

YOUR BITE MATTERS.

Like gears on a wheel, teeth are made to fit together just right. When your teeth and bite aren't aligned, they can't do their job, which can cause a variety of health concerns. It's a common problem: More than 50 percent of Americans have some kind of issue with their bite¹ — what dentists call “malocclusions.”

¹Lombardo, G. et al. “Worldwide prevalence of malocclusion in the different stages of dentition: A systematic review and meta-analysis.” *European Journal of Paediatric Dentistry* 21/2: 115-22 (2020).

Hello, bacteria.

Bacteria thrive in a mouth with misaligned teeth and can lead to a bacterial infection. This bacterial infection causes bad breath and gum inflammation resulting in gums that bleed when brushing or flossing. If left untreated, this gum inflammation can progress into a bigger infection called periodontal disease (i.e., gum disease). Periodontal disease is noted when the bacterial infection affects the soft tissue and supporting bone around your teeth, causing gum recession, loss of bone supporting the teeth and eventually tooth loss.²

The stages of gum disease.



Healthy gums and teeth

- Gums are coral pink in color
- Gums are flat and hug tightly to the neck of the tooth

Gingivitis

- Gums are red and swollen
- Gums are tender and often bleed upon brushing and flossing

Periodontal disease

- Infection in the gums has spread to the bone
- Bad breath and bleeding on brushing are likely
- If left untreated, teeth may become loose and painful on chewing

²Staufner, Kirsten and Helga Landmesser. “Effects of crowding in the lower anterior segment—a risk evaluation depending upon the degree of crowding.” *Journal of Orofacial Orthopedic* 65: 13-25 (2004).

How gum disease can affect your health.

Problems that start in your mouth can spread to the rest of your body. When bacteria get trapped in your gum pockets, it can trigger inflammation and enter your blood stream, contributing to many chronic diseases.³

The mouth-body connection.

1. Gingivitis and Periodontal Disease

Signs of gum disease include red gums, bleeding when you brush or floss, bad breath and even loose teeth.⁴

2. Alzheimer's

Bacteria that cause gum disease are also associated with the development of Alzheimer's and related dementias.⁵

3. Lung Disease

People with gum disease — including non-smokers — have shown an increased risk for lung cancer.⁶

4. Heart Disease and Stroke

According to the American Heart Association, patients who have poor dental hygiene are three times more prone to cardiovascular disease.⁷ Gum disease has also been linked to strokes caused by a hardening of large arteries in the brain.⁸

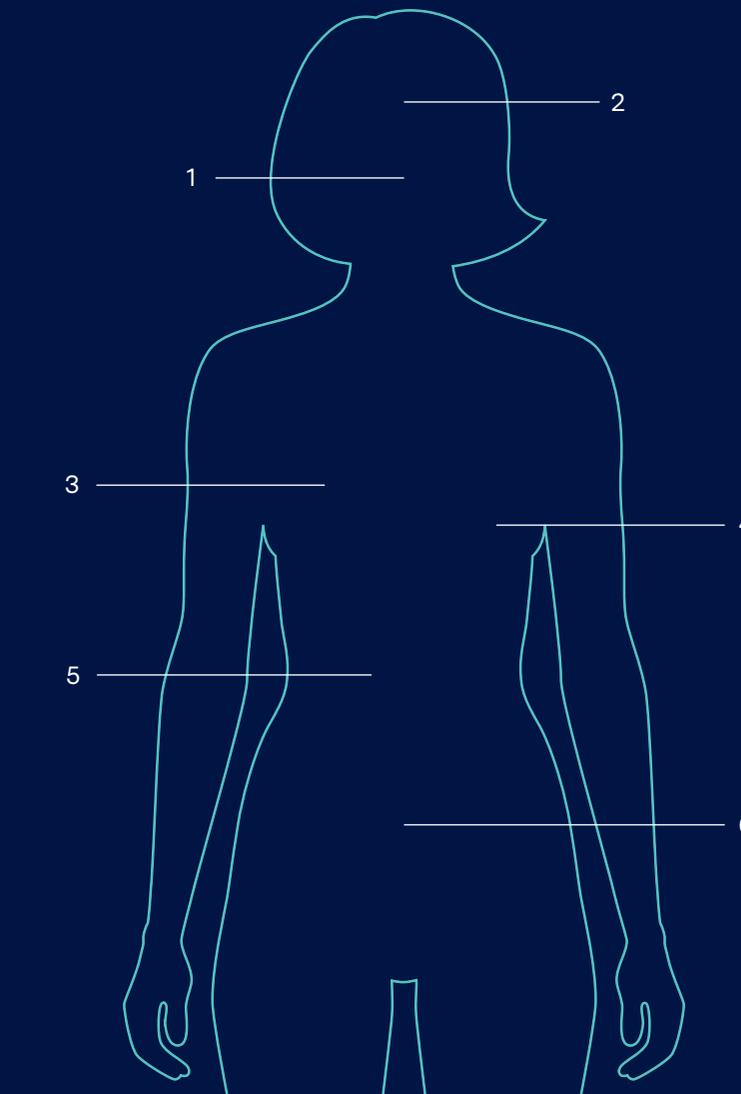
5. Diabetes

Inflammation that starts in the mouth can weaken the body's ability to control blood sugar.⁹

6. Pregnancy Complications

Studies have shown gum disease increases the risk of pre-term birth or low birth weight babies.¹⁰

³Hein, Casey, Charles Cobb and Anthony Iacopino, et al. “Report of the Independent Panel of Experts of the Scottsdale Project.” *Grand Rounds Supplement* (2007). ⁴National Institute of Dental and Craniofacial Research. (July 2018). *Periodontal (Gum) Disease*. Retrieved from <https://www.nidcr.nih.gov/health-info/gum-disease/more-info>. ⁵Beydoun, May, et al. “Clinical and bacterial markers of periodontitis and their association with incident all-cause and Alzheimer's disease dementia in a large national survey.” *Journal of Alzheimer's Disease* 75, 157-172 (2020). ⁶Zeng, Xian-Tao, et al. “Periodontal disease and incident lung cancer risk. A meta-analysis of cohort studies.” *Journal of Periodontology* 87 (10): 1158-64 (October 2016). ⁷American Heart Association. “Bad toothbrushing habits tied to higher heart risk.” (7 November, 2018). Retrieved from <https://www.heart.org/en/news/2018/11/07/bad-tooth-brushing-habits-tied-to-higher-heart-risk>.



⁸American Heart Association. “Gum disease, inflammation, hardened arteries may be linked to stroke risk.” (12 February 2020). Retrieved from <https://newsroom.heart.org/news/gum-disease-inflammation-hardened-arteries-may-be-linked-to-stroke-risk?preview=2ab5>. ⁹Preshaw, P.M. et al. “Periodontitis and diabetes: a two-way relationship.” *Diabetologia* 55 (1): 21-31 (2012). ¹⁰Corbella, Stefano, et. “Adverse pregnancy outcomes and periodontitis: A systematic review and meta-analysis exploring potential association.” *Quintessence International* 47 (3): 193-204 (March 2016).

A healthy bite lasts longer.

When your bite is off, chewing can cause excessive stress on areas that are not designed to cope with that pressure — leading to premature wear and tear, jaw pain and headaches. Over time, teeth can flatten, chip and fracture — upping your risk for gum disease, not to mention expensive dental work.

Give your bite the smile it deserves.

Motto™ clear aligners can help correct misaligned teeth and bites, giving you a healthier, more confident smile in so many ways.

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✓ Fits every budget:

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*Lending options available with the CareCredit credit card. Subject to credit approval; no cash out of pocket at time of transaction. All credit decisions made by third parties.

Is your bite holding you back?

Your malocclusion could be causing these issues, which can lead to bigger health problems down the road.



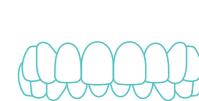
Crowding

- Lip/cheek biting
- Excess plaque
- Jaw pain



Gapped Teeth

- Lip/cheek biting
- Excess plaque
- Jaw pain



Overbite

- Receding gums
- Chipped/worn teeth
- Jaw pain



Excessive Overjet

- Chipped/worn teeth
- Dry mouth
- Mouth breathing



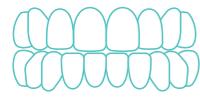
Narrow Arch

- Receding gums
- Chipped/worn teeth
- Jaw pain



Open Bite

- Receding gums
- Jaw pain
- Mouth breathing



Edge-to-Edge Bite

- Receding gums
- Chipped/worn teeth
- Jaw pain

Check out our healthy bite video



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