
Determining the Need For and Appropriateness of Sealants

Clinical Training for School Dental Sealant Programs



Journal of the American Dental Association (JADA)

“The expert panel...concluded that sealants are effective in caries prevention and that sealants can prevent the progression of early **noncavitated*** carious lesions” (JADA, 2008).

“SBSPs [are] an important and effective public health approach that complements clinical care systems in promoting the oral health of children and adolescents” (JADA, 2009).

*Noncavitated: Demineralized tooth structure that has not yet collapsed into a cavity.

Cavitated vs. Non-Cavitated

Cavitated

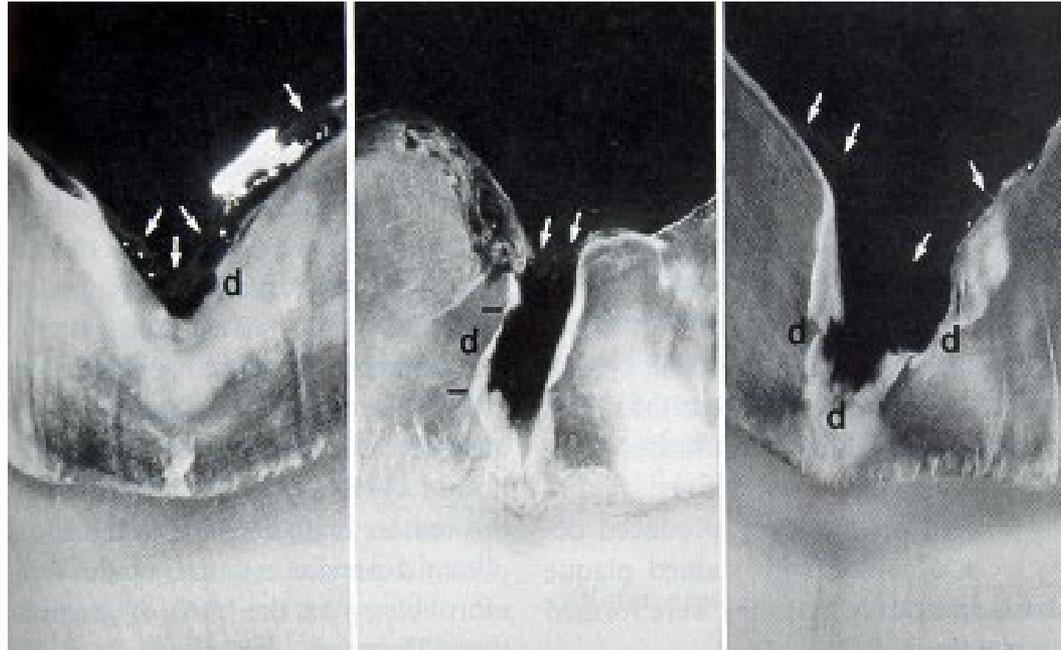


Non-Cavitated



Photos courtesy of Margherita Fontana, DDS, PhD

Cavitation Caused by a Sharp Explorer



Cavitation Caused by a Sharp Explorer



Photos courtesy of Hafsteinn Eggertsson, DDS, MSD, PhD

Journal of the American Dental Association (JADA, 2010)

Clinicians may use an explorer to:

- Gently remove plaque and debris from the tooth surface.
- Detect changes or breaks in the surface contour by moving it gently in cases in which there is doubt about the presence of a cavitation.
- Evaluate the smoothness or roughness of the tooth surface to help determine lesion activity.
- Help in the assessment of a resin sealant's integrity and retention.

ICDAS: International Caries Detection and Assessment System

ICDAS

- The ICDAS concept is that the use of a standardized system, based on best available evidence for detecting early and later stage caries severity, should lead to the acquisition of better quality information which could then be used to inform decisions about appropriate diagnosis, prognosis, and clinical management of dental caries at both the individual and public health levels.

Seal



Restore

- 0 = Sound; no caries change after air drying (5 sec); or non-caries change such as stain, hypoplasia, wear, erosion and other non-caries phenomena.**
- 1 = First visual change in enamel, seen after air drying, or colored change limited to the confines of the pit and fissure area.**
- 2 = Distinct visual change in enamel seen when wet, white or colored, wider than the fissure/fossa.**
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- 3 = Localized enamel breakdown, with no visible dentin, discontinuity of surface enamel, widening of fissure. Ball-end probe may confirm.**
- 4 = Underlying dark shadow from dentin with or without localized enamel breakdown.**
- 5 = Distinct cavity with dentin exposed at the base of the cavity.**
- 6 = Extensive cavity with dentin visible at base and walls of the cavity (or 1/2 surface).**

ICDAS Classification #0

- “Sound, no caries”
- Preventive care advised (i.e. seal)



ICDAS Classification #1

- “Early stage decay”
- First visual change in enamel
- Limited to the change of enamel color within the pit and fissure areas
- Preventive care advised (i.e. seal)



ICDAS Classification #2

- “Early stage decay”
- Distinct visual change in enamel when wet
- May be white or colored and wider than the fissure or pit
- May be incipient (non-cavitated) caries lesions
- Preventive care advised (i.e. seal)



ICDAS Classification #3

- “Established decay”
- Localized enamel breakdown
- No visible dentin
- Discontinuity of surface enamel
- Widening of fissure or pit
- Operative care advised



ICDAS Classification #4

- “Established decay”
- Shows an underlying dark shadow from dentin **with or without localized enamel breakdown**
- Operative care advised



ICDAS Classification #5

- “Severe decay”
- Distinct cavity with visible dentin
- Extensive cavity with dentin visible at base and walls
- Operative care advised

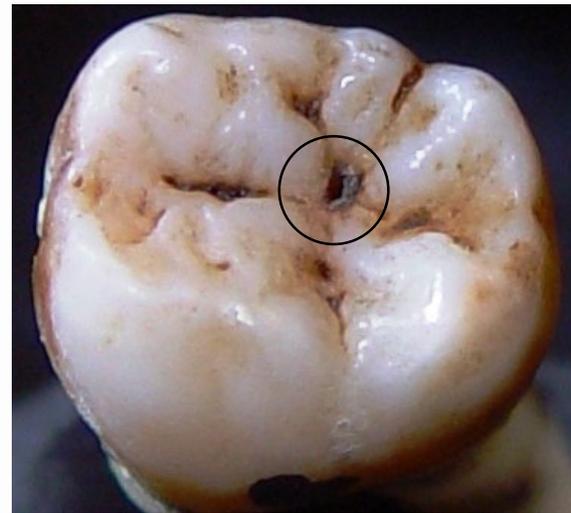
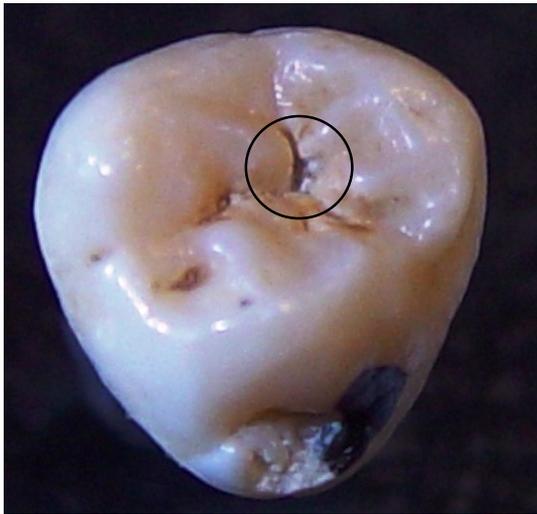


ICDAS Classification #6

- “Severe decay”
- Extensive cavity with dentin visible at base and walls
- Operative care advised



Cavitated Lesions – Don't Seal – Refer for Treatment

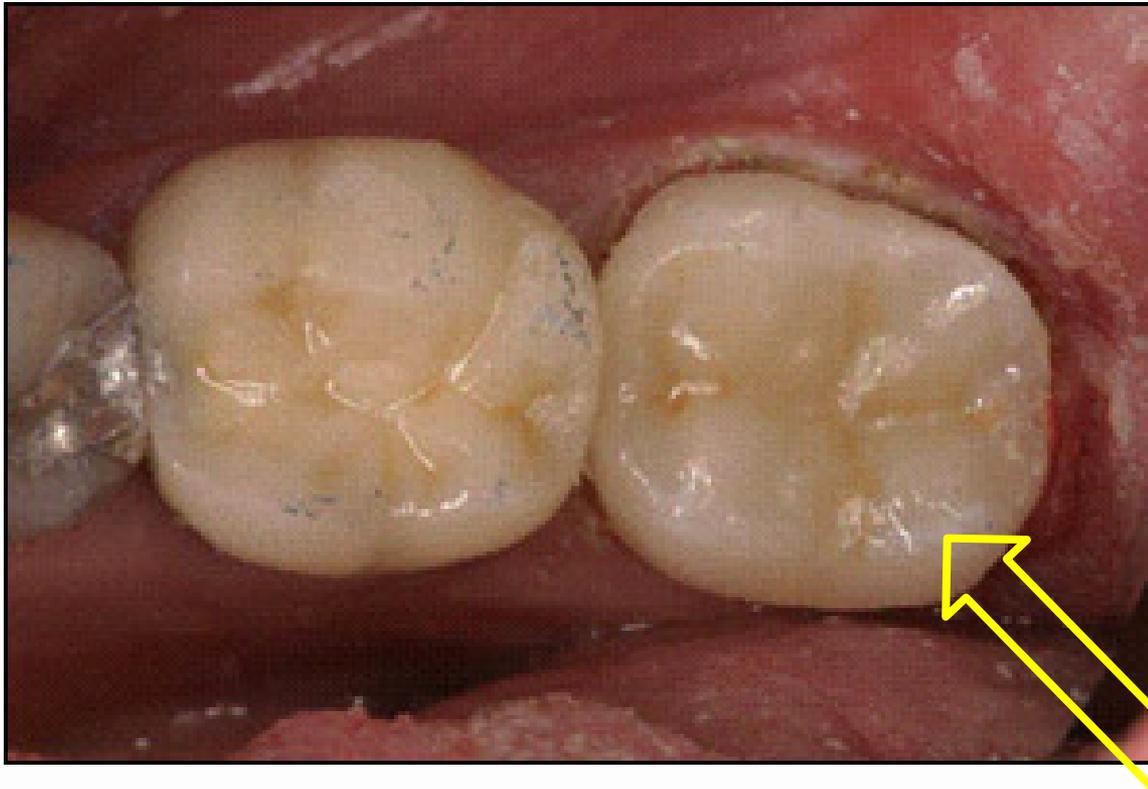


These two molars have cavitated lesions extending beyond the usual limits of the pit or fissure.

To Seal or Not to Seal....

#1 Second Molar

Seal or Not Seal?



#2 Molar

Seal or Not Seal?



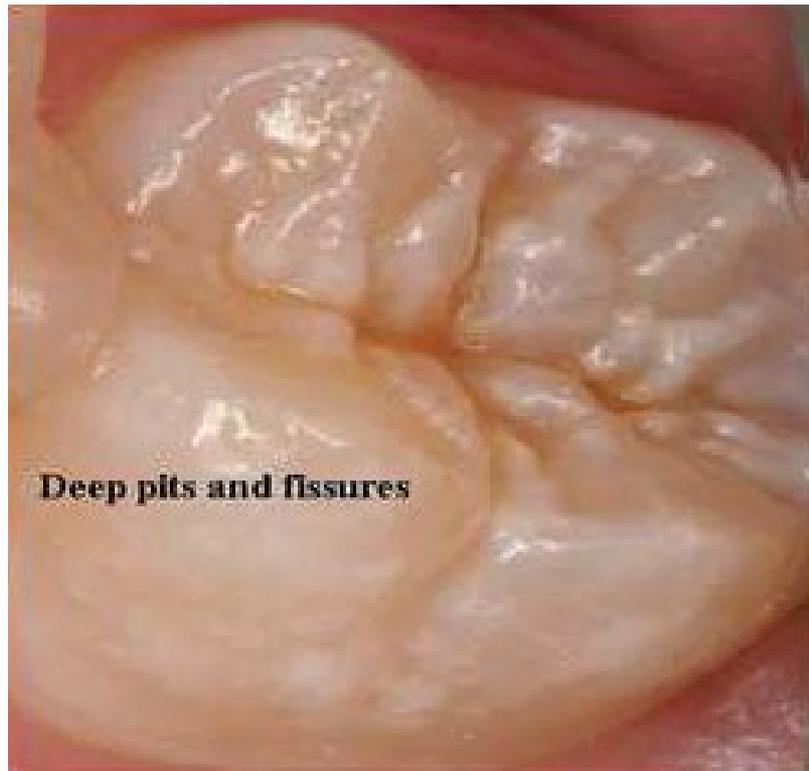
#3 Molar

Seal or Not Seal?



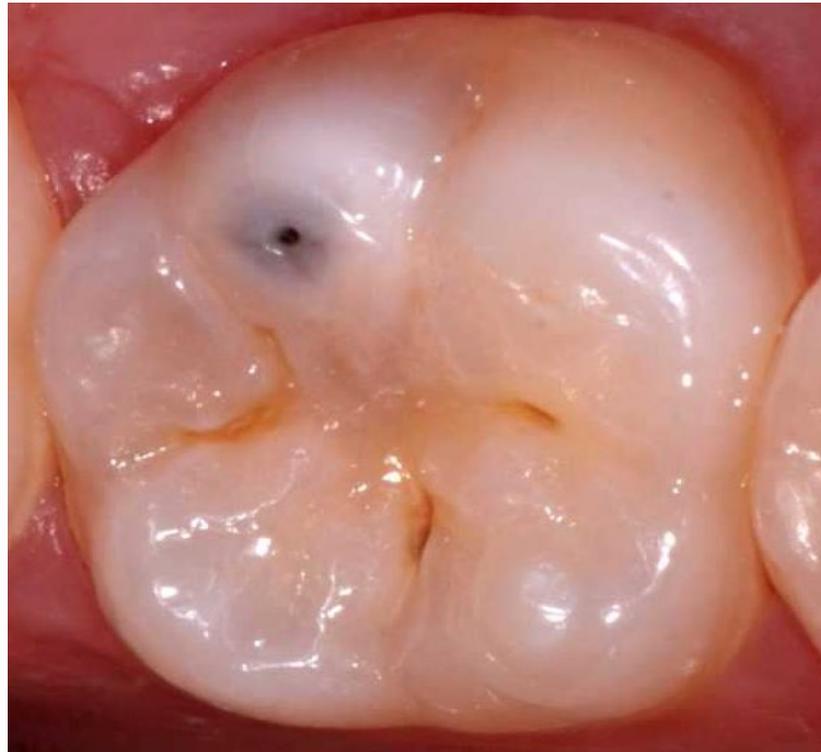
#4 Molar

Seal or Not Seal?



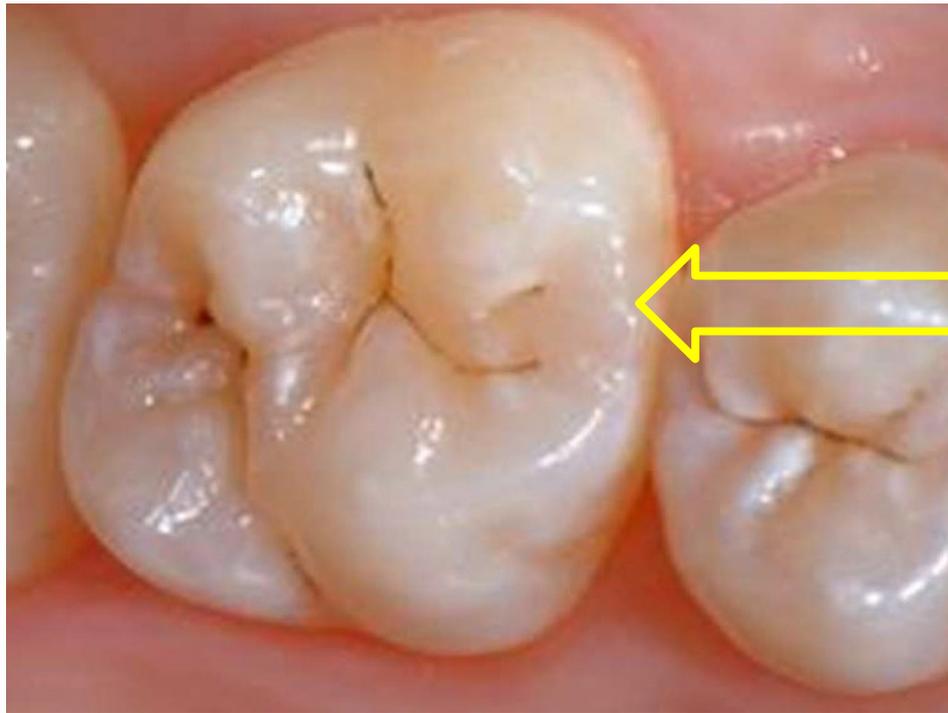
#5 Molar

Seal or Not Seal?



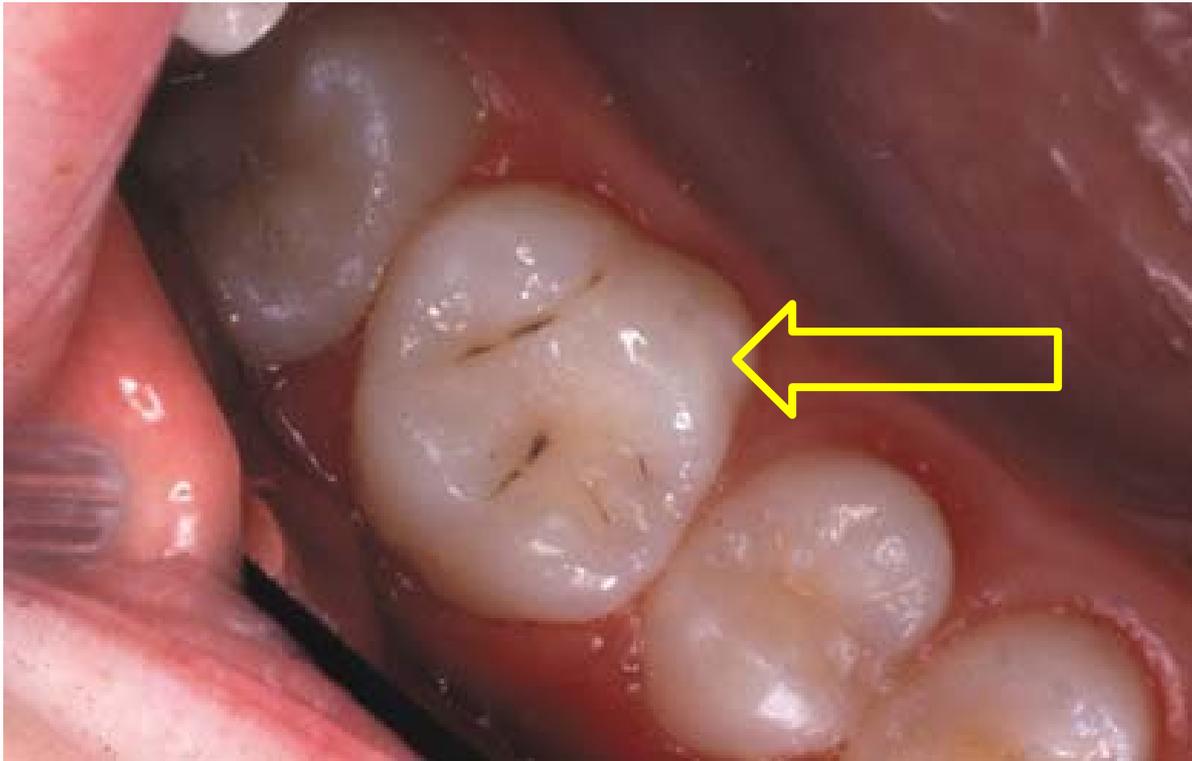
#9 Molar

Seal or Not Seal?



#15 Molar

Seal or Not Seal?



#17 Molar

Seal or Not Seal?



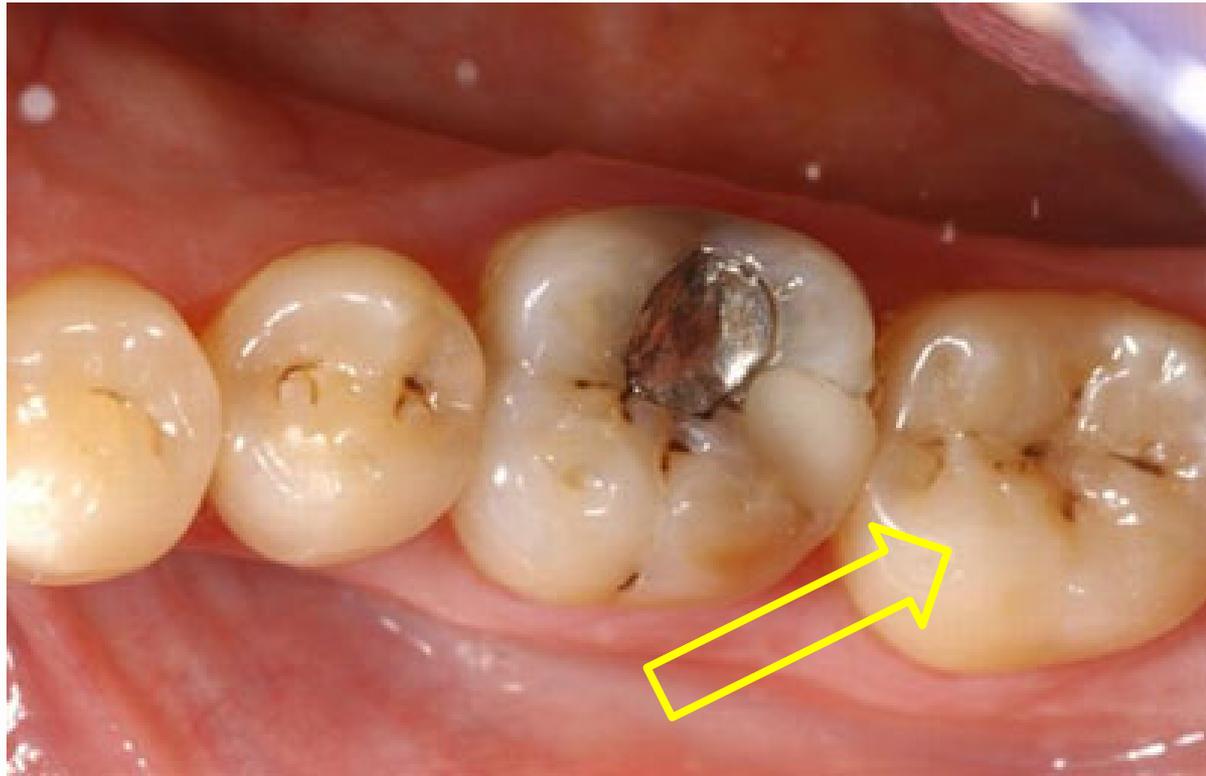
#19 Molar

Seal or Not Seal?



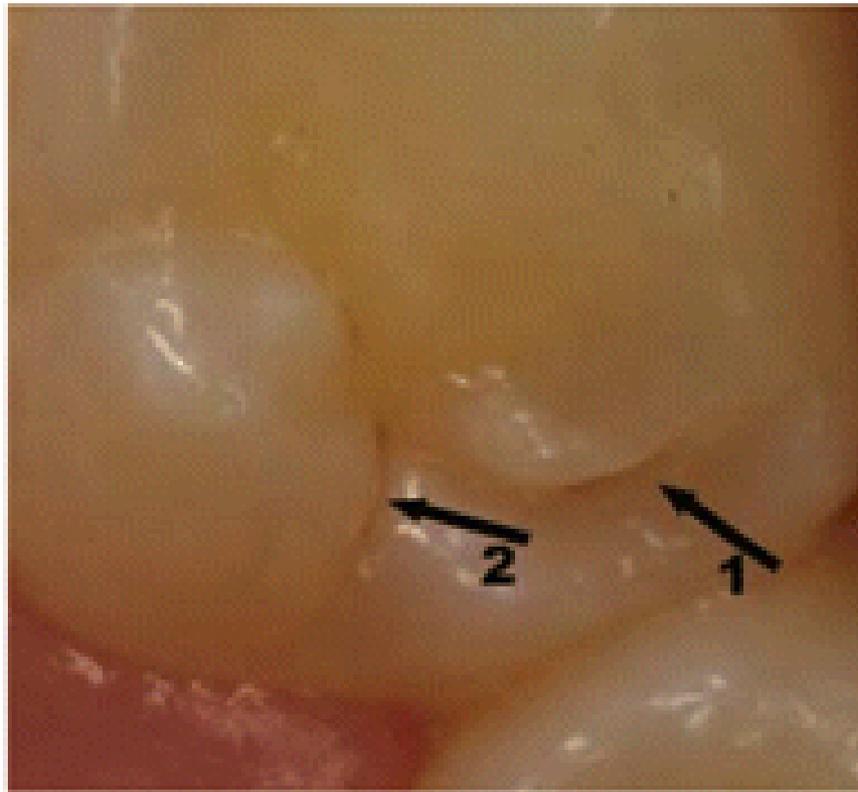
#20 Second Molar

Seal or Not Seal?



#21 Molar

Seal or Not Seal?



Questions?