Teachers as Learners & Learners as Teachers

Exercise in Overcoming Barriers to Implementing Interprofessional Collaboration in the Long Term Management of Patients with Diabetes and Oral Diseases such as Periodontal Disease

Longitudinal data from numerous studies suggest that people with diabetes are at significantly greater risk for periodontal disease. In addition, evidence suggests that untreated periodontal disease may increase the risk of worsening glycemic control over time.[1,2,3,4] Although inconclusive, some evidence suggests that treatment of periodontal disease may improve glycemic control. Experts have even proposed that evidence of this bi-directional relationship is so strong that periodontal disease should be considered the sixth complication of diabetes.[5,6,7,8] Given the epidemic magnitude of diabetes, and the high incidence of periodontal disease in this population, this bi-directional relationship must be recognized in the long term management of diabetes. This provides a compelling rationale for careful monitoring of the periodontal risk factors of patients with diabetes, and active participation of dentists and dental hygienists on the diabetes healthcare (DHC) team.

Given the growing body of evidence of a periodontal-systemic links, dentists and dental hygienists will increasingly be called on to screen, appropriately refer, counsel, and monitor patients at risk for co-morbid diseases and conditions associated with infections and other pathologies of the oral cavity. The bi-directional relationship between diabetes and periodontal disease is one area of research where this level of clinical application could make a profound difference. Patients with diabetes are one of the high risk populations that could substantially benefit from non-dental HCPs and dentists and dental hygienists collaborating across traditional boundaries of professional care. Traditionally, dentists and dental hygienists have not been a part of the DHC team. Further, for most oral HCPs, the task of building collaboration with physicians, nurses, diabetes educators and other practitioners involved in diabetes management can be daunting. This is especially so if nondental HCPs are unaware of the significance of periodontal disease in diabetes management.

The following case study presents a 48 year man, named Mike. At the end of the brief case description, learners will be challenged to consider how to care for patients like Mike, and how to overcome the barriers associated with implementing interprofessional collaboration in the long term management of patients with diabetes and oral diseases such as periodontal disease.

[1] Shultis, et al. 2007
[2] Saremi, et al. 2005
[3] Taylor, et al. 1998
[4] Thorstensson, et al.1996
[5] Lalla, et al. 2007
[6] Campus, et al. 2005
[7] Jones, et a. 2007
[8] Lim, et al. 2007

Case Vignette: Mike

On the dental hygienist's schedule today is Mike, a new patient who has been referred by his physician to the office. The referral of Mike to the dentist was based on the Mike's poorly controlled diabetes, and a soft tissue abscess (periodontal) around the mandibular left posterior teeth. After asking Mike several questions to screen him for periodontal disease, the physician suspected Mike had periodontal disease and initiated the referral to the dentist.

Mike has worked in the metal shop of a local pipe factory for over 20 years and was recently laid off. The company that owns the factory has offered to employees who have lost their jobs, 12 months of health benefits. Mike has a sedentary lifestyle. His only surgery was for a tonsillectomy and adenoidectomy in childhood. At age 36, he was diagnosed with type 2 diabetes.

Mike has a familial history of hypertension, obesity, and complications of diabetes, including myocardial infarction, retinopathy, and foot amputation in first degree relatives. Mike is 6 feet tall (183 Cm). At his last physician's visit he weighed 216 pounds (98 Kg), with a BMI of 29.3, waist circumference measurement of 43 inches (110 Cm), and blood pressure of 138/82 mm Hg. He has a history of gradual weight gain of 30 pounds (14 Kg) over last 10 years; and his HbA1c has gradually increased from 7.8 to 9.5 over the last 5 years. He has reported no hypoglycemic episodes. Mike's adherence to medication regimens is good; however, adherence to his physician's past advice regarding lifestyle modifications has been poor. Mike's history is negative for myocardial infarction, stroke or other macrovascular complications. He has a 25 pack-year smoking history and quit smoking 3 years ago. Mike has no known drug or environmental allergies.

The results of Mike's most recent laboratory tests indicated the following:

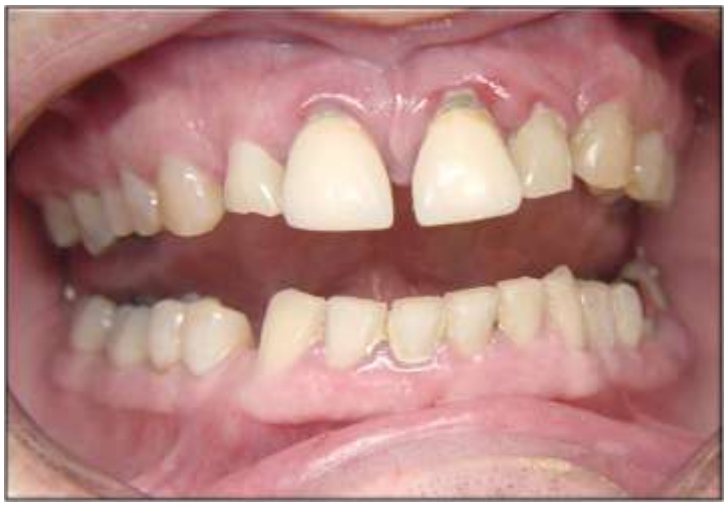
- Fasting Blood Glucose (FBG): 162 mg/dL (9.0 mmol/L)
- HbA1c: 9.5%
- Total Cholesterol: 174 mg/dL (4.5 mmol/L)
- HDL Cholesterol: 39 mg/dL (1.0 mmol/L)
- LDL Cholesterol: 86 mg/dL (2.2 mmol/L)
- Triglycerides: 319 mg/dL (3.6 mmol/L)

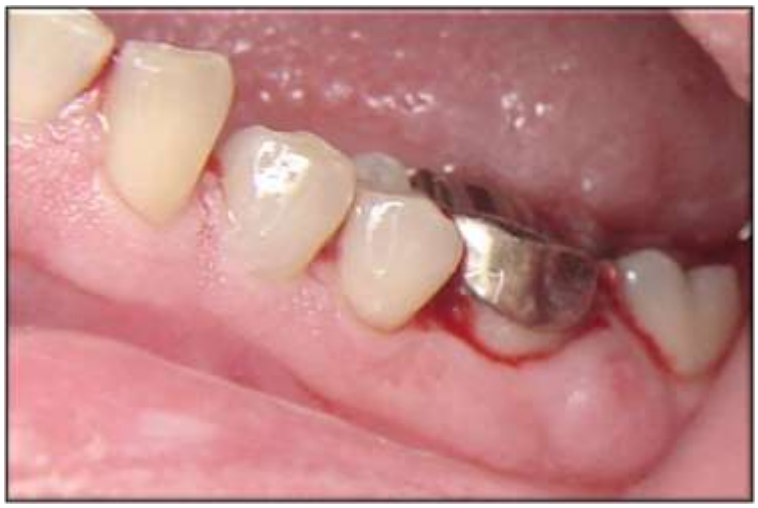
Mike takes the following medications:

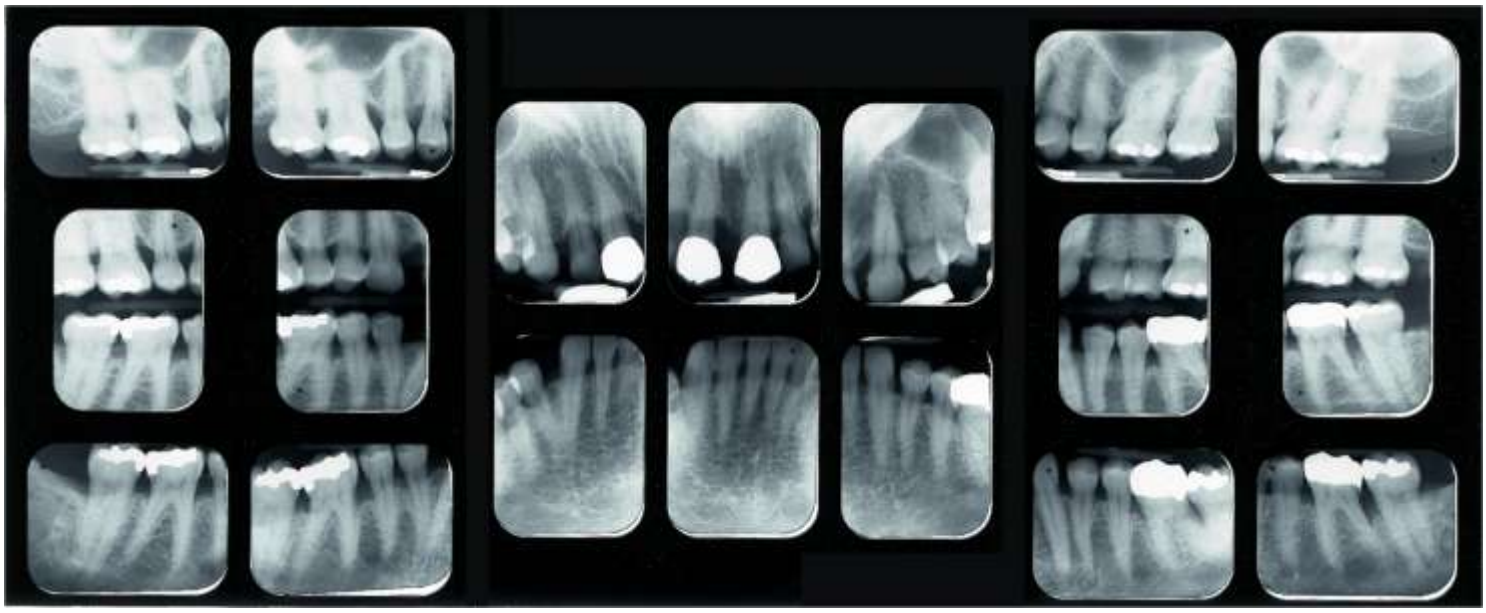
- 50 milligrams of metformin BID
- 10 milligrams of amitriptyline (HS)
- 20 milligrams of simvastatin (HS)
- 5 milligrams of ramipril (OD)
- 81 milligrams of Acetylsalicylic Acid (OD)

The dental hygienist took a full mouth radiograph, and performed a periodontal evaluation. She is concerned with the findings, and is starting to feel a little intimidated about how to accurately respond to the physician's proactive approach to this referral. The dental hygienist has been to a number of continuing education courses on treating patients with diabetes, but neither she nor other clinicians in the practice have instituted clinical

protocols, or done anything different about educating patients with diabetes. Until now, the clinicians in the practice have not been sufficiently motivated to change. With this new patient, Mike, the dental hygienist realizes that the practice must overcome the inertia of current clinical routines. How and where does she start? Mike's clinical records follow below.



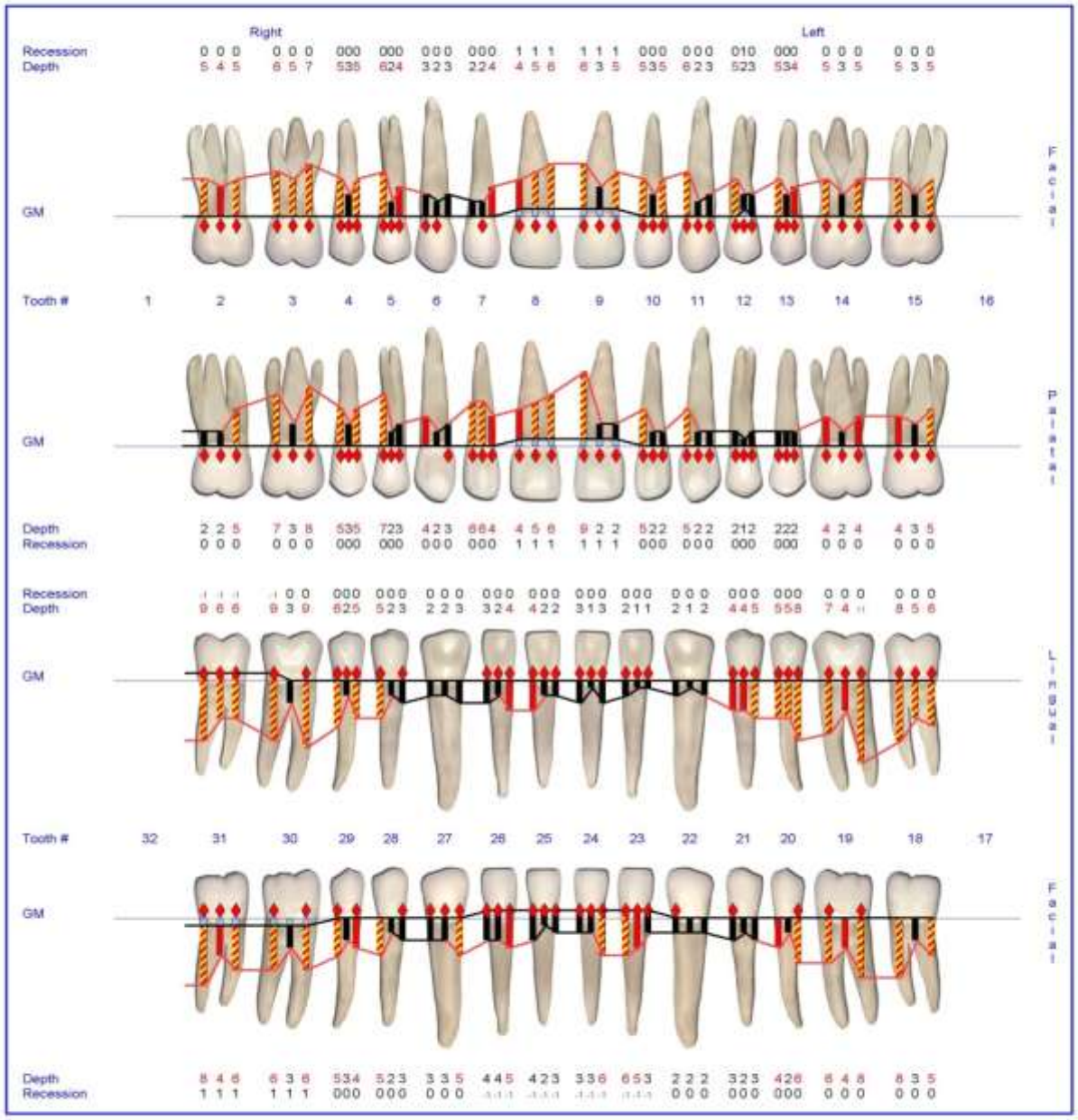




Periodontal Chart

For more info on the Florida Probe System call 1-877-357-7623 or visit us at www.FloridaProbe.com

Chart #:
Name: 13
Examiner: Casey Hein, RDH, MBA
Date: 10-24-02



Diagnosis

- ☐ Healthy
- ☐ Gingivitis
- ☐ Periodontitis
  - ○ Slight
  - ○ Moderate
  - ○ Severe
  - ○ Other

PSR

4	4	3
4	4	4

Legend

Pocket Depth Change

Deeper
- >1mm and <2mm
- >2mm

Improvement
- >1mm and <2mm
- >2mm

Depth Bar Indicators
- Depth >10mm
- Depth >= 5.0mm
- >=4.0mm & <5.0mm
- Depth < 4.0mm
- Recession
- Recession > 10mm
- Minimal Attached Gingiva
- No Attached Gingiva
- Bleeding
- Suppuration
- Bleeding and Suppuration
- Plaque
- Furcation
- I II III Mobility
- Implant
- Crown

Summary

13 has 28 teeth, 91 of 168 sites or 54% of the pocket depths are greater than 4.0 mm

Bleeding: 141 sites (83%) bleeding
Suppuration: 0 sites (0%) suppurating
Recession: 5 teeth had some recession with 0 having recession equal to or greater than 2.0 mm

Plaque Sites

Discussion Questions:

1. Given the records provided in this case study, what is the periodontal diagnosis?

Notes:

2. What aspects of Mike's profile place him at high risk?

Notes:

3. You know that something different than routine care is very important for Mike. Given your concern, what next steps will you take with this patient?

Notes:

4. What are some of the key messages that are so important in educating Mike about periodontal-systemic risk?

Notes:

5. What do you communicate to the referring physician? How would you initiate this communication? What clinical findings and other aspects of Mike's case and dental treatment would be important to discuss?

Notes:

6. What clinical information and treatment outcomes should be shared between the physician's office and the dentist's office to monitor the health status of patients with diabetes, like Mike?

Notes:

7. What are the barriers (see table below) to progressively intervening in cases like Mike, and other patients at risk for adverse pregnancy outcomes in dental practice settings?

Notes:

8. How can the barriers associated with caring for women at risk for pregnancy complications in this dental practice setting, or your current practice setting, be addressed and overcome?

Notes:

Perceived Major Barriers to Barriers to Implementing Interprofessional Collaboration in the Long Term Management of Patients with Diabetes and Periodontal Disease

Fear of upsetting or offending patient	❑ No ❑ Yes
Fear of appearing judgmental of patient	❑ No ❑ Yes
Lack of knowledge, education & training; lack of trained personnel	❑ No ❑ Yes
Lack of patient acceptance of advice from an oral healthcare provider	❑ No ❑ Yes
Patients may believe oral healthcare providers lack credibility in this area	❑ No ❑ Yes
Concern intervention would be perceived as practicing outside the scope of dental/dental hygiene practice	❑ No ❑ Yes
Frustration with potential patient noncompliance	❑ No ❑ Yes
Unclear of what outcomes should be tracked, or how to monitor	❑ No ❑ Yes
Not enough time in daily schedule	❑ No ❑ Yes
Little to no reimbursement for service	❑ No ❑ Yes
Lack of appropriate referral options	❑ No ❑ Yes
Lack of patient educational materials	❑ No ❑ Yes
No clear cost-benefit to practice	❑ No ❑ Yes
Lack of interest in topic	❑ No ❑ Yes
Language barrier	❑ No ❑ Yes
Competing/more compelling considerations in patient care	❑ No ❑ Yes
No coherent effort by schools, professional authorities (i.e., ADA, AMA) to educate and train students or practitioners about this model of care	❑ No ❑ Yes
Lack of endorsement from professional associations or authorities	❑ No ❑ Yes
Unclear how to collaborate/communicate with other disciplines	❑ No ❑ Yes
Not sufficiently motivated to change; too hard to overcome inertia of current practice/routines	❑ No ❑ Yes
Lack of evidence, clear correlation between periodontal-systemic links is lacking	❑ No ❑ Yes
Don't believe that applying evidence will result in better outcomes	❑ No ❑ Yes
No clear guidelines	❑ No ❑ Yes
Do not know how to discuss these issues with patients, or how to start the conversation	❑ No ❑ Yes
Lack of resources	❑ No ❑ Yes
Cultural biases	❑ No ❑ Yes
Fear of upsetting physician community and loosing potential source of referrals	❑ No ❑ Yes
Not sure atherosclerosis will impact dental treatment decisions (treatment plans)	❑ No ❑ Yes
Fear of contradicting advice that physicians may have given to patients	❑ No ❑ Yes
Legal issues associated with failure to follow-up with patients and their physicians	❑ No ❑ Yes
Other	❑ No ❑ Yes
Other	❑ No ❑ Yes
Other	❑ No ❑ Yes