

Small changes, big difference

Since obesity and gum diseases share common risk factors, habit changes may impact on both conditions. Where to start?

- > **Change habits:** changing habits is always challenging. It is harder when you try to change your habits all of a sudden; thus, start making small but relevant changes.
- > **Quit smoking:** There is a common misbelief that smoking protects against weight gain and this may influence the continuation of smoking. But heavy smokers are very likely to gain weight. Besides, smoking promotes the development of periodontitis and other diseases such as cancer and heart diseases.
- > **Decrease alcohol consumption:** Heavy alcohol drinkers are at risk of obesity due to the high caloric value in alcohol. It also affects smooth functioning of the immune system, making heavy drinkers more likely to develop periodontitis.
- > **Reduce the amount of fat and sugar in your diet:** Dietary pattern based on sugar and fat consumption increases the risk of obesity. In addition, it modifies immunity, increasing the risk of periodontitis as well.
- > **Exercise:** Physical activity will facilitate energy expenditure and help weight loss. It also increases your self-esteem, and the way you care for your body and health;
- > **Visit your doctor:** Regular medical/dental check-ups and visits are important for keeping your body and mouth healthy. Talk to your doctor/dental practitioner to see how often you should visit them.

Habit changes will not only help you to prevent obesity and gum disease, but also other diseases, such as heart diseases and diabetes.

There are significant health and social care costs associated with the treatment of obesity and its consequences, as well as costs to the wider economy arising from chronic ill health.

Small changes in habits will make big differences to your health and quality of life!

Acknowledgement:

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Gum disease and Obesity:

Information for Patients

Special Topic Pamphlet No. 13

What are Gum diseases?

Gum diseases are inflammatory conditions caused by bacterial accumulation on teeth surfaces. Besides the bacteria, the host immune response plays an important role in the onset and progression of gum diseases.

What is immune response? Immune response is how your body recognizes and defends itself against bacteria, viruses, and substances that appear foreign and harmful.

Habits that may alter your immune response:

- > Smoking,
- > Alcohol consumption,
- > Dietary pattern (high consumption of ultra-processed food),
- > Hygiene behaviours (lack of toothbrushing),
- > Systemic diseases (diabetes, hypertension and **obesity**).

Essentially, there are two types of gum diseases:

Gingivitis: Gingivitis is an inflammation of the gingiva characterized by irritation, redness and swelling of the gums. Its treatment is based on good oral health habits, such as brushing at least twice a day, flossing daily and getting regular dental check-ups.

Periodontitis: Periodontitis is a gum infection that damages the soft tissue and destroys the bone that supports the teeth. Periodontitis is a major cause of tooth loss in adults. It is also considered a risk factor for heart diseases, adverse pregnancy events (preterm birth and low birth weight) and diabetes. The treatment of periodontitis is based on good oral hygiene habits performed by you and disease control performed by your dental practitioner.

The severe form of periodontitis affects about 11.0% of people worldwide. In Australia, approximately 23.0% of adults have periodontitis, and nearly 30.0% of Indigenous Australian adults suffer from periodontitis.

Do I have gum disease?

If you have noticed the following signs you may have already developed gum disease:

Gingivitis:

- > Bleeding gums when toothbrushing;
- > Redness and swelling of the gums.



Figure 1. Gingivitis



Figure 2. Periodontitis

Periodontitis:

- > Gums that have pulled away from the teeth (receding gums), making your teeth look longer than normal;
- > Sensitive teeth;
- > Bad breath;
- > New spaces developing between your teeth.

Visit your dental practitioner if you have noticed any of the above signs.

What is Obesity?

Obesity is a condition where excessive body fat accumulation might have a negative effect on health conditions. Fat accumulation may be caused by an imbalance between energy (food) intake and output (exercise). According to the 2011–13 Australian Health Survey, nearly 14.5 million Australians aged 18 or over are overweight or obese.

Factors that may lead to obesity:

- > physical inactivity,
- > smoking,
- > alcohol consumption,
- > genetic susceptibility

Obesity is a risk factor for:

- > Cardiovascular disease;
- > Diabetes;
- > Cancer.

Management of obesity consists of dieting, physical activity and habit changes.

Am I obese? How do health professionals diagnose obesity?

The most common way to determine if you are overweight or obese is to calculate the body mass index (BMI). Health professionals

consider the BMI along with other health-related information about potential risk-factors (smoking, diet, genetics), to determine your risk for developing weight-related diseases. For calculating this index, you should divide your weight (in kilos) by the square of your height (in meters).

Example: If your weight is 70kg and your height is 1.75m, your BMI is calculated as follows:

$$70/(1.75)^2 = 70/(1.75 \times 1.75) = 70/3.0625 = \mathbf{22.85}$$

For adults, the following values for BMI are used to determine the weight status:

BMI	Weight Status
18.5 to 24.9	Normal Weight
25.0 to 29.9	Overweight
30.0 or beyond	Obese

It is worth remembering that although BMI is generally a good way to estimate your body fat, it does not measure your body fat directly and therefore is not reliable in all cases. For instance, you may weigh extra because you are very athletic and have a lot of well-developed muscles, and not because you have excessive body fat.

What is the link between obesity and gum diseases?

Obesity influences the immune response, since it causes chronic inflammation in your body, by increasing the amount of inflammatory substances released into your blood stream. This inflammation makes obese individuals more susceptible to gum diseases.

Obese individuals may have more unhealthy habits such as smoking and alcohol consumption, physical inactivity, unhealthy diet with higher consumption of fat, carbohydrates and sugar. These factors can contribute to the development of gum diseases in obese people.

Obesity may lead to low self-esteem and negative self-body image, affecting an individual's tendency to perform health-promoting

behaviors.

This figure illustrates potential mechanisms in which obesity may influence gum diseases:

