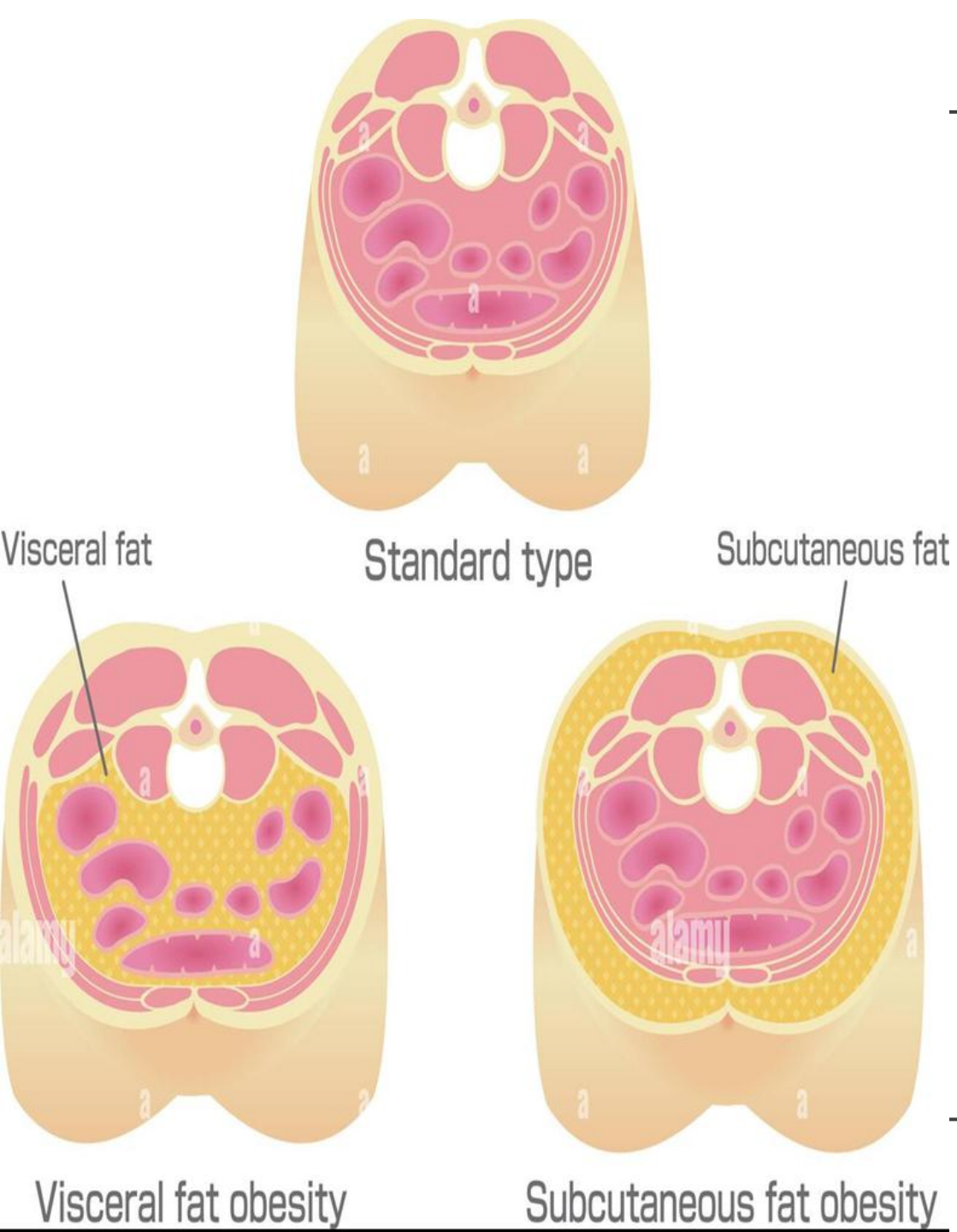


Dr.Rafida Al-Amiri

# Oral Health After Bariatric Surgery





## • Introduction

Obesity is characterized by the abnormal and excessive accumulation of fat in the human body, often determined by a Body Mass Index (BMI) of 30.0 or higher.

This condition can lead to significant health risks and is associated with increased mortality, morbidity, and hospital expenses.

Bariatric surgery (BS), also known as weight loss surgery, encompasses various procedures, including sleeve gastrectomy, gastric banding, and gastric bypass surgery.

These interventions are considered effective for managing obesity and promoting weight loss

## BARIATRIC SURGERY TYPES



**1** ADJUSTABLE GASTRIC BAND

**3** MINI-GASTRIC BYPASS

**2** GASTRIC SLEEVE

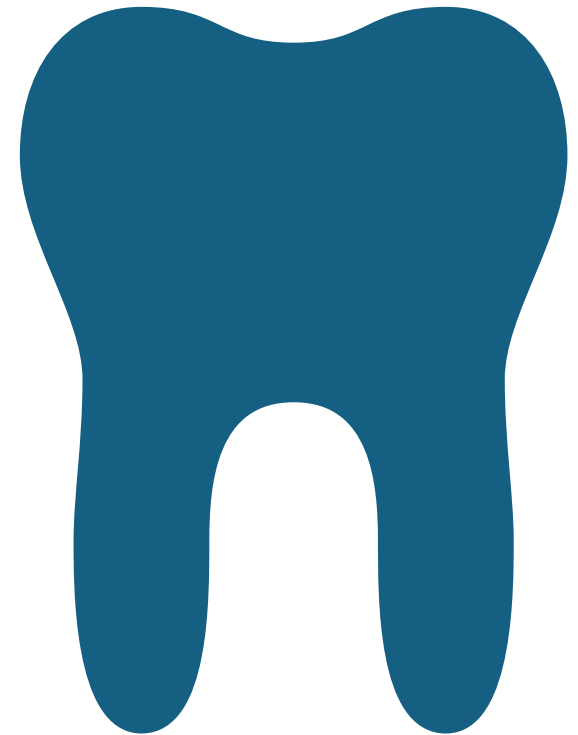
**4** ROUX-EN-Y GASTRIC BYPASS



- Following bariatric surgery, considerable weight loss, recovery from type 2 diabetes mellitus, reduction of cardiovascular events, and other health improvements are expected.
- Moreover, improvements in psychological health may also occur after weight loss following bariatric surgery.

- **The impact of surgical intervention on oral health:**

- The surgical intervention might cause a substantial negative impact on oral health.
- It is recognized that patients referred for bariatric surgery have impaired oral health already before surgery, presumably because of high intake of sucrose and acidic beverages, resulting in increased risk of caries and dental erosion.



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**The impact  
surgical  
intervention on  
oral health:**



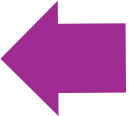
After surgery, the patient is advised to eat several small meals daily and to sip fluids throughout the day .



Frequent and prolonged mealtimes have an additional negative impact on oral health, increasing the risk of caries .



Previous studies have shown an increase in gastroesophageal reflux disease after SG.



In addition, gastroesophageal reflux disease is considered a risk factor for dental erosion and hypersensitive teeth .

**Objective oral health variables were categorized into:**

**Clinical, Biologic and Radiographic**

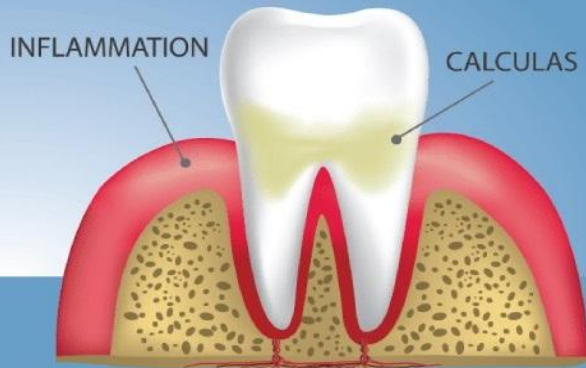
The most common clinical periodontal variables were **probing pocket depth , bleeding on probing ,clinical attachment level ,dental plaque and gingival bleeding .**

Other periodontal parameters, composite indices or case definitions were also used including **calculus deposits, gingival recession and the community periodontal index.**

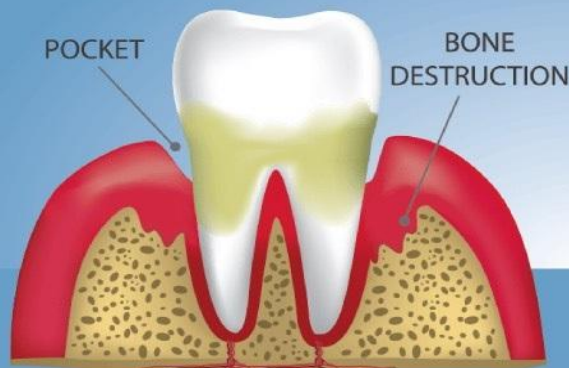
Also, the number of decayed, missing and filled teeth and the International Caries Detection and Assessment System were reported.



**1. HEALTHY GUMS & TOOTH**



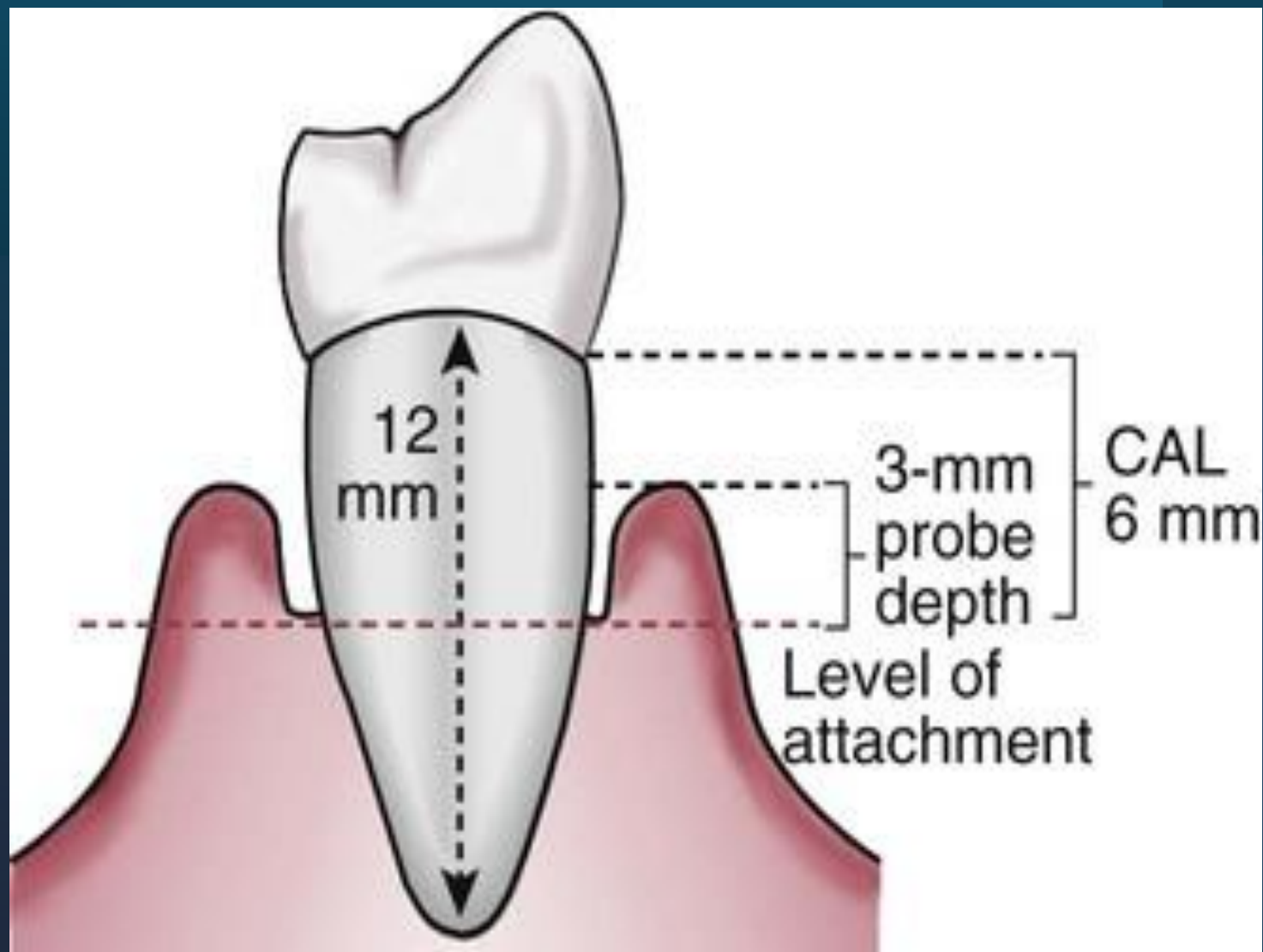
**2. GINGIVITIS**



**3. PERIODONTITIS**



**4. ADVANCED PERIODONTITIS**



Dental plaque & tartar

Inflamed gums



## • **The Association Between Bariatric Surgery and Objective Oral Health Indicators**

- Regarding clinical periodontal indicators, a few studies reported notable improvements in plaque and gingival bleeding following BS, but worsening in probing pocket depth , bleeding on probing and clinical attachment level was also reported.
- Five systematic reviews recorded the worsening in periodontal parameters, particularly in, 6 months following BS, and several studies showed a negative influence for BS on missing and filled teeth and International Caries Detection and Assessment System .



With regard to **Biologic indicators**, no change in salivary flow rate was observed.

Similarly, salivary cortisol unchanged following BS.

Conversely, saliva buffering capacity and pH were negatively influenced by BS

- On the other hand, salivary alpha amylase activate, total protein and carbonate levels decreased following BS.
- Salivary mutans streptococci, lactobacilli and *Candida albicans* increased and *Candida albicans* and non-albicans appeared significantly in gingival clavicular fluid after BS .
- **Radiographically**, the mandibular cortical index, panoramic mandibular index, alveolar bone level and trabecular pattern were negatively influenced by BS, whereas only the Mentonian Index (the thickness of the mandibular cortex) improved .

## **How Weight Loss Surgery Impacts Oral Health?**

Bariatric surgery alters the digestive system to help patients lose weight, but these changes can have direct and indirect effects on your mouth. Some of the most common oral health concerns after weight loss surgery include:

### **1. Reduced Nutrient Absorption**

After weight loss surgery, particularly Gastric Bypass, the body's ability to absorb certain nutrients is reduced. Key nutrients such as calcium, vitamin D, and vitamin B12, which are essential for maintaining strong teeth and healthy gums, may be less effectively absorbed.



### **Calcium and Vitamin D Deficiency**

Calcium plays a vital role in keeping bones, including the teeth, strong. Vitamin D helps the body absorb calcium more efficiently. When these nutrients are deficient, patients may be at higher risk for tooth decay, gum disease, and weakened jawbones, which can lead to tooth loss over time.



### **Vitamin B12 Deficiency**

A lack of vitamin B12 can also lead to oral health issues, such as sores in the mouth, tongue inflammation (glossitis), and a burning sensation in the tongue. These deficiencies may result in discomfort and difficulty maintaining good oral hygiene.

## **2. Increased Risk of Acid Erosion**

Many bariatric patients experience changes in their digestive system that can lead to acid reflux or GERD (gastroesophageal reflux disease). Acid reflux increases the amount of stomach acid that reaches the mouth, which can erode the enamel on your teeth.

### **What is Tooth Enamel?**

Enamel is the hard, protective outer layer of your teeth. Once enamel is lost, it does not regenerate, which can make your teeth more susceptible to cavities, sensitivity, and damage. Over time, acid erosion can cause severe oral health issues, including tooth decay and gum recession.

### 3. Dry Mouth (Xerostomia)

Dry mouth, or xerostomia, is another common side effect following weight loss surgery. Reduced saliva production can be caused by dehydration or as a side effect of medications that patients may need after surgery.

When saliva production decreases, patients may experience bad breath, gum irritation, difficulty swallowing, and an increased risk of cavities.

## **Steps to Maintain Good Oral Health Post-Surgery**

Given the specific risks to oral health after weight loss surgery, it's essential to incorporate additional care into your daily routine. Here are some practical tips to help protect your teeth and gums:

### **1. Stick to a Nutrient-Rich Diet and Take Supplements**

Since bariatric surgery can limit the absorption of essential nutrients, it is crucial to follow the supplement regimen provided by your doctor. This typically includes calcium, vitamin D, vitamin B12, and sometimes iron supplements to ensure you are getting the nutrients your body needs for overall health, including oral health.



In addition to supplements, eat nutrient-dense foods that are soft and easy to digest. Incorporating leafy greens, fortified foods, and low-sugar dairy products can provide essential nutrients for your teeth and gums.

## **2. Brush and Floss Regularly**

## **3. Drink Plenty of Water**

Staying hydrated is essential for both your recovery and your oral health. Water helps to keep your mouth moist, wash away food particles, and neutralize acids. Aim to sip water throughout the day, especially after meals.

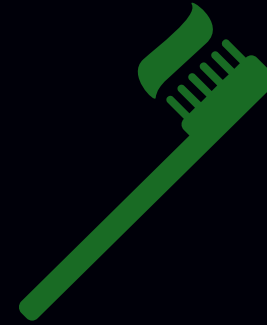


#### 4. Limit Acidic and Sugary Foods

Frequent consumption of acidic and sugary foods can contribute to tooth decay and enamel erosion. While it's important to eat small, frequent meals after surgery, try to limit foods that are high in sugar or acidity, like citrus fruits, carbonated drinks, and sweets. After consuming acidic foods, it's a good idea to rinse your mouth with water to reduce the acid levels and protect your teeth.

#### 5. Manage Acid Reflux

If you experience acid reflux or GERD after surgery, it's essential to manage this condition to protect your teeth. Avoid trigger foods, such as spicy or fatty foods, and speak with your doctor about medications that can help control acid reflux.



## **6. Schedule Regular Dental Check-Ups**

Finally, it's crucial to see your dentist regularly after weight loss surgery. Your dentist can monitor your oral health and address any concerns before they become more significant issues. Inform your dentist about your surgery so they can provide personalized advice for your care.



## **The References**

- 1.Oral Health in Individuals After Bariatric Surgery: A Systematic Scoping Review**
- 2. Dental outcomes after gastric bypass and sleeve gastrectomy : a register-based study**

CARE  
YOUR  
TEETH

