

Resource

## Gum Disease

Gum disease affects almost half of all adults in the UK and can be a particular issue for people with RA.

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What is gum disease?



Gum disease (periodontal disease) is a very common condition where the gums become swollen, sore or infected. Gum disease is caused by plaque (a sticky film of bacteria that forms on teeth and

gums). Plaque makes acids and toxins. If you do not remove plaque from your teeth by brushing them, it will build up and irritate your gums, leading to redness, swelling and soreness.

Gum disease affects almost half of all adults in the UK, and most people experience it at least once. It can cause your gums to bleed when brushing your teeth and you may have [bad breath](#). This stage of gum disease is known as gingivitis.

If left untreated, gingivitis can develop into periodontitis. This condition affects the tissues that support teeth, holding them in place. If periodontitis is left untreated, the bone in your jaw can break down creating small spaces between the gums and teeth. Your teeth may become loose and fall out eventually.

Gingivitis signs and symptoms include:

- Gums that are red or puffy.
- Bleeding from gums when brushing or flossing.

Gingivitis can usually be treated with good oral care.

Periodontitis signs and symptoms include:

- Gums are pulling away from teeth.
- Teeth appear longer as gums recede.
- Sensitivity from hot or cold foods/drinks.
- Bad breath.
- Loose teeth that can make eating difficult.
- Teeth may tilt, rotate or drift apart.
- Gum abscesses can develop when pus builds up around the gums.

## Gum disease and RA

There has always been a long-standing observational link between gum disease and RA, with Hippocrates (commonly referred to as the 'father of modern western medicine') suggesting centuries ago that pulling teeth could cure arthritis. Fortunately, with the medical and dental treatments available these days, this is not necessary or recommended!

People with RA appear to face an increased risk of developing gum disease and are more likely to suffer from more severe symptoms. After diagnosis with RA people may notice more bleeding whilst brushing, gums receding and loss of teeth.

A study in 2012, reported that 65% of RA patients had gum disease compared with just 28% of patients without RA. They found that RA patients were four times more likely to have gum disease than their RA-free counterparts and their gum disease tended to be more severe.

Commenting on the study Professor Alan Silman, then Medical Director of Arthritis Research UK, said "We have known for some time people with RA have an increased risk of periodontal disease, it could be that a person's genetic make-up puts them at risk of developing both conditions. People with RA and the doctors treating the disease need to be vigilant for early signs of gum disease to prevent

serious infection.”

Problems with joints in RA (including the jaw joint) can also make cleaning more difficult; leading to more plaque being left in the mouth and therefore an increased likelihood of developing gum disease. However, it is thought that this alone does not account for the increased prevalence of gum disease in the RA population.

## Research into the link between gum disease and RA

One study has found that people with both RA and gum disease were more likely to test positive for ACPA (antibody to citrullinated protein antigens). It is known that in RA, immune responses are generated against ACPA, and its presence can predate the onset of RA by several years. Those who test positive for ACPA were seen to have a higher level of rheumatoid factor and anti-CCP (anti-cyclic citrullinated peptide antibody). This is significant, as higher levels of these in blood tests are known to be associated with more severe RA. An increased number of swollen joints, a higher DAS28-CRP (28 joint Disease Activity Score based on C-reactive protein) and more evidence of joint damage on x-rays was also seen in patients who were positive for ACPA.

Studies have shown that in RA patients with gum disease, patients experiencing loss of jaw bone had RA-associated bone erosions in other joints and that in RA patients, the severity of gum disease tracks with the severity of their RA disease activity. Other findings include the following:

- Porphyromonas gingivalis (*P. gingivalis*), one of the main bacteria responsible for gum disease can lead to earlier onset, faster progression and greater severity of RA, including increased damage to bone and cartilage.
- Concentration of antibodies against *P. gingivalis* is increased before the onset of rheumatoid arthritis symptoms.
- Gum disease is established and often more severe in patients with RA and characteristics of gum disease are similar in patients with early and established RA.
- Self-reported gum bleeding and swelling remained significantly associated with higher RA disease activity scores.
- Gum disease symptoms are associated with increasing RA activity; patients with more bleeding and swelling tend to have higher levels of RA disease activity.

Which came first, the chicken or the egg? There is a theory that in genetically susceptible individuals, immune responses generated against these citrullinated proteins could be a potential trigger for RA and may also be responsible for maintaining inflammation in the body in RA. However, it could also be that the gums, much like the joints, are targeted in the worst cases of RA which may explain why severe gum disease is seen more frequently in patients with severe RA.

I went travelling before I went to University and then my gums got bad, and because I was staying in strange places I was scared about cleaning them in weird water, and I came back and had really bad gingivitis, and then my rheumatoid flared.

There is also a reported link between gum disease severity and the effectiveness of certain medication used to treat RA. For example, it has been found that prolonged gum inflammation may reduce the effectiveness of anti-TNF medication in patients with RA and therefore hamper response to treatment.

Studies show that non-surgical treatment of gum disease can improve both gum disease and RA (as shown by a reduction in DAS-28).

There is still more work to be done to establish the association between gum disease and RA but what research so far demonstrates is that gum disease can also be present with RA and that oral health is very important. Attention to good oral hygiene should increasingly become an important part of RA management.

## What can I do if I have gum disease?

Many people do not know that they have gum disease; that's why it is important to see your dental team (they will then tell you how often to attend based on your individual needs). The earlier gum disease can be detected, the easier it is to treat. Check your gums in the mirror often – this will help you monitor any change in colour and texture and then inform your dentist.

With RA, people have an increased risk of gum disease so your dentist may advise visits more frequently so that any problems can be closely monitored. Please mention any change with your brushing routine and if you have noticed any blood after brushing.

- Mild cases of gum disease can usually be treated by maintaining a good level of oral hygiene. This includes brushing your teeth at least twice a day (morning and night) and cleaning in between your teeth once a day (at night). See 'Cleaning advice and tips'.

As I've got older, the main problem I have is gingivitis, so I'm just happy to go to the hygienist more often than other people do.

- In most cases, your dentist, dental therapist or hygienist will be able to give your teeth a thorough clean and remove any hardened plaque (tartar). They will also be able to show you how to clean your teeth effectively to help prevent plaque building up in the future (taking into account any limitations you may have due to your RA).
- Smoking (including e-cigarettes) is known to make gum disease worse ([see section on 'Smoking'](#)). Cutting down or even better cutting out cigarettes/e-cigarettes altogether will improve your gum disease, RA and your overall health.
- If you have severe gum disease, you will usually need to have further dental treatment and, in some cases, surgery may need to be carried out. This will usually be performed by a specialist in gum problems