

# Fourth-Year Clinical Scenarios at Harvard School of Dental Medicine

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The following scenarios were developed as part of an eight-week, fourth-year predoctoral course at Harvard School of Dental Medicine (HSDM) named “Advanced Dentistry Rotation-Core,” taught by Dr. Franson Tom. As the course title implies, students actively participated in weekly seminars on advanced dentistry topics. The seminars required prior preparation of student OSCEs (Objective Structured Clinical Examinations), so that discussion could be student-driven about either first-hand clinical experiences or equivalent published situations.

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## Advanced Endodontics

A thirty-four-year-old female presented to the HSDM teaching practice for comprehensive care, which included a needed root canal therapy on tooth #11 due to carious pulp exposure. The root canal therapy resulted in successful canal debridement and gutta percha fill, without complications. Following endodontics, the treatment plan called for a gold cast post and core, as well as a porcelain-fused-to-metal crown, on tooth #11. On a subsequent visit, a post space was prepared using Gates-Glidden and post drills as appropriate.



1. What is wrong with the post space prepared above? What would be a good way to diagnose this defect in the post space?

2. What are two ways to correct the problem pictured above?
3. Name one disadvantage of each of the solutions you posed for question #2?

Answers:

1. Post space extends beyond a curve in the root canal. Insert wide post into canal and take x-ray.



2. a) Attempt to straighten canal with a Gates-Glidden or post drill to remove bend in canal.  
b) Back-fill canal with gutta percha past the bend.



2. a) Risk of perforation.  
b) Difficult to manipulate gutta percha and ZOE sealer in fine and/or curved canals.

Reference for question #3:

Dr. Jarshen Lin, Director of Harvard Predoctoral Endodontics (self-prepared in-class handouts).

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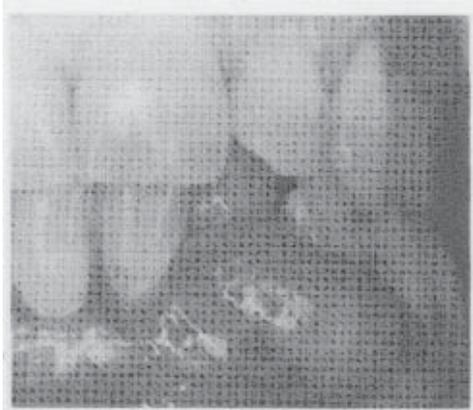
## Advanced Periodontology

A twenty-six-year-old man presented on follow-up with an unchanged lesion pictured below. After biopsy and sending the tissue off for pathological diagnosis, you learn that the lesion is a papilloma of the gingiva.



1. What would the histology look like?

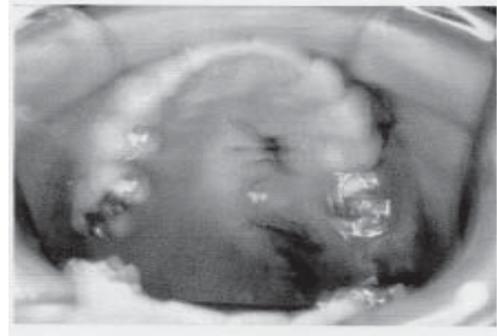
Another patient presented with a similar lesion, pictured below. The histology of this lesion, however, is notable for numerous foci of multi-nuclear giant cells and hemosiderin particles in the connective tissue stroma. Areas of chronic inflammation are scattered throughout the lesion, with an acute inflammatory involvement of the surface.



2. Based on the histological description, what is this lesion most likely to be?

A forty-six-year-old female presented to the HSDM teaching practice for comprehensive care, which included a free gingival graft from the hard palate to the buccal gingiva superior to teeth #5, 6,

and 7. The picture below was taken one week post-op of the free gingival graft.



3. What is wrong with the graft site?

Answers:

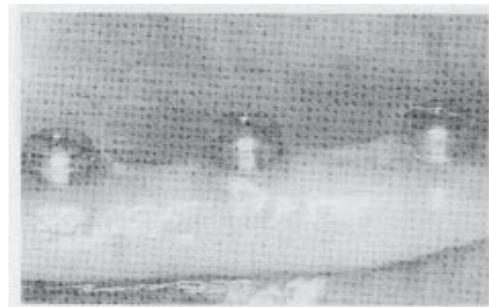
1. Central core of connective tissue with marked proliferation and hyperkeratosis of the epithelium.
2. Giant cell granuloma.
3. Graft tissue taken from roof of mouth, instead of from hard palate tissue just lingual to the teeth. Graft site required closure with six silk sutures to achieve hemostasis, which should not be needed for a properly harvested free gingival graft site.

Reference for questions #1 and 2: Carranza FA, Newman MG. Clinical periodontology, 8<sup>th</sup> ed. Philadelphia: W.B. Saunders Co., 1996.

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## Implants

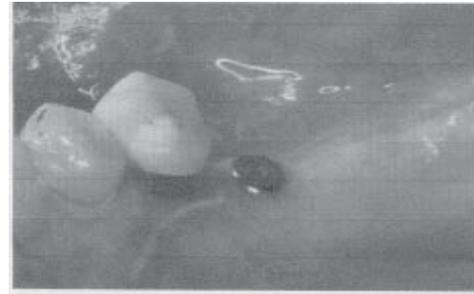
The clinical photographs below were taken of implants placed in beagle dogs, six months after abutment placement. The x-rays below them are of the same animals, respectively.



Left picture



**Right picture**

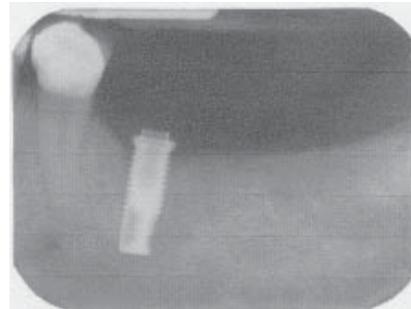


**Left picture**

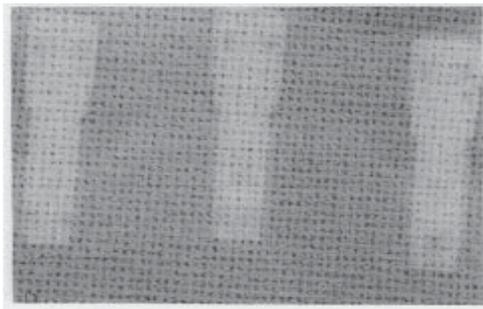
1. Comment on the healing in the above left picture. And in the right picture.



**Left picture**



**Right picture**



**Right picture**

2. What is striking about the x-ray at right?

A sixty-nine-year-old male presented to the HSDM teaching practice for comprehensive care, which included a posterior implant placed by a periodontal resident. The clinical picture, taken five months post-op, and x-ray, taken nine months post-op, below are of this patient.

3. Based on your assessment of the beagle dogs presented above, comment on the healing of the implant.

Answers:

1. Left: Healing appears WNL.  
Right: Healing shows signs of peri-implantitis.
2. Vertical defects of bone loss around the left and right implants on the right x-ray.
3. Healing appears WNL on clinical photograph. No signs of inflammatory changes. On the x-ray, however, vertical defects of bone loss are evident around this failing implant.

Reference for questions #1 and 2: Carranza FA, Newman MG. Clinical periodontology, 8<sup>th</sup> ed. Philadelphia: W.B. Saunders Co., 1996.