Periodontal surgery

A patient’s guide to surgical procedures to treat gum disease
Healthy gums and teeth

Teeth are made up of a crown and a root. The crown is the white part, which is visible in the mouth and the root is the part normally underneath the gum. The neck of the tooth is where the crown joins the root, and this is where the gum tissue (gingiva) normally sits.

Roots are buried in the jawbone and held in place by small ligaments. The roots of the teeth should be fully covered by the gum, which forms a tight collar around the neck of the tooth. This prevents bacteria from irritating and damaging the bone.

Inside the root there is a small nerve, which supplies the sensation to the tooth. There is also a small blood supply to keep the tooth living.

A blunt dental probe is used to check the health of the gums. Healthy gums are pink and firm and do not bleed. The probe only enters the gum crevice around the neck of the tooth up to a couple of millimetres.

Healthy teeth are normally firm and tight and don't move. The dental probe and x-rays don't detect any bone loss underneath the gum.
Unhealthy gums

Gum disease is the common term for **periodontal disease**, which includes the conditions **gingivitis** and **periodontitis**. Gingivitis is inflammation of the gum only, whereas periodontitis is inflammation of the gum and the bone.

Unhealthy gums are often red, swollen and can be tender to touch. The probe enters the gum crevice deeper around the neck of the tooth and they can bleed easily when touched.

A ‘**pocket**’ is a deep crevice around the neck of the tooth that traps bacteria under the gum. Bleeding and abscesses can occur with damage to the ligaments and bone.

If gum disease is untreated, the teeth can become slack and may be lost. Gum treatment aims to remove bacteria preventing further damage keeping your teeth for as long as possible.

If gum disease doesn't get better with professional ‘non-surgical’ cleaning treatment, then advanced surgical options can be considered.
The following sections explain different surgical options available to treat severe gum disease. Your dentist will discuss the most recommended procedure.

1. Pocket reduction procedure

When deep ‘pockets’ and gum disease persists after professional cleaning treatment, a pocket reduction procedure can be considered. This procedure aims to treat severe gum disease by surgically reducing the depths of the pockets.

Surgery can be undertaken to carefully move the gum to the side. Deposits of bacteria can then be seen on the roots.

Delicate instruments are used to clean the roots and remove the bacteria and infection.

The neck and roots of the teeth can become exposed during healing. As there are small nerves inside the roots, sensitivity may be experienced. If sensitivity does occur it can be treated with de-sensitising toothpastes.

After healing, small spaces can develop in between the teeth. These can be called ‘black triangles’, and they need to be cleaned in a special way with small inter-dental brushes.
2. Bone regeneration procedure

When there is a localised area of bone loss affecting a tooth, a bone regeneration procedure can be considered. This procedure aims to treat severe gum disease and regrow the bone.

Surgery can be undertaken to carefully move the gum to the side. Deposits of bacteria can then be seen on the roots.

Delicate instruments are used to clean the roots and remove the bacteria. The area is assessed to see whether it can be reconstructed with bone grafting materials.

A variety of grafting products can be used to reconstruct the defect. The details of these products will be fully discussed with you in more detail.

After healing, small spaces can develop in between the teeth. These can be called ‘black triangles’, and they need to be cleaned in a special way with small inter-dental brushes.
3. Root amputation procedure

When there is severe localised bone loss around a tooth, a root amputation procedure can be considered. This procedure splits and removes the affected root, allowing the remaining healthier root/s to support the tooth.

Surgery can be undertaken to carefully move the gum to the side. Deposits of bacteria can then be seen and cleaned.

The badly affected root is split and removed. A small root filling may be needed to seal the root stump at the time of surgery.

A complete root filling in the other root/s may have been undertaken before surgery or may be needed after gum surgery.

After healing, the gum and bone will repair and the remaining root/s will hold the tooth in position. Small spaces (‘black triangles’) can develop, which will need to be cleaned in a special way with small inter-dental brushes.
4. Tooth sectioning procedure

When there is severe localised bone loss around a tooth, a root and tooth sectioning procedure can be considered. This procedure splits and removes the affected root and half of the tooth, allowing the remaining healthier root to support half of the tooth.

Surgery can be undertaken to carefully move the gum to the side. Deposits of bacteria can then be seen on the roots.

The badly affected root and half of the tooth is split and removed. A complete root filling is often required before gum surgery. After gum surgery, a porcelain crown may also be required to protect the tooth.

After healing, the gum and bone will repair and the remaining root will hold the half of the tooth in position. There will be space, which will need to be cleaned in a special way with small inter-dental brushes.
# What to expect during gum surgery

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<tr>
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<th>Description</th>
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<tr>
<td><strong>1</strong></td>
<td>Prior to treatment the benefits and risks of the recommended surgical procedure will be fully discussed. You will be given time to ask questions and then give your consent to treatment.</td>
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<td><strong>2</strong></td>
<td>Your surgical appointment time will typically be about two hours.</td>
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<td><strong>3</strong></td>
<td>The procedure is carried out as a small operation. Sterile drapes are used and the area is fully disinfected.</td>
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<td><strong>4</strong></td>
<td>You will be given injections to ensure you don’t feel any discomfort during the procedure. If required, dental sedation can be offered to reduce any anxiety and worry. You will need to be assessed on a separate occasion for sedation treatment.</td>
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<td><strong>5</strong></td>
<td>Following full numbing and using small cuts, the gum will be lifted and moved to the side.</td>
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<td><strong>6</strong></td>
<td>The teeth and roots will be cleaned to remove deposits of bacteria and infection. Once the roots are clean, a pocket reduction procedure, bone regeneration procedure, or root/tooth sectioning procedure can be undertaken. Consent for each of these procedures would have been given before surgery.</td>
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<td><strong>7</strong></td>
<td>The gum will be repositioned with fine thread stitches and if necessary a dressing over the gum may be used.</td>
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<td><strong>8</strong></td>
<td>You will be given advice and instructions to follow to ensure the best healing.</td>
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<td><strong>9</strong></td>
<td>Over the next few days the area will start to heal. You will be re-assessed in 1-2 weeks to monitor the healing progress and give further advice.</td>
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What to expect after surgery

After surgery you will be advised on the best ways to care for your mouth for the first 1-2 weeks:

• Pain relief may be needed for a few days
• You will need to modify your diet so that only soft foods are eaten, whilst avoiding eating in the treated area
• A special antiseptic mouth wash will be recommended to ensure the wound stays clean
• You are best to avoid strenuous exercise and work until advised it is safe to do so
• You will be reviewed after 1-2 weeks, when the small stitches and any dressing can be safely removed.

At your review appointment/s you will be advised on the best ways to care for your mouth.

During the first three months after surgery your gums should become healthier and bleeding should reduce as the infection resolves. As the gums heal further they should tighten, and both the teeth and gums should feel firmer and stronger.

If the roots of the teeth become exposed during healing they can be sensitive to hot and cold things. In most cases increased sensitivity can normally be managed with desensitising toothpastes. Professional dental advice can be given about this.

To prevent the problems from returning, you should follow the dental advice given and continue with regular dental ‘check-ups’. You should always try to reduce as many of the risk factors for gum disease as possible. Professional dental advice can be given about this.
Further advice and telephone numbers

If you have any concerns or questions you can contact the Newcastle Periodontal Department during working hours (9:00-17:00) on 0191 282 5130.

The British Society of Periodontology website www.bsperio.org/patients offers useful patient information about gum disease.

The Patient Advice and Liaison Service (PALS) can offer advice and information about the NHS, and can be contacted on 0800 032 02 02 or email northoftynepals.nhct.nhs.uk.

Alternatively there is the NHS Choices website www.nhs.uk.

The information in this booklet is also available on the Newcastle NHS Trust website www.newcastle-hospital.org.uk