalize rule text and determine effective date and file permanent rulemaking notice with the Secretary of State's office.
- Dana Selover noted that prior to passage of HB 2993, the State EMS Committee and State Trauma Advisory Board served as the Rules Advisory Committee (RAC). Due to the new legislation, a RAC will now be populated with members consisting of current State EMS Committee or State Trauma Advisory Board members, as well as organizations and community members affected by the proposed rules with a focus on identifying communities that represent Black, Indigenous, and People of Color.

Scope

- The scope of this RAC is to consider amendments to OAR 333-200-0080 and more specifically to consider the adoption of the 2021 National Guideline for Field Triage of Injured Patients (Exhibit 2) and amending Exhibit 3 the Hospital Trauma Team Activation criteria to align with Exhibit 2 and consider additional findings-based criteria.
- The RAC will consider the proposed amendments including the possible fiscal and economic impact to ambulance service agencies and trauma hospitals, as well as to units of local government, the public, and small businesses. The RAC will also consider what affect the rules may have on racial equity in Oregon.
- One meeting is anticipated but additional meetings will be considered if needed.
- While most revisions will be discussed during the RAC meeting, additional revisions may take place afterwards. RAC members will be kept advised of final changes.
- Goal is to have final proposed rules to the PHD rules coordinator by October 21 for posting in the November 1 Oregon Bulletin. A public hearing could potentially be scheduled on or after November 16, 2022 and written public comment period closing on or around November 22, 2022.

- Possible effective date would be January 1, 2023, allowing time for ambulance agencies and hospitals to come into compliance.

Administrative Rule Review

M. Bernal shared information on the structure of administrative rule numbers.

Exhibit 2 – Guideline for the Field Triage of Injured Patient

Rachel Ford provided an overview of the history of the field triage guidelines and the American College of Surgeons (ACS) review process which includes emergency medical services feedback.

- The ACS developed the first Optimal Resources guidance in 1976.
- The Field Triage Decision scheme was developed in 1987. Updates through expert consensus were completed in 1990, 1993, and 1999.
- In 2006, the CDC lead a multidisciplinary panel and the guidelines were revised and published in the MMWR in 2009. Minor updates were made in 2011 and the EMS and Trauma Systems Program adopted the 2011 version into Oregon Administrative Rules in 2013.

The ACS conducted five systematic reviews including using the motor Glasgow Coma Scale (GCS) vs. total GCS (18 studies); circulatory measures (114 studies); respiratory measures (46 studies); mechanism of injury and special considerations (42 studies); and overall guideline performance (17 studies).

In April and June 2021, an expert panel was convened to consider changes to the field triage guidelines. A steering committee was created and considered input from the expert panel, created a draft guideline, and coordinated obtaining feedback from stakeholder organizations as well as the expert panel until all comments, suggestions, and feedback were addressed.

- A 40-question end user feedback tool was developed and piloted
- The tool was distributed to 29 national EMS organizations
- More than 3900 responses were received from EMS clinicians

The structure and format of the field triage guidelines was changed to align better with how information flows to EMS and how the guidelines were being used. The guidelines have now been consolidated into two categories – 1) high risk for serious injury; and 2) moderate risk for serious injury.

New criteria added in the high risk for serious injury category:

- Under injury patterns, active bleeding requiring a tourniquet or wound packing with continuous pressure
- Under mental status and vital signs, criteria have been broken into four categories with <u>new criteria</u> noted below. (The criteria noted below identifies new criteria only and not the complete list.)
    - All patients;
        - Motor GCS of less than 6
        - Respiratory distress or need for respiratory support
        - Room-air pulse oximetry of less than 90%

- Ages 0 to 9 years
    - Systolic blood pressure less than 70mm Hg plus 2 times age in years
- Ages 10 to 64 years
    - Heart rate greater than systolic blood pressure
- Ages 65 and older
    - Heart rate greater than systolic blood pressure

New criteria added in the moderate risk for serious injury category, under mechanisms for injury:

- Extrication for entrapped patient
- Child (ages 0 to 9) unrestrained or in unsecured child safety seat
- Rider separated from transport vehicle; examples include motorcycle, horse, and ATV
- For all ages a fall from height greater than 10 feet

New factors that the ACS panel felt important to consider included the following updates under the EMS judgement section:

- Anticoagulant use
- Special, high resource healthcare needs
- Pregnancy greater than 20 weeks

R. Ford shared the proposed changes to the rule text under OAR 333-200-0080, which updates the reference document to reflect the 2021 National Guideline for Field Triage of Injured Patients. Non-substantive additional changes were made to rule text such as punctuation. Additionally, the rules show the replacement of the current field triage guidelines with the revised 2021 National Field Triage Guideline.

Discussion:

- RAC member asked whether EMS judgement comes into play or if they check box, it goes to highest level (example used – GCS under 6, SBP of 65 years and older, pulse ox less than 90). Dr. Lehrfeld noted that the state sets standards, each Area Trauma Advisory Board (ATAB) develops plans and then local ambulance agencies develop the protocols and procedures. If an injured patient meets criteria, it's a mandatory entry, but where the patient goes depends on local plans. Follow-up question was asked whether the ATAB plan supersedes adoption of the guidelines? Dr. Lehrfeld responded the intent is that the ATAB incorporate the revised field triage guidelines and create new or modify existing plans to incorporate the new standard.
- RAC member thanked staff for their work and asked why the following criteria under 'Mechanism of Injury' are not included under high risk for serious injury and thought they should be: Partial or complete ejection, rider separated from transport vehicle with significant impact, and pedestrian/bicycle rider thrown, run over, or with significant impact? Dr. Lehrfeld responded that threshholds were developed and decisions made based on how predictive it is of serious injury. Anything above the threshhold would be high risk, anything under would be moderate risk. Dr. Lehrfeld further noted that adoption of the 2021 guideline sets a minimum standard, and ATABs or ambulance service agencies can choose to implement a higher standard.
- RAC member via Chat in follow-up to above asked "will facilities still use the full or modified trauma designation, and will they be responsible for designating resources that will be needed for the 'Red' vs 'Yellow'?"

- RAC member asked how did the ACS define extrication under mechanism of injury – Need for extrication for entrapped patient? Example shared of use of hydraulic tools where just a door is being popped open due to low impact collision where patient may have a low probability of significant trauma. Dr. Lehrfeld responded that this may be subjective and may be provider discretion but would look into the definition. **Follow-up: Per the article, "*National Guideline for Field Triage of Injured Patients, Recommendations of the National Expert Panel on Field Triage, 2021* – "Extrication >20 minutes was removed from the 2006 guideline based on varying definitions of "prolonged extrication" in the literature and the belief that the intrusion criteria would capture patients requiring extrication. However, a systematic review showed that extrication of any duration was a significant predictor of serious injury in adults and children and that predictive utility was retained down to ≥5 minutes. Based on these studies, the panel added the extrication criterion back to the guideline, without a specific time requirement. Because different studies used "extrication" and "entrapment" interchangeably, the panel integrated these terms for the criterion."**
- RAC member stated that they have several concerns about the impact of the criteria that's being proposed and the amount of over triage that may occur as a result. It was noted that hospital systems are extremely stressed including high volumes, physician fatigue, staff fatigue and it's important not to 'cast the net' so wide that every patient imaginable is captured. It was further stated that the state needs to consider what the Oregon Trauma Registry shows the impact will be. How many Level IV trauma hospitals would have received patients with a SBP less than 110, and now are going to need to transfer to a Level II or Level I trauma center and what would be the impact of that? Example shared of looking at one single metric (SBP less than 110) for geriatric population between January through June would have resulted in 50 additional full trauma activations. The state needs to pause and really understand the impact by using the trauma registry to pull the data and have a better understanding of the implications. Dr. Lehrfeld responded that the state will consider comparing the old criteria to the new criteria in a retrospective data set and see if those were severely injured patients to know the total impact. Dr. Lehrfeld noted this is the field triage guideline and does not say what the hospital does. Exhibit 2 provides the guideline for EMS to alert the hospital that there may be an incoming trauma. How the hospital reacts is based on ATAB plans and the hospital's own protocols. It was acknowledged that there will be a delay from rule filing and the time that agencies and hospitals must comply.
- Madeleine Parmley, Trauma Program Coordinator, encouraged RAC members to read the article in the Journal of Trauma and Acute Care Surgery that identifies the studies and methodology used to compose the new guideline. Each change has identified articles and evidence. The link to the article is: https://journals.lww.com/jtrauma/pages/articleviewer.aspx?year=2022&issue=08000&article=00019&type=Fulltext
- RAC member remarked that the guideline is based on national data and that it sounds like ATABs are going to be able to decide how best to utilize the guidelines and modify plans to adopt the standard and utilize other trauma level hospitals nearest to help. Will there be an opportunity for ATABs to get together to talk about how to structure, get advice, collaborate, etc.? Will there be support with working different EMS providers across the region? Dr. Lehrfeld responded that the proposed changes to Exhibits 2 and 3 set the minimum standard. ATABs have the responsibility of 'regionalizing' state standards and may add to, but not remove criteria. ATAB plans are public record so ATABs may choose to look at other

plans. ATAB representatives report information at the quarterly State Trauma Advisory Board meetings and that may be a mechanism for sharing.

- RAC member stated that based on preparation to becoming an ATLS instructor, the guidelines are a good foundation to start, and they have heard several times that trauma patients are being seen in emergency rooms where the patient should be going to a trauma center.
- RAC member stated that the field triage criteria are not synonymous with the activation response that hospitals have. ATABs should spend time educating EMS and emergency room staff about the guideline and what level of trauma center is needed. Once EMS calls the trauma center, it's the trauma center that makes the call on what happens. They are not looking at the field triage guideline at this point rather what kinds of trauma response is necessary based on the information provided. Red criteria on the EMS side are not necessarily full activation criteria and they don't have to be.
- RAC member stated via Chat that this rule is just the framework, where ATAB makes the process for local agencies to follow.
- RAC member stated that the overall data supports adopting a lot of the criteria but noted that this may be putting EMS providers in a situation where they will have to transport to a higher-level trauma center and take themselves out of the system for longer periods of time. While the article and research suggest that having a level of over triage is acceptable and means better care, there is a question whether all of the criteria are eventually going to lead to better care of the patient. Concern was expressed on the overtriage based on SBP. Dr. Lehrfeld noted that the data is based on national trauma data which may heavily favor large metropolitan areas and he will consider the concern about the SBP versus injury pattern.
- RAC member echoed concerns about the SBP and noted additional criteria such as suspected pelvic fracture which is very subjective and anything that could be added to help a medic better define would be helpful. EMS and emergency nurses typically struggle with GCS in general and to further define it as less than 6 so getting accurate data is questionable. It was noted that data was run for patients with an SBP less than 110 which was significant but patients that had 90 to 110 SBP, the ISS was not high. The data did not show the predictability that was seen in the articles. Dr. Lehrfeld responded that the Authority will consider look into the GCS less than six and SBPs over 65 using Oregon data. He reminded RAC members that it is *motor* GCS less than 6 and providers should be looking for neuro trauma. It was further noted that many of the criteria are subjective, and people rely on the training and education of EMS providers to implement the standards in the best interest of the
  patient. Some standard is necessary to make decisions.
- RAC member stated via Chat that the change to geriatric age SBP over 110 in the first section of Exhibit 3 will significantly change full activation response and the impact on trauma surgeon response and suggested keeping geriatric the same as adult.
- RAC member via Chat recommended that the Oregon Health Authority conduct a data analysis on the impact to the trauma system prior to implementation.
- Looking at 2021 data, RAC member shared via Chat that there would have been 46 additional full activation for SBP < 100 for ages > 65 criterion. Only 3 has an ISS of greater than 16. This change would have doubled full system activation based on changing one criterion. This does not account for all the additional patients that were not entered by EMS based on SPB <100 in ages > 65.

- RAC member shared example of patient run over by vehicle with head, neck and chest injuries, steps taken to stabilize and trying to find a trauma center. The mechanism of injury and the paramedic's assessment is very important. It was noted that additional education and training of Paramedics can be implemented to reinforce GCS assessment. RAC member stated that the patient would have likely been cared for differently in Portland and stated that area trauma systems are more complicated when you leave the city.
- M. Parmley noted that for the red criteria in the 2021 National Field Triage Guideline, it acknowledges that patients in extremis may require transport to the closest hospital for initial stabilization before transport to a Trauma Level I or II center for definitive care. The guideline doesn't require that someone in Prineville must travel to Portland. The patient needs to be stabilized at the nearest hospital before transporting to higher-level trauma center.
- RAC member pointed out that when conducting analyses, it is important to note that not all of the data is available in the trauma registry data because those patients are not meeting current trauma activation criteria. It was noted that in a recent query of emergency department data where patients had a fall, 65 years of age order older with SBP of less than 110, would have resulted in over 1,700 activations based on the new criterion. Looking at patients with drop in O2 Sat and fall, more than 1,300 patients would have been a trauma activation. The proposed changes could be detrimental to Oregon's trauma system. Trying to transfer patients to a higher-level trauma center is going to be worse based on these new criteria. Also consider the impact to patients coming in with sepsis, stroke, STEMI, etc. when some patients based on new criteria will be seen first and may have a UTI or vagaled and fell off toilet. These individuals do not have the ISS to support a trauma activation. Dr. Lehrfeld reiterated that Exhibit 2 are field triage criteria where a paramedic or EMT will make an assessment based on the injury and the vital signs.
- RAC member suggested adding verbiage like 'sustained blood pressure' so activation is not based on a single episode or possibly an error in the reading. It was noted that the shock index should stay in as it has high predictive value for injuries.
- RAC member asked if there would be an EMS educational update that would be conducted across the state, or would it be up to each ATAB? Would there be support and help in training? Dr. Lehrfeld responded that since this is a national standard, educational systems will be teaching it, if not begun already. The EMS program will provide an informational update to all ambulance agencies, medical directors, etc. but it is up to each medical director on what to cover (in terms of continuing education.) It will be update to each ATAB to bring together the trauma hospitals and EMS agencies to figure out reasonable distance based on air assets and other factors to develop plan on how far an injured patient should be transported.
- RAC member via Chat indicated the GCS change to motor only may cause activation criteria errors; in that, it is difficult to just get an accurate GCS. It was suggested to change to full GCS only. Suspected pelvic fractures is subjective and suggested objective findings be created. Greater than 20 mph is a good objective finding. It was suggested to keep old language. Need for extrication needs additional detail, it was suggested to add significant extrication.
- RAC member noted as a trauma level IV in a rodeo town with dirt bike track, the subjectivity of the yellow criteria is appreciated. The next closest hospital that is a higher-level trauma center is 35 minutes away so they will continue to receive patients for initial stabilization and the new recommendations do not change that.

- RAC member expressed concern that ground level fall patients with SBP of less than 110, or patients with oxygen saturations of less than 90 are bypassing the smaller facilities and all ending up at a higher-level trauma center but could be appropriately managed in the smaller trauma centers. Dr. Lehrfeld noted that many concerns apply to both current field triage guidelines and the new proposed guideline. Exhibit 2 is a tool for EMS providers to assess whether the patient is a trauma patient or not. What the individual hospitals and regions do with that activation, where they go, how they are transferred, those are identified in the regional plans.
- RAC member stated that what appears to be the issue based on information shared is the Exhibit states that the patient must be transported to the highest level of trauma center, and it was suggested the language be modified so it allows an ATAB to put that in their plans if that is the intent. Dr. Lehrfeld responded that information is already in the exhibit. Example shared – if you're in Gold Beach or anywhere in Curry County and you can't fly, patient would go to Curry General because the next closest, highest level trauma center based on travel time, weather conditions, is more than three hours away. ATABs currently have the flexibility to make those plans and those decisions based on geography, weather, resources within the ATAB, etc. It was noted the program will consider possible changes in the exact verbiage, but interpretation is consistent with current exhibit and with what the ATABs are currently doing.
- RAC member suggested that verbiage in the red box include paramedic judgement.
- RAC member via Chat suggested adding language about EMS evaluation in the statement under the red box.
- RAC member via Chat suggested to include in the line below the red boxes, language to indicate suspicion of severe traumatic injury, if leaning on EMS to make these judgement calls.
- RAC member reiterated that none of Exhibit 2 tells the trauma hospital what to do. The exhibit only tells the hospital that they are in or out of the system. EMS discretion used to be a dedicated criteria that could be used, but the statement underneath the red box gives the ATAB the flexibility to set their own system that will work for them no matter where they are at in the state. Narrowing wording on everything will take away needed flexibility.
- RAC member via Chat stated this is a great opportunity for EMS to work through the care of the trauma patient and better align the overall system, locally, regionally and statewide.
- RAC member stated via Chat that the 20 mph is helpful for frontline staff for both Exhibits 2 and 3 and not want this removed. It was also noted that GCS <9 for full should not be removed. Okay with adding GCS 9-13 "or motor GCS <6" specification. Agree with adding horse mechanism. Agree with adding tourniquet. Agree with lowering the height mechanism to 10 ft. Prefer to leave the language regarding penetrating trauma proximal to the knee or elbow.
- RAC member stated via Chat, partial or complete ejection, rider separated from transport vehicle, and pedestrian/bicycle rider thrown, run over are examples of significant mechanisms. These should be included in red criteria with high risk for serious injury.
- RAC member indicated via Chat, patients meeting any one of the above RED criteria should be transported to the most appropriate trauma center available within the geographic constraints of the regional trauma center.

ACTION: Staff will consider the information and suggested changes provided by RAC members. RAC members were asked to submit any additional information or suggested changes by October 10th to staff.

Exhibit 3 – Trauma Activation Team Criteria

M. Parmley shared the proposed changes to Exhibit 3, Trauma Team Activation criteria which were based on changes made to align with Exhibit 2. A new section on 'Findings Based Criteria' was also added based on feedback from trauma medical directors in the state.

Under **full trauma team activation**, the following changes were made:

- Added age specific SBP
- Added unable to follow commands (motor GCS less than 6)
- Removed less than 20 breaths per minute for infants from respiratory rate
- Added respiratory distress and changed ventilatory support to respiratory support
- Removed GCS less than 9
- Added room-air pulse oximetry less than 90%
- Replaced proximal to elbow or knee with proximal extremities
- Added skull deformity, suspected skull fracture
- Suspected spinal cord injury, "motor sensory deficit" was replaced with "new motor or sensory loss"
- The term 'suspected' was added to flail chest
- Added suspected pelvic fractures
- Suspected fracture replaced fracture for two or more proximal long bones
- Added crushed, degloved, mangled or pulseless extremity
- Added amputation proximal to wrist or ankle
- Added active bleeding requiring a tourniquet or wound packing with continuous pressure
- Removed emergency physician's discretion

Under **modified trauma team activation**, the following changes were made:

- Removed GCS of 9-12
- Removed crushed, degloved, mangled or pulseless extremity
- Removed amputation proximal to wrist or ankle
- Removed open or depressed skull fracture
- Removed suspected pelvic fracture
- Removed age specific fall height and replaced with greater than 10 feet for all ages
- For high-risk auto crash:
    - Replaced 'intrusion' with 'significant intrusion' and added reference to 'need for extrication for entrapped patient
    - Added child (age 0-9) unrestrained or in unsecured child safety seat
    - For vehicle telemetry data, replaced high risk of injury with severe injury
- Added rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.)
- Removed reference to greater than 20 mph impact for significant impact
- Added additional risk factors <u>for consideration</u> including:

    - Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact
    - Anticoagulant use
    - Suspicion of child abuse
    - Special, high-resource healthcare needs
    - Pregnancy > 20 weeks
    - Burns in conjunction with trauma
    - Children should be triaged preferentially to pediatric capable centers
- Removed EMS provider or receiving hospital judgement

A new **findings-based criteria** section was added specifying if no trauma team activation has occurred **consider trauma team activation or a trauma consult** based on positive findings of the following:

- Any intracranial hemorrhage
- More than two unilateral rib fractures or bilateral rib fractures
- Pneumothorax, hemothorax, or lung contusion
- Any skull base fracture or depressed skull fracture
- Any hemoperitoneum
- Any grade III or above solid organ injury
- Unstable pelvic fracture requiring transfusion
- Femur fracture or any open fracture
- Complex pelvic fracture or acetabular fracture
- Vertebral fractures or findings concerning for spinal cord injury
- Carotid artery, vertebral artery, or significant vascular injury
- Burns that require intubation and/or transfer to a Burn Center

Dr. Lehrfeld shared that this new section was based on discussions with trauma medical directors and trauma program managers. Exhibit 3 is not a national standard rather an Oregon specific document that informs trauma hospitals under what criteria to activate a full trauma team versus a modified team. It was noted that due to the increase in falls in the elderly, trauma centers are experiencing more occult trauma and every trauma center has their own version of a findings-based criterion. The EMS program has been asked at several trauma surveys to consider a basic list of criteria that would warrant a trauma activation or trauma consult.
Discussion:

- RAC member asked as opposed to the field triage guideline, which is a national standard, is Exhibit 3 considered a recommendation such that a hospital has the flexibility to implement or not. Dr. Lehrfeld responded that Exhibit 3 sets a minimum standard to be followed.
- RAC member indicated that Exhibit 3 is where most of the trauma hospitals' concerns come from – marrying the field triage "red criteria" with a full trauma activation. Because Exhibit 3 is adopted in rule, then all of the full criteria become a requirement. Items that were previously listed in the modified activation and are now full activation need to be carefully considered. Leaving them in the modified allows each ATAB to decide whether to change to a full based on demographics. Holding hospitals to the same, higher standard will affect patient load, use of surgeons and other specialties. Dr. Lehrfeld agreed that there needs more discussion and there is currently no state data on exactly what this would mean and will look at pulling some data on how it might affect the trauma system. RAC member

indicated that before pulling modified criteria to full, data needs to be considered. It was suggested to consider keeping the provider judgement under modified.

- Dr. Lehrfeld asked trauma hospitals to share any reports, data queries, etc. relating to these changes with EMS so that staff can consider further.
- Staff noted that a SBP of less than 90 currently requires a full activation. RAC member stated that in ATAB 5 that has been changed to a ***sustained*** blood pressure of less than 90 because one reading may be low or an error and subsequent readings are fine. Dr. Lehrfeld shared that we all licensed providers and standards and guidelines need to be interpreted in the context of the individual patient.
- RAC member stated that the term 'sustained' is very important. It was further noted that the Joint Commission tagged a facility for using the less than/greater than symbols versus spelling out. Additionally, utilizing reports in the Trauma One, it was daunting to look at what the volume of change would be and doesn't consider data that was not captured. With regards to changes:
    - Obtaining an accurate motor GCS is worrisome.
    - Respiratory distress is subjective and it's nice to have the line of ventilator support.
    - Given the COVID pandemic a pulseox of less than 90 just happens.
    - Adding with an objective finding for suspected pelvic fracture would be helpful.
    - The tourniquet and amputation are great.
    - Emergency physician discretion is needed and allows physicians to call up resources when they feel it's needed and can later be "PId."
    - Even though there may be no data to support greater than 20 mph for significant impact, it is great to have.
    - Adding lung contusion to findings-based criteria will add a lot of patients.
    - Suggest adding, if patient has an ISS of greater than 9, to findings-based criteria.
- Dr. Lehrfeld reiterated that although Exhibit 3 looks black and white, it is really for the provider to interpret based on the individual patient. For example, patient comes in with femur fracture, has COVID and a SPO2 of less than 90, that's not a mandatory trauma activation because the SPO2 was not from the injury. Providers need to determine whether the criterion was caused from the injury.
- RAC member stated that while Exhibit 3 amendments are very concerning, Exhibit 2 still raises concerns and is a broad net. Exhibit 2 will have significant impact and needs an analytical, line-by-line review on what it may mean to an organization and the state. It was further noted that taking the red box changes from Exhibit 2 and adding to Exhibit 3 was too linear. The ACS guidelines in the Gray Book identify what should be full criteria for the highest-level trauma activation which still refers to the SBP as less than 90, still refers to the GCS less than 9. With regard to changes:
    - Recommend that a GCS of 9 to 13 or motor GCS less than 6 be a modified activation.
    - The pediatric SBP less than 70 is appropriate for full trauma activation.
    - The need for tourniquet for proximal to elbow or proximal to knee injury is appropriate for full. If they are on distal extremities, consider placing under modified.
    - O2 Sats are a concern since front line staff or triage nurses would act and also the 20 mph for help in determining triage criteria.
    - Respiratory distress is vague. Ventilatory support is clear and not aware of any under triage problem. Having access to data will help inform these changes to activation criteria.

    - Penetrating trauma specifies proximal extremities - since all extremities are attached to torso proximal to knee or proximal to elbow should remain in place.
    - The same injuries listed in the current modified activation should remain in place and not moved to full activation.
    - Support changing falls from 20 feet to 10 feet.
    - Question what is 'significant intrusion'. EMS partners indicate it's discretionary and they don't have to activate. What does any site mean – 18 inches on a fender or specifically talking about occupant compartment?
    - Need for extrication or entrapped patient is appropriate.
    - Unsecured child or unsecured child in safety seat is appropriate for modified.
    - Significant impact criteria should be together (motorcycle, ATV, horse, bull, pedestrian, bicycle rider, etc.)
    - Current inclusion criteria are for an ISS of 9 or higher and that requires admission or transfer to higher level of care. Is that consistent or will that be changed?
    - Instead of changing to 'more than two' unilateral rib fractures, state three or greater.
    - Hemoperitoneum is a symptom or complication of an organ injury and is not a codable injury, so based on ISS that won't be necessary.
    - For any open fracture, a pinky fracture would be an ISS of 1 to 4, and wouldn't rise to a level of 9, so are ISS lower than 9 now being included?
    - What is a complex pelvic fracture or is it any acetabular fracture? Better definitions are needed.
    - Vertebral fractures are usually acute compression fractures that have a greater than 20% rise to an ISS score of 9, so will mild compression fractures be put into the trauma registry?
    - ISS based on percentages of burns
    - Using AIS 05 in trauma registry for ISS scores. If moving to AIS 15, there will be different scoring which is a challenge.
    - Are hips in or out?
    - Pelvic fracture requiring transfusion should already be a full.
    - Emergency room physician discretion needs to remain in place.
- Dr. Lehrfeld noted that many people have commented that EMS provider judgement and emergency physician discretion should remain in place and staff will consider adding that verbiage back. It was further noted that this is a triage document and not Oregon Trauma Registry (OTR) inclusion criteria. ISS scores, ICD 10, codable diagnoses are in the schematron for what goes in the OTR or not. The findings-based criteria are meant for the provider who has a finding such hemoperitoneum on CT but does not know where it's coming from and may need to consider calling a surgeon. These exhibits are to help identify if this is a trauma and what level of trauma is needed. The OTR inclusion criteria are a completely separate issue. RAC member noted that getting a trauma surgeon consult would require entering the patient into the OTR so then does it become inclusionary criteria. Dr. Lehrfeld responded that there is some overlap. Discussion ensued regarding whether certain criteria would require entering a patient into the OTR. It was noted that the findings-based criteria are special considerations for providers and not all of the findings-based criteria require entry into the OTR. Language should be clarified as it looks like all of those patients would need a trauma band. Each hospital should be able to tailor those criteria versus making part of the rule. RAC members were encouraged to send in suggested revisions.

- RAC member noted that hospital-based providers are having a hard time separating Exhibits 2 and 3 because they dovetail so closely together and that's why everyone is focused on how it may affect trauma activations in the emergency department.
- RAC member noted that Exhibit 3 needs to be clear that providers have the judgement and ability to activate whatever level of trauma activation is deemed necessary. Looking at the SBP and GCS less than 6 would have increased full trauma team activations by 210 last year which means burning out resources and pulling staff from ORs to come down and assess someone who fell down and hit their head which is not viable. This leeway needs to be reflected and documented, move some criteria into modified and allow ATABs to choose what should be a full activation.
- RAC member via Chat stated the expanded criteria will significantly increase patient load with limited additional benefit to patients (as opposed to field triage) with expected net result of decreasing state-wide trauma quality.
- RAC member via Chat made the following recommendations:
    - Age >65 with SBP<110 = Modified Team Activation (or use OTR data to validate need for full activation)
    - Room air pulse oximetry <90% = Modified Team Activation (or use OTR data to validate need for full activation)
    - Suspected skull deformity, suspected skull fracture = Modified Team Activation (or use OTR data to validate need for full activation)
    - Suspected Pelvic Fracture = Modified Team Activation (or use OTR data to validate need for full activation)
    - Crushed, degloved, mangled, or pulseless extremity = Modified Team Activation (or use OTR data to validate need for full activation)
    - Active bleeding requiring a tourniquet or wound packing with continuous pressure = Modified Team Activation (or use OTR data to validate need for full activation)
- RAC member via Chat indicated all open fractures should be changed to any open fractures proximal to the wrist or ankle.
- RAC member commented that 'sustained SBP' may need additional clarification as EMS providers are probably placing patient with low SBP on oxygen and starting an I.V. and maybe giving fluid challenge. RAC member noted that falls are the most common mechanism of fatal injury in the elderly population.
- RAC member noted via Chat that clarifying punctuation, or verbiage is always better than less clarifying. Please keep in capitalized and/or bold/italicized words for clarity. (OR vs or - AND vs and). 3 or more rib fractures, rather than more than 2, as the number 2 sticks out the most and they may miss the "more than" part.
- RAC member stated that most trauma hospitals have used the emergency physician discretion to add a trauma, but it seems like something is needed to NOT activate a trauma. EMS has less ability for safety reasons but is there a way to have language where the emergency room physician can either say this doesn't meet activation criteria or downgrade a full activation to a modified activation. This might resolve some of the concerns discussed.
- RAC member via Chat stated agreement with Dr. Lehrfeld that criteria are interpreted through the lens of mechanism. Being part of the legal framework, many providers may interpret these criteria as black and white.

- RAC member via Chat requested changing 'horse' to 'large animal' since there are bull riders in Southern Oregon. Also agreed with change for falls from greater than 20 feet to greater than 10 feet.
- RAC member via Chat indicated agreement that there are too many "red" EMS criteria that were automatically added to the "full" hospital response criteria and agreed with clarifying verbiage.
- Several RAC members agreed.
- RAC member via Chat indicated that the 'findings-based' criteria read as VERY discretionary and not a hard set of criteria and those criteria are often modified by the facility. They are more "for your consideration."
- RAC member via Chat indicated the following: "ER NURSE ==> ER Physician “We have a Trauma System entry in route. With X, Y, Z ==> Do you want a Full Trauma Activation or do you want to see the patient with the TRN and RT.
- RAC member via Chat asked that a second meeting to discuss possible changes be considered.
- RAC member stated via Chat when considering financial impact, please keep in mind that additional field activations will result in increased costs for the patient as well as additional medical, nursing, trauma services staff needed in order to meet the significant increase in traumas if criteria move forward as proposed.

Staff asked RAC members to send suggested changes to Mellony Bernal, Rachel Ford or Madeleine Parmley.

D. Selover thanked RAC members for their time and feedback. Staff will consider the discussion and look at possible modifications. It was noted that a second meeting is likely to review changes.

ACTION: Staff will consider the information and suggested changes provided by RAC members. RAC members were asked to submit any additional information or suggested changes by October 10th to staff.

Statement of Need and Fiscal Impact

M. Bernal reviewed the Statement of Need and Fiscal Impact. She acknowledged that based on the discussion and possible changes that may be made, further edits may be necessary to the fiscal impact.

- EMS program is responsible for the development of a comprehensive statewide trauma system which includes the development of a comprehensive statewide trauma system. The need for the rule is adopt the revised 2021 National Field Triage Guideline and to align trauma team activation criteria with that guideline.
- Documents relied upon include the revised national guideline, ORS chapter 431A and ORS chapter 682.
- Oregon's racial equity vision and definitions for terms were shared in the Chat.
    - Dismantle institutional and structural racism in Oregon state government, and by do so have resounding impacts on our communities. Build a more equitable Oregon where everyone has the opportunity to thrive, and everyone's voice is heard. Ensure an inclusive and welcoming Oregon for all by celebrating our collective diversity of race, ethnicity, culture, color, disability, gender, gender identity, marital status,

national origin, age, religion, sex, sexual orientation, socio-economic status, veteran status, and immigration status.
    - Equity. An acknowledgement that not all people, or all communities, are starting from the same place due to historic and current systems of oppression. Equity is the effort to provide different levels of support based on an individual's or group's needs in order to achieve fairness in outcomes. Equity actionably empowers communities most impacted by systemic oppression and requires the redistribution of resources, power, and opportunity to those communities.
    - Institutional Racism. A form of racism that occurs within institutions that reinforces systems of power. It is often more difficult to name or witness because it is more deeply embedded in practices and policies, often presenting as a norm. Institutional racism refers to the discriminatory policies and practices of particular institutions (schools, workplaces, etc.) that routinely cause racially inequitable outcomes for people of color and advantages for white people. Individuals within institutions take on the power of the institution when they reinforce racial inequities.
    - Structural Racism. A system in which public policies, institutional practices, cultural representations and other norms work in various, often reinforcing ways to perpetuate racial group inequities. It is a feature of the society in which we all exist.
- It was noted that that trauma team activation should be applied to all communities across the state, and with all patients being treated by the EMS system. Unintentional injury was the number one cause of death for ages 1-44 for both sexes and all races in 2020. States with trauma systems had a 9% lower crude injury mortality rather than those without. World Neurosurgery article noted that the promotion of a healthcare system that functions for all members of society aid in attaining health equity and the elimination of disparities in medical care.
- The number of trauma level hospitals were identified, and it was noted that the number of licensed EMS agencies needs to be added. A moderate fiscal impact has been identified based on additional criteria. Data was noted that indicates the percentage of reported fatal and severe injury crashes in Oregon including people walking has increased by 23%. It was further noted that authors of the National Field Triage Guideline article prioritized the objective of minimizing undertriage and accepting an increased level of overtriage in attempt to avert increased mortality.
- Given the possibility of additional changes, information related to cost of compliance was deferred.

ACTION: Staff will review and consider additional amendments to the SNFI after further review of proposed amendments.

Next Steps
Staff thanked RAC members for their comments and feedback. It was noted that the State EMS Committee and the State Trauma Advisory Board will be advised about the proposed rule and RAC meeting at their meetings scheduled for October 14, 2022.

Staff will consider comments shared and consider possible changes to the Exhibits.

Meeting adjourned at 11:15 a.m.