Cindy: A Case Study in Intervention of a Teenage Patient at Risk for Obesity and Periodontal Disease

In 2010, Curran and colleagues published a paper[1] that concluded: 1) models of intervention of obesity within the scope of dental practice must be developed, and 2) barriers to integrating these models of care might be reduced if oral healthcare providers (HCPs) were educated to counsel patients about obesity.

At this time, no one has proposed how this can be done. It seems obvious that oral HCPs need to collaborate with non-dental practitioners who see overweight and obese people at the point-of-care. We must be jointly involved in building a novel model of care to participate in obesity prevention and intervention in dental practice settings.

The following case study presents an adolescent named Cindy. Unfortunately, cases like Cindy are too common today, and with the projected trends in increased obesity in childhood and adolescence, we can expect to see more patients like Cindy. At the end of the brief case description, learners will be challenged to consider how to care for patients like Cindy, and how to overcome the barriers associated with intervention of obesity in dental practice settings. Please note: the table at the end of the case study may help identify perceived barriers to offering obesity-related interventions in dental practice.

Case Scenario

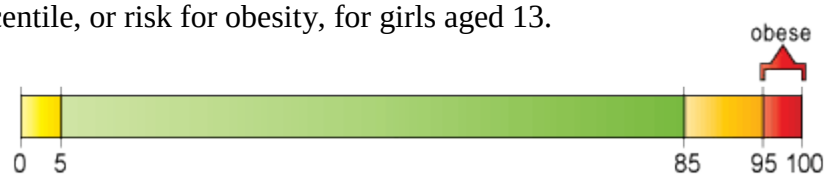
For the past 5 years you have been working in a general dental practice (with multiple clinicians) that is established in a middle class, suburban community. The practice is well respected with a patient base comprised of many families with children and adolescents. Recently you have learned more about how overweight and obesity may increase the risk for periodontal disease, especially in younger patients.

On today's schedule is Cindy, a 13 year old patient, who has returned to the office for a 6 month check-up and prophylaxis. Cindy is the oldest of 4 children in a family that has been in the practice for many years. Cindy's first check-up, at age 3, was in this practice, and since this time, she has been seen for minor restorative treatment, and routine check-ups and prophylaxis, usually every 6 months. About 9 months ago, she was referred to an orthodontist. This specialist receives all the orthodontic referrals from the practice. Cindy is still

[1] Curran, et al. 2010

in the care of the pediatrician who has treated her since she was an infant. The pediatrician is part of a large group pediatric practice which has a significant number of mutual patients.

Cindy is 5 feet tall and weighs 136 pounds. Based on her height and weight, her BMI is 26.6, placing her BMI-for-age at the 95th percentile, or risk for obesity, for girls aged 13.



Cindy's only physical activity consists of 3 mandatory classes of physical education each week in school. After you asked her about smoking, Cindy admitted that she recently started to experiment with cigarettes. Cindy has a history of cardiovascular disease in first degree relatives, and her mother is overweight. Her diet is high in carbohydrates, and she eats convenience foods about twice a week.

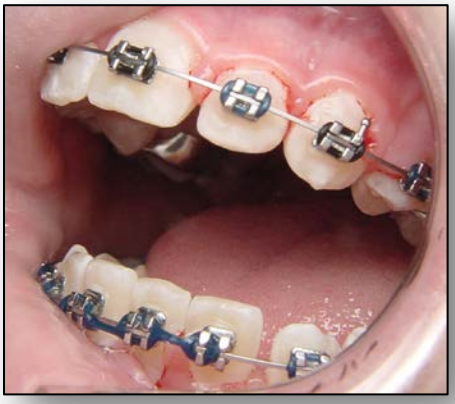
Progress notes from previous visits over the last several years indicate that Cindy and her mother were counseled on how to improve oral hygiene, but adherence to these recommendations has been poor. Cindy's father has been treated for periodontal disease and is currently in periodontal maintenance. On this visit, Cindy presented with gingivitis.

Recently you attended a continuing education course on the relationship between obesity and periodontal diseases. One of the things that you learned was that obesity in adolescence increases the risk for periodontal disease.[2] You also heard that obesity in adolescence is an important predictor of both coronary heart disease and stroke (independent of smoking, hypertension and early cardiovascular mortality in parents)[3] and that BMI in adolescence is predictive of adult mortality.[4] You know that the combination of heavy smoking and obesity is associated with a large excess health risk.[5]

Her mother is sitting in the reception area with Cindy's siblings who are also scheduled for prophylaxis. You have a very tight schedule this afternoon with only 30 minutes allocated for each child, and you are already running behind. Cindy's family has dental benefits, but benefits are limited to coverage for basic dental procedures.

Although you are motivated to address Cindy's needs and have the best intentions, the practice is very traditional and past attempts to integrate new models of care or treatment modalities, have been ignored. Given your knowledge about the relationship between obesity and oral health, and Cindy's risk profile, you are convinced that something different than routine care is important. The photographs below were taken at Cindy's appointment.

[2] Al-Zahrani, et al. 2003
[3] Falkstedt, et al. 2007
[4] Engeland, et al. 2003
[5] Neovius M, et al. 2009



Discussion Questions:

1. Given the traditional practice philosophy and other limitations, what treatment would you probably render in this case?

2. Assuming you could abandon office protocols and disregard limitations of traditional dental practice, what would be the best care you could provide for Cindy?

3. What are the barriers to offering obesity-related interventions in cases like Cindy? (See Table)

4. How can the barriers associated with intervention of obesity in this dental practice setting, or your current practice setting, be addressed and overcome?

5. What types of intra- and interprofessional collaborations (e.g., collaboration with dental specialists, physicians, dieticians, or allied healthcare providers) would be beneficial to participate in obesity intervention?

6. How can oral healthcare providers distinguish themselves as professionals in obesity intervention?

Perceived Barriers to Offering Obesity-Related Interventions in Dental Practice[1]

Fear of offending parent or patient	❑ No ❑ Yes
Fear of appearing judgmental of parent or patient	❑ No ❑ Yes
Lack of knowledge about obesity; lack of trained personnel	❑ No ❑ Yes
Lack of patient acceptance of weight-loss advice from a dentist	❑ No ❑ Yes
Lack of training in weight-loss counseling	❑ No ❑ Yes
Could be seen by state dental board as practicing medicine	❑ 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
Lack of interest in topic	❑ No ❑ Yes
Language barrier	❑ No ❑ Yes
No coherent effort by schools and medical societies	❑ No ❑ Yes
No correlation between caries and obesity	❑ No ❑ Yes
No clear guidelines	❑ No ❑ Yes
Do not know how to start the conversation	❑ No ❑ Yes
Cultural biases toward overweight	❑ No ❑ Yes
Fear of upsetting pediatricians, large source of referrals	❑ No ❑ Yes
Being overweight myself and therefore not being credible	❑ No ❑ Yes
Fear of contradicting advice that pediatricians may have given to parents	❑ No ❑ Yes
Legal issues associated with a failure to achieve weight-loss results	❑ No ❑ Yes