



**CARIOUS LESIONS :  
INCIPIENT,  
MODERATE,  
SEVERE,  
RECURRENT,  
ARRESTED,  
RAMPANT**

---

Justyna Varela

Dental caries, or tooth decay, is the localized destruction of teeth by microorganisms. Normal mineralized tooth structure (enamel, dentin, cementum) is altered and destroyed by dental caries.

- Dental radiographs are useful in the detection of caries.
- Carious lesion appears **radiolucent** (dark or black) on a dental image.
- The appearance of caries on dental image can be classified according to location: interproximal, occlusal, buccal, lingual and root surfaces.
- Recurrent and rampant carries can also be seen radiographically.
- Dental caries can also be classified according to the depth of penetration of the lesion through enamel and dentin as incipient, moderate or severe.

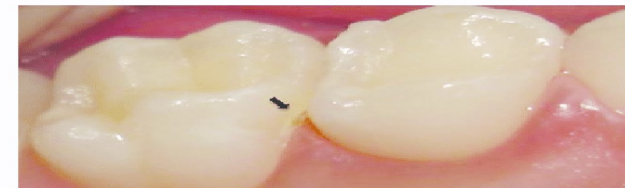
# Incipient lesions– Class I

- extends less than halfway through the thickness of the enamel; seen *only* in enamel

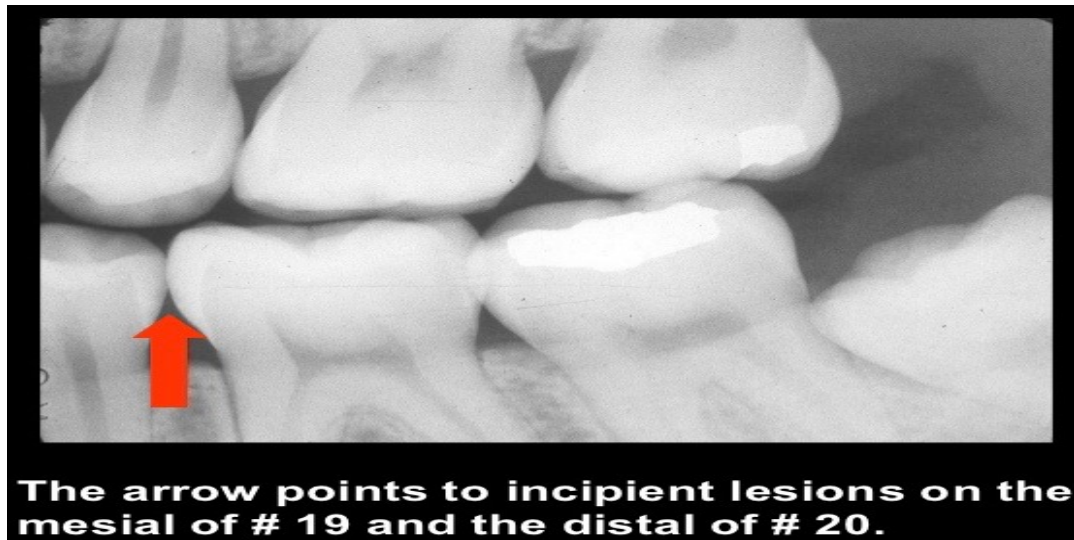
Incipient



<https://images.app.goo.gl/qKG8N93YKPdLm97E8>

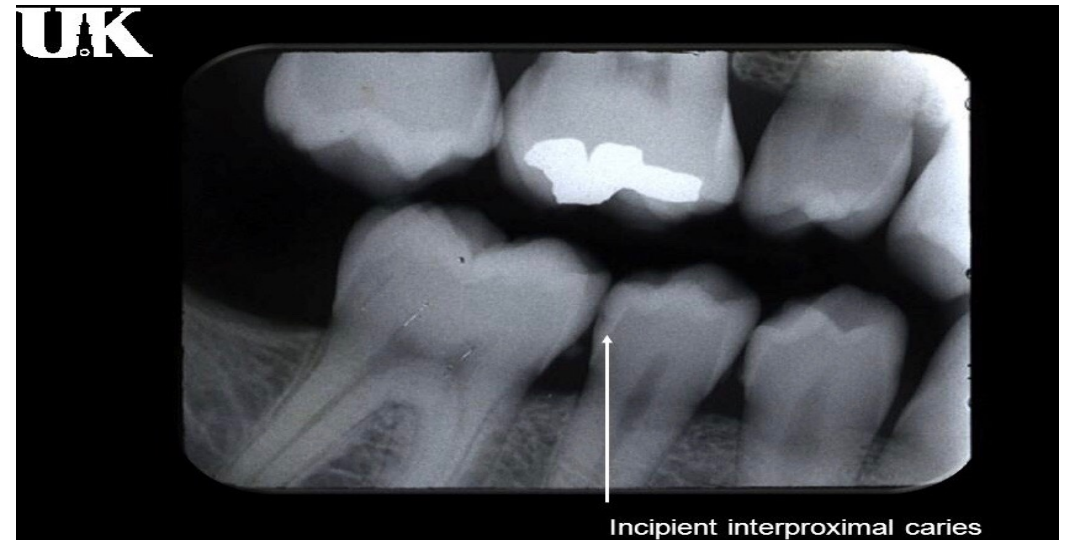


<https://images.app.goo.gl/yMC9fiYH6y26C8Vx7>



The arrow points to incipient lesions on the mesial of # 19 and the distal of # 20.

<https://images.app.goo.gl/LAG2bUeE7Wjbd7Cy6>



Incipient interproximal caries

<https://images.app.goo.gl/n1tf2UX7Yw69Wvq96>

# Moderate lesions- Class II

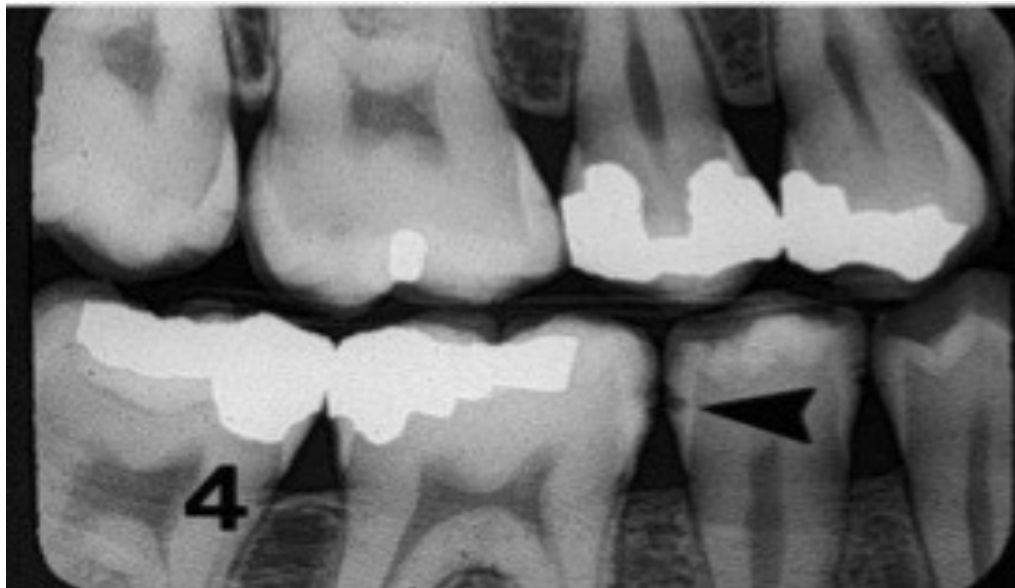
- extends into dentin (moderate demineralization); radiolucency extends into the middle one-third of the dentin



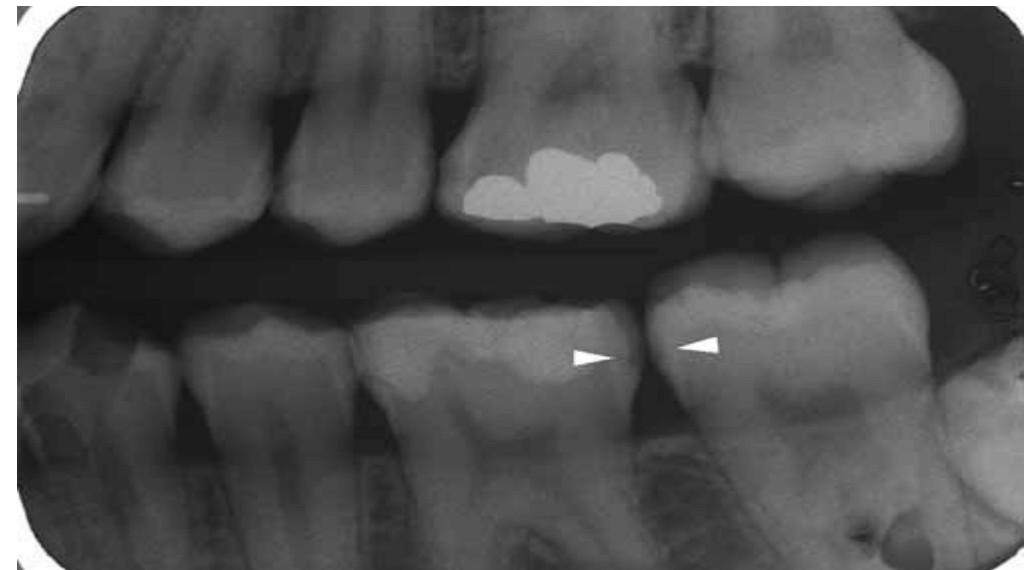
<https://images.app.goo.gl/GqWhwkhd5bk8WwD38>



<https://images.app.goo.gl/65xwcRYPw4nnddPR8>



<https://images.app.goo.gl/RF8JmZgos4QFe29FA>



<https://images.app.goo.gl/bU79S1Acht5enRaB7>



# Severe lesions- Class IV

- involves *both* enamel and dentin; radiolucency extends into the inner one-third of the dentin



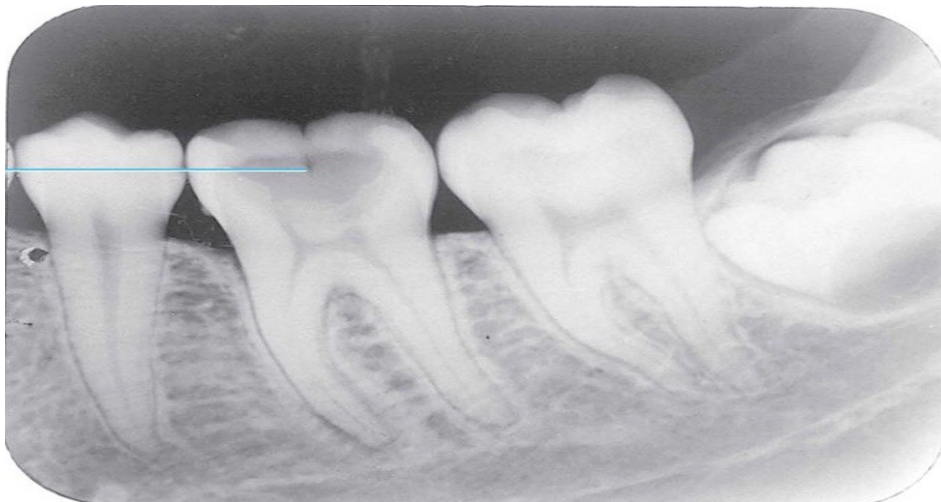
<https://images.app.goo.gl/oJQ1k5AB456WJ92U8>



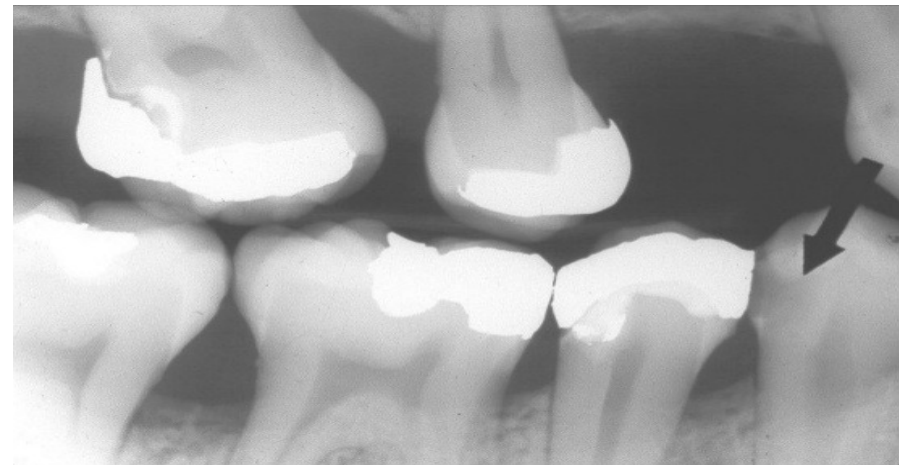
<https://images.app.goo.gl/FxaL9TgZyDRiPE7D9>



<https://images.app.goo.gl/jLYvHWkNK44htCUy8>



<https://images.app.goo.gl/MQX7NuCH3YzobxYHA>



<https://images.app.goo.gl/YfpMT1XrZS3uDUKH6>

# Severe lesions- continued



<https://images.app.goo.gl/iGyiwQJH45QCaSQo8>



<https://images.app.goo.gl/J5WDAaoWZUJWkkiDA>



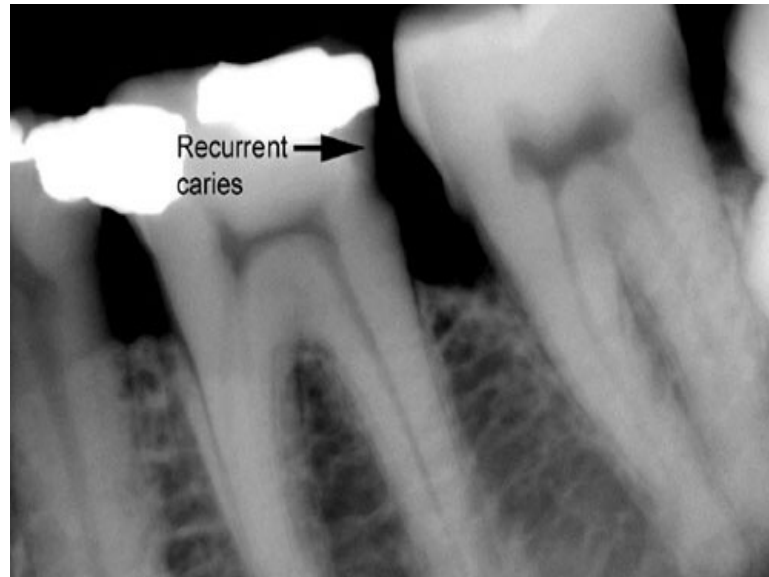
<https://images.app.goo.gl/BqHGh5w3wRhdzWaVA>

# Recurrent lesions

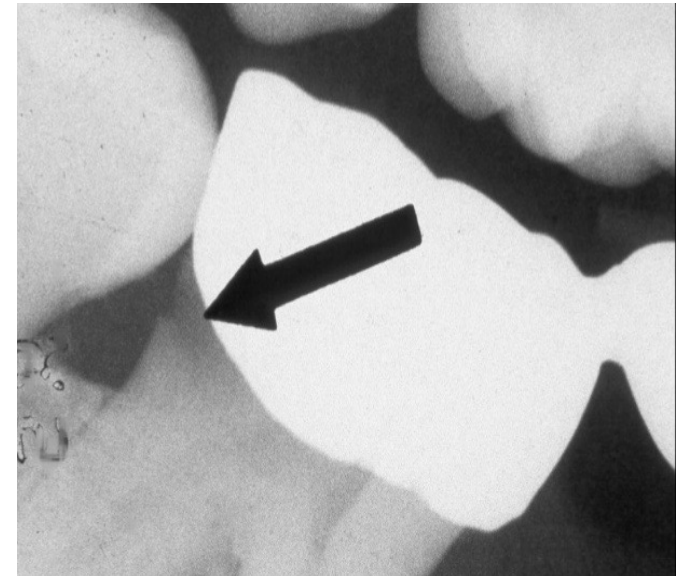
- also known as secondary lesions, occurs adjacent to a preexisting restoration; on a dental image, recurrent caries appears as a radiolucent area just beneath a restoration



<https://images.app.goo.gl/PgoBrPiufFeHFDKa9>

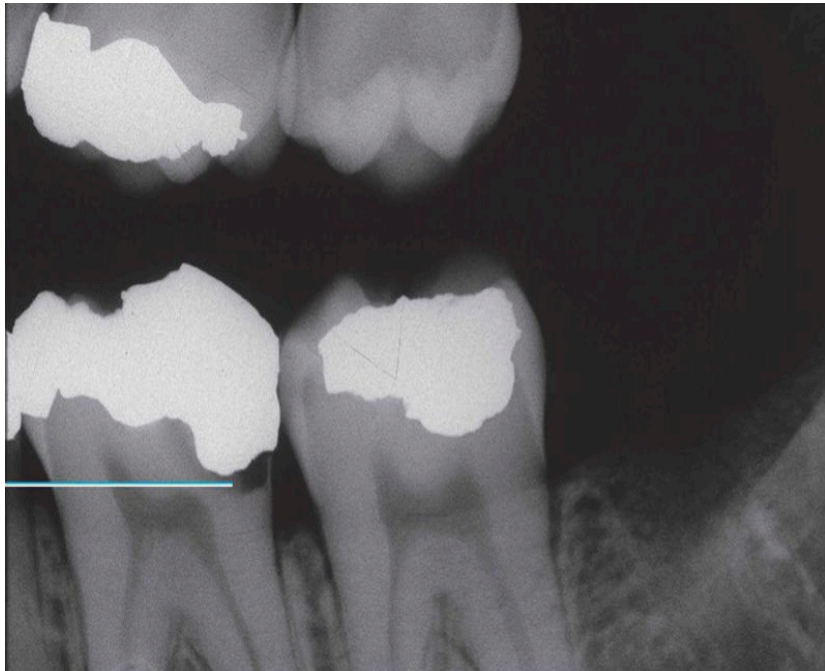


<https://images.app.goo.gl/AkbFfUrFTvB51ygs7>



<https://images.app.goo.gl/xWCwEUxnYh7JNJim6>

# Recurrent lesions continued



<https://images.app.goo.gl/EGk5XC3uWBbPGn9x5>



<https://images.app.goo.gl/TLRkyGwm4eYDWSpH9>



<https://images.app.goo.gl/hUFKMe5vQ4y2wyf38>

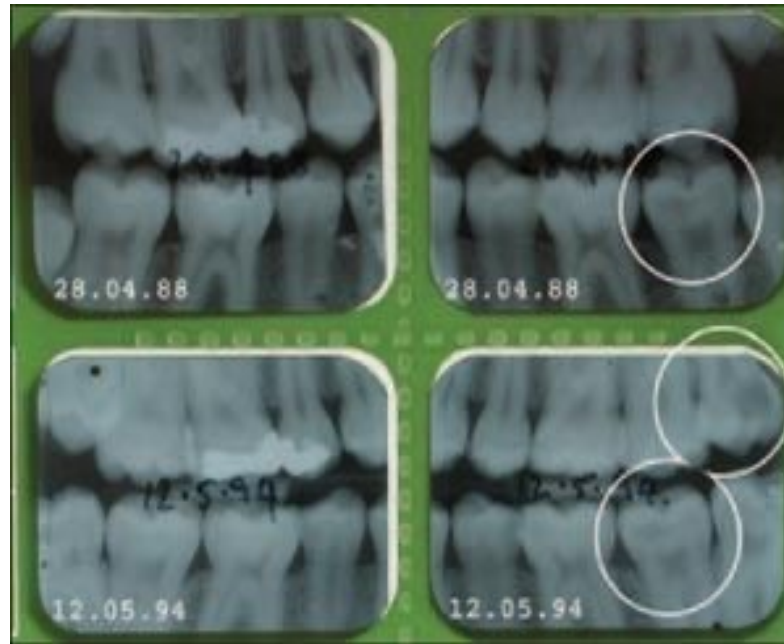


# Arrested lesions

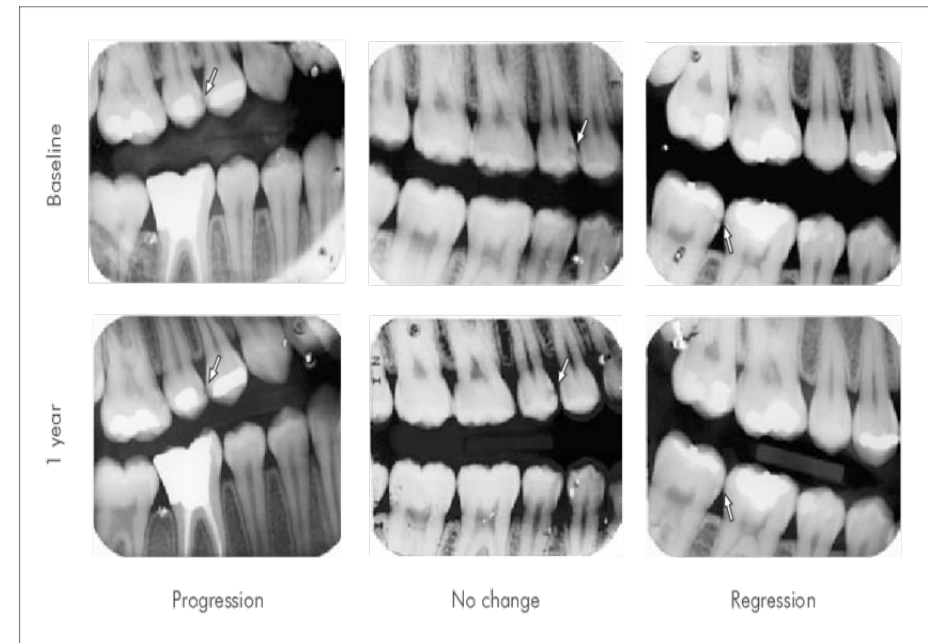
- lesions which became stationary or static, and does not show tendency for further progression
- arrested or remineralized lesions can be seen clinically as smooth, hard to touch, usually discolored (brown or black) spots



<https://images.app.goo.gl/T3aDTe6KJUPMyicE9>



<https://images.app.goo.gl/ubhdTCYib8NTbhRL9>



<https://images.app.goo.gl/X4zsmWQLskztZ2Jg8>

# Rampant lesions

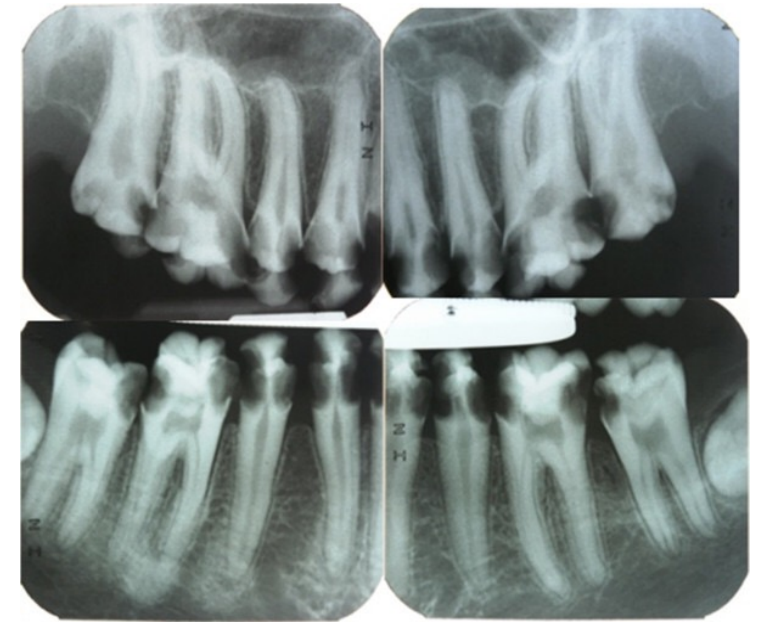
-advanced and severe caries that affects numerous teeth



<https://images.app.goo.gl/yHddeSsaq1r4CAYP9>



<https://images.app.goo.gl/Hc2EttXGqHq7AXoM9>

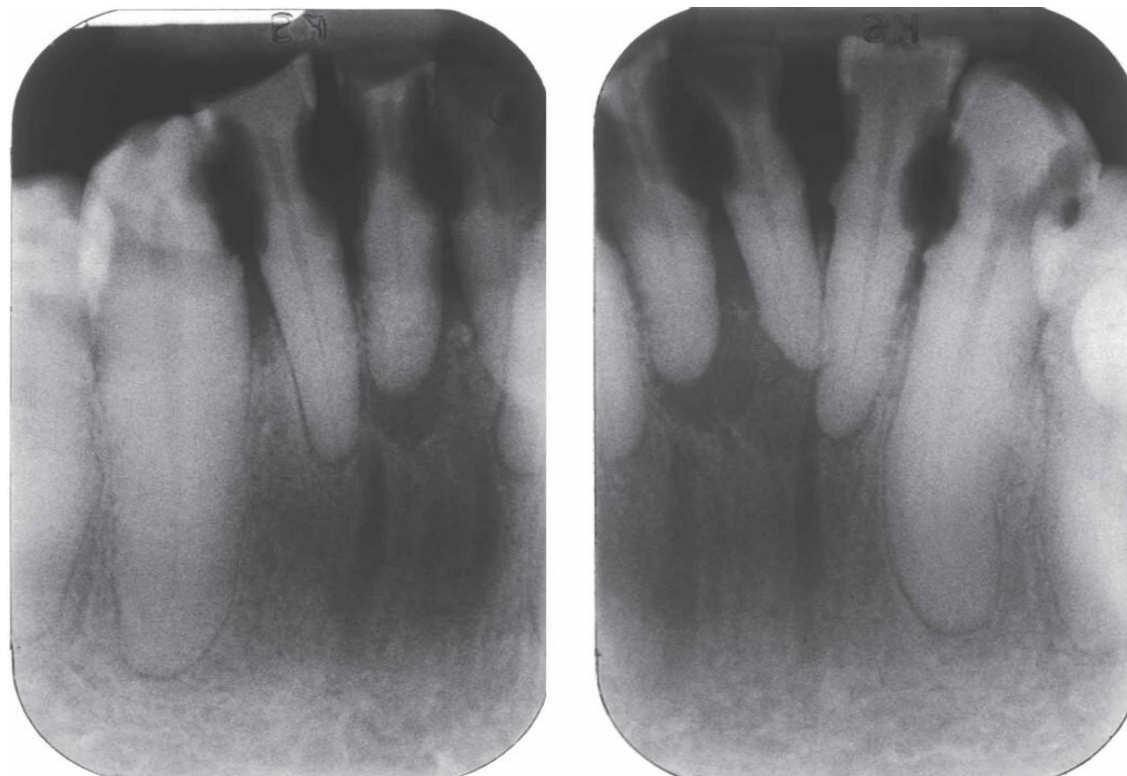


<https://images.app.goo.gl/y4ABK77UdiMSKyAE7>

# Rampant lesions continued



<https://images.app.goo.gl/FiRuafKAYqk4P8Zt5>



<https://images.app.goo.gl/d5gApVJxyoehkuzi8>



Thank you



# Sources:

- 1. Iannuci, Joen M., Howerton, Laura Jansen. Dental Radiography: Principles and Techniques. Elsevier, Inc. 2017
- 2. *Douglas A. Young, DDS, EdD, MBA, MS; Brian B. Noyj, DDS* et al. “The American Dental Association Caries Classification System for Clinical Practice.” 2015. [https://jada.ada.org/article/S0002-8177\(14\)00029-4/pdf](https://jada.ada.org/article/S0002-8177(14)00029-4/pdf). Accessed 24 March 2020
- 3. Slide player. <https://slideplayer.com>. Accessed 24 March 2020.
- Images:
- <https://slideplayer.com/slide/3898151/>
- <https://www.slideshare.net/PARTHMPMT/radiographiccariesdiagnosis>
- <https://brushflossandmouthwash.com/do-i-have-cavities/>
- [https://www.researchgate.net/figure/Posterior-bitewing-radiograph-demonstrating-moderate-interproximal-caries-arrowheads\\_fig10\\_7054140](https://www.researchgate.net/figure/Posterior-bitewing-radiograph-demonstrating-moderate-interproximal-caries-arrowheads_fig10_7054140)
- <https://www.dentistryiq.com/dental-hygiene/student-hygiene/article/16352162/mustknow-classifications-of-dental-caries-for-the-national-dental-hygiene-boards>
- <https://quizlet.com/166381577/qc-ch-33-interpretation-of-dental-caries-flash-cards/>
- <https://www.myeurekadentist.com/before-after/case-study-tooth-decay/>
- <https://www.kidsnewtocanada.ca/screening/oral-health>
- <https://www.augusta.edu/dentalmedicine/axium/documents/diag-recur-caries.pdf>
- <https://www.dentalcare.com/en-us/professional-education/ce-courses/ce334/carious-lesions-occur-in-four-general-areas-of-the-tooth>
- <https://www.ozident.com/failure-amalgam-restoration-recurrent-caries/>
- <https://pdfs.semanticscholar.org/81c7/c03c9f70e631aa72fd99bffcca21f9a5cddc.pdf>
- <https://www.nature.com/articles/4814002>