Increasing Bone with Bio-Oss®/Bio-Gide®

Information sheet

In some situations there may be insufficient of your own bone available to stabilise the placed implant. This may have been predicted or may not have become apparent until the implant placement. Professor Coulthard may occasionally need to use Bio-Oss® material with or without Bio-Gide® to stabilise the implant so you should read the following information and inform him before the surgery if you do not agree to their use.

What is Bio-Oss®?

Bio-Oss® is a bone replacement material that is used to increase the body’s own bone. Bio-Oss® is composed of the hard, mineral portion of natural bone and has a structure very similar to that of human bone. It is therefore well accepted by human bone tissue and serves as a guide-rail for the new bone growth.

The starting material is carefully inspected bovine (cow) bone that has undergone treatment with patented process for purification and sterilisation. Included amongst these processes is the treatment of Bio-Oss® at high temperature for more than 15 hours, after which it is highly purified and finally sterilized.

What is the function of Bio-Oss®?

Bio-Oss® is a solid scaffold which serves as a guide-rail to allow new bone to grow. This scaffolding material enables and facilitates bone formation in the area where the operation is performed. It is inserted into the operation area in the form of grains. Your own body slowly grows into the Bio-Oss® material, which at a later time is gradually broken down by the body.
**Are there alternatives?**

As an alternative to Bio-Oss®, one can use the body’s own bone, which is taken from a different location, for example the chin. Other animal and artificial materials are also available but these do not generally have the same track record of good success.

**What is Bio-Gide®?**

Bio-Gide® is a membrane made of collagen that is sometimes used to cover the bone replacement material.

**What is Bio-Gide® made from?**

Bio-Gide® is composed of highly purifed natural collagen obtained from pigs.

**Does the Bio-Gide® membrane have to be removed in a second procedure?**

The collagen membrane becomes completely broken down by the body; hence a further operation to remove it is unnecessary.

**Are there any Independent Quality Controls?**

The manufacturing processes of Bio-Oss® and Bio-Gide® are subject to a Quality Assurance System based on international guidelines (ISO 9001 / EN 46001). These processes are checked once every year by acknowledged, independent testing institutes and international authorities.

Bio-Oss® and Bio-Gide® are medical devices that satisfy the safety standards and conditions required by European Union (CE – Certification) and the US Food and Drug Administration (FDA).

**Do Side Effects Occur?**

As with almost all natural and artificial materials incompatibility and allergic reactions are possible and can never be fully excluded. However because of the high degree of product purity such reactions have been limited to a few mild individual cases. If you experience any reactions tell your surgeon.
After Oral Surgery

instructions to follow after an operation

On the day of treatment

- Rest for a few hours, but you do not have to lie down
- Don’t rinse your mouth for about 6 hours after your operation
- Avoid hot fluids, alcohol, hard or chewy foods. Choose cool drinks and soft foods
- Any pain or soreness can be relieved by taking the prescribed medication. If none was prescribed, take tablets such as paracetamol (Panadol) 2 tablets every 4-6 hours as required (8 tablets maximum in 24 hours) or ibuprofen (Neurofen) two 200mg tablets every 4-6 hours as required (twelve 200mg tablets maximum in 24 hours)
- Should the wound start to bleed, apply a handkerchief compress. Place this on the bleeding point and bite firmly on it for 5-10 minutes or longer if necessary whilst sitting up. Take of the compress and check whether the bleeding has stopped. If it hasn’t, use a fresh compress. If you cannot stop the bleeding yourself, please telephone the Alexandra Hospital

Day after operation and the next four days

- Continue with a soft diet
- After 24 hours start to gently bathe the area with salt-water rinses after each meal. The rinse is made by dissolving a level teaspoon of salt in a glass of warm water. The solution should be held in the mouth for two to three minutes to bathe the wound and then discarded. Alternatively an antiseptic mouth rinse such as ‘Corsodyl’ may be used. An antiseptic mouthrinse that is also a painkiller such as ‘Difflam’ may be useful.
- Do not hold anything hot against the outside of your face
- Pain, swelling and stiffness should start to settle in three to four days

Intravenous sedation
**instructions for patients and their escorts**

Intravenous sedation is widely used for patients undergoing surgical procedures. The technique produces a state of complete tranquility, with patients experiencing the sensations of warmth and confidence, together with a pleasant degree of dissociation from the realities of the situation. Consciousness is maintained, although many patients cannot remember much of the treatment. Patients feel well during recovery but reaction time is slowed down and so it is important for your safety that the instructions below are followed.

**Before your appointment**

- Your must not eat or drink for 2 hours prior to your appointment. Before this you can have a light meal such as toast and tea, coffee or juice. Diabetic patients need to work their regimes accordingly. *Alternatively* you may have been *specifically instructed* not to eat after midnight if your operation is in the morning or after 7am if your operation is in the afternoon. In this case you may have a small glass of tap water before 6am.
- Take your routine medicines at the usual times with a small sip of water unless instructed otherwise and discuss any medicines that you are taking with Professor Coulthard before your sedation starts. Bring these with you for him to see. If you use any inhalers, even if infrequently, please bring them with you.
- It is particularly important that you discuss any medication for diabetes before your appointment for treatment
- If you suffer from any medical condition, please discuss this with Professor Coulthard
- Please inform us if you think that you may be pregnant
- You must make arrangements for a responsible adult to collect you from hospital to take you home by private car or a taxi and not on public transport.
After your treatment

Although you may think that you have recovered quite quickly, the effects of your sedation may not have worn off entirely for at least 8 hours. You must not be alone at home until the day following your treatment.

It is important that for 8 hours following your treatment you:

- Do not drink any alcohol or return to work.
- Do not drive any vehicle, or operate any machinery or any domestic appliances or go out alone.
- Do not take important decisions such as buying expensive items or sign important documents.
- Do not do anything that requires skill and judgment.
After Oral Surgery

instructions to follow after an apicectomy

On the day of treatment

- Rest for a few hours, but you do not have to lie down
- Do not rinse your mouth for about 6 hours
- Avoid hot fluids, alcohol, hard or chewy foods. Choose cool drinks and soft foods
- Any pain or soreness can be relieved by taking the prescribed medication. If none was prescribed, take tablets such as paracetamol (Panadol) 2 tablets every 4-6 hours as required (8 tablets maximum in 24 hours) or ibuprofen (Neurofen) two 200mg tablets every 4-6 hours as required (twelve 200mg tablets maximum in 24 hours)
- Should the wound start to bleed, apply a handkerchief compress. Hold this firmly against the bleeding point for 5-10 minutes or longer if necessary whilst sitting up. Take off the compress and check whether the bleeding has stopped. If it hasn’t, use a fresh compress. If you cannot stop the bleeding yourself, please telephone the Alexandra Hospital

Day after operation and the next four days

- Continue with a soft diet
- Gently bathe the area with salt-water rinses after each meal. The rinse is made by dissolving a level teaspoon of salt in a glass of warm water. The solution should be held in the mouth for two to three minutes to bathe the wound and then discarded. An antiseptic mouth rinse may be used in addition if recommended
- Do not hold anything hot against the outside of your face
- Pain and swelling should start to settle in three to four days
Wisdom Tooth Surgery

information sheet

What are wisdom teeth?

- Wisdom teeth are the last teeth to appear, at the back of the mouth, from the late teens onwards. Most people have four wisdom teeth but it is not unusual to have fewer.
- Because they are the last teeth to form, there sometimes isn’t room for them. X-ray examination may show that the wisdom tooth will never grow through properly. They may come through at an angle, pressing against the teeth in front or the bone behind, and described as impacted.
- As they are coming through, the surrounding gum may become infected. This is called ‘pericoronitis’ and can be very painful and cause swelling of the face and restriction of mouth opening. It may settle down without any treatment or may require treatments such as removal, or the removal of the opposing tooth (to prevent it biting into the infected area) or antibiotics.
- Wisdom teeth may also require removal because of other problems such as, decay involving the part of the tooth or the adjacent tooth that cannot be easily accessed for cleaning, or because of the formation of a cyst around the wisdom tooth in bone.

What are the complications of surgery?

- You may experience some pain after your surgery, however this can be minimised if you take the painkillers provided for you. Take them as recommended for maximum effect.
- There may be some swelling or even bruising of your face on the side of the surgery and this may take one or two days to develop and then a few more days to subside. This is nature’s way of making you rest the area to let it heal more quickly.
- There may be some restriction when you try to open your mouth widely and this may last for two to three weeks, however this is not great enough to stop you eating. This is also nature’s way of encouraging healing. You should be able to take a soft diet within hours of your surgery. Any food packing about the wound will settle as the gum heals.
- The nerves responsible for sensation in your lip and tongue pass close to the roots of wisdom teeth and can become injured during the surgery resulting in altered sensation (tingling or numbness) in one or both of these areas. This complication is not common. The sensation should return to normal although this can take several weeks or even months. Very rarely the altered sensation can be permanent.

What are the benefits of removing wisdom teeth?

- There will be no more infection or pain or risk of decay to the adjacent tooth.

Professor P Coulthard BDS MFGDP(UK) MDS FDSRCS FDS(OS)RCS PhD (update due 01/12)
Dental Implant Surgery

information sheet

Before your operation

• You should arrange to have your teeth scaled and polished by your hygienist or dentist. This may require more than one visit and you should aim to have completed your last visit about two weeks before your implant surgery. It is important for the success of your implant treatment that any gum (periodontal) disease is managed.

• Start using ‘Corsodyl Daily’ mouthrinse about two days before your surgery. This can be purchased from any pharmacy and should be used as directed twice each day.

After your operation

• Rest for a few hours, but you do not have to lie down.

• Choose cool drinks and soft foods. Avoid hot fluids, alcohol, hard or chewy foods.

• Do not rinse your mouth for about 6 hours but start using ‘Corsodyl Daily’ mouthrinse again 24 hours later and continue for about one week - this will help to maintain good oral hygiene and prevent infection of the wound in your mouth. You should also brush any teeth as soon as is possible after surgery using toothpaste in the usual way.

• Any pain or soreness can be relieved by taking the prescribed medication. If none was prescribed, take tablets such as paracetamol (Panadol) 2 tablets every 4-6 hours as required (8 tablets maximum in 24 hours) or ibuprofen (Neurofen) two 200mg tablets every 4-6 hours as required (twelve 200mg tablets maximum in 24 hours).

• Should the wound start to bleed, apply a handkerchief compress. Hold this firmly against the bleeding point for 5-10 minutes or longer if necessary whilst sitting up. Take off the compress and check whether the bleeding has stopped. If it hasn’t, use a fresh compress. If you cannot stop the bleeding yourself, please telephone the Alexandra Hospital.

• Pain and any swelling should start to settle in three to four days.

• Following placement of implants, most patients should not wear their denture for a few days, although the length of time varies according to the precise procedure. You will be advised about this. When the denture is worn again, this should be for essential only use during the day only. The denture must not be worn during sleep.
Bone Graft Surgery
information sheet for patients undergoing hip graft surgery

Before your operation

• You should arrange to have your teeth scaled and polished by your hygienist or dentist. This may require more than one visit and you should aim to have completed your last visit about two weeks before your bone graft surgery
• Start using ‘Corsodyl Daily’ mouthrinse about two days before your surgery. This can be purchased from any pharmacy and should be used as directed twice each day

After your operation

Mouth Care

• Rest for a few hours, but you do not have to lie down
• Choose cool drinks and soft foods. Avoid hot fluids, alcohol, hard or chewy foods
• Do not rinse your mouth for about six hours but start using ‘Corsodyl Daily’ mouthrinse again 24 hours later and continue for about one week. This will help to maintain good oral hygiene and prevent infection of the wound in your mouth. You should also brush any teeth as soon as is possible after surgery using toothpaste in the usual way
• Should the wound start to bleed, apply a handkerchief compress. Hold this firmly against the bleeding point for 5-10 minutes or longer if necessary whilst sitting up. Take off the compress and check whether the bleeding has stopped. If it hasn’t, use a fresh compress. If you cannot stop the bleeding yourself, please telephone the Alexandra Hospital
• Pain and any swelling should start to settle in about three to four days

Smoking

• Do not smoke
Drain
• A small plastic tube is placed into the hip wound area during the operation to reduce any bruising. This is removed about one day after your operation before you go home.

Denture wearing
• Following the bone graft operation, most patients should not wear their denture for several days or even up to two weeks. The length of time varies according to the precise procedure and you will be advised about this. When the denture is worn again, this should be for essential only use during the day only. The denture must not be worn during sleep. Over-wearing of a denture puts pressure on the grafted bone and can cause it to dissolve away.

Numbness
• A small area of numbness affecting the outer side of the thigh may result from surgery. This is a recognised complication of this type of surgery and is uncommon. The area may feel numb initially in most patients because a local anaesthetic is used during the operation and it takes some time for this to wear off.

Scar
• A scar about 7 cm long is an unavoidable result of this surgery. The scar improves over about 9 months after the operation.

Pain relief
• Usually a local anaesthetic is injected into the area whilst you are asleep with the general anaesthetic so the area will be numb and pain free when you wake up. You will then be given appropriate painkiller whilst in hospital and painkillers to take home. Any pain or soreness can be relieved by taking the prescribed medication. If none was prescribed, take tablets such as paracetamol (Panadol) 2 tablets every 4-6 hours as required (8 tablets maximum in 24 hours) and ibuprofen (Neurofen) two 200mg tablets every 4-6 hours as required (twelve 200mg tablets maximum in 24 hours).

Exercise
• Whilst you will be able to walk immediately after your surgery, you should not undertake strenuous exercise or active sport for six weeks.
Bone Graft Surgery
information sheet for patients undergoing chin graft surgery

Before your operation

- You should arrange to have your teeth scaled and polished by your hygienist or dentist. This may require more than one visit and you should aim to have completed your last visit about two weeks before your bone graft surgery
- Start using ‘Corsodyl Daily’ mouthrinse about two days before your surgery. This can be purchased from any pharmacy and should be used as directed twice each day

After your operation

Mouth Care

- Rest for a few hours, but you do not have to lie down
- Choose cool drinks and soft foods. Avoid hot fluids, alcohol, hard or chewy foods
- Do not rinse your mouth for about six hours but start using ‘Corsodyl Daily’ mouthrinse again 24 hours later and continue for about one week. This will help to maintain good oral hygiene and prevent infection of the wound in your mouth. You should also brush any teeth as soon as is possible after surgery using toothpaste in the usual way
- Should the wound start to bleed, apply a handkerchief compress. Hold this firmly against the bleeding point for 5-10 minutes or longer if necessary whilst sitting up. Take off the compress and check whether the bleeding has stopped. If it hasn’t, use a fresh compress. If you cannot stop the bleeding yourself, please telephone the Alexandra Hospital
- Pain and any swelling should start to settle in three to four days

Pressure bandage

- A pressure bandage may sometimes be placed over your chin at the end of your operation. This should be left in place for 24 hours.

Professor P Coulthard BDS MFGDP(UK) MDS FDSRCS FDS(OS)RCS PhD (update due 01/12)
Denture wearing

- Following the bone graft operation, most patients should not wear their denture for several days or even up to two weeks. The length of time varies according to the precise procedure and you will be advised about this. When the denture is worn again, this should be for essential only use during the day only. The denture must not be worn during sleep. Over-wearing of a denture puts pressure on the grafted bone and can cause it to dissolve away.

Scar

- A scar inside your mouth is an unavoidable result of this surgery but this will not be obvious to anyone except yourself and your dentist.

Altered sensation

- Altered sensation of the skin of the lower lip and or chin ranging from tingling and numbness may occur after surgery, although this is very rare. Some patients may notice a “woodiness” sensation of their lower front teeth after surgery, but again this is rare.

Pain relief

- Usually a local anaesthetic is injected into the area whilst you are asleep with the general anaesthetic so the area will be numb and pain free when you wake up. You will then be given appropriate painkiller whilst in hospital and painkillers to take home. Any pain or soreness can be relieved by taking the prescribed medication. If none was prescribed, take tablets such as paracetamol (Panadol) 2 tablets every 4-6 hours as required (8 tablets maximum in 24 hours) and ibuprofen (Neurofen) two 200mg tablets every 4-6 hours as required (twelve 200mg tablets maximum in 24 hours)

Smoking

- Do not smoke

General anaesthesia
instructions for patients and their escorts

Before your operation

- You must not have anything to eat after midnight if your operation is in the morning. This includes mints and chewing gum
- You can have a small glass of tap water before 6am
- You must not eat or drink after 7am if your operation is in the afternoon. This includes mints and chewing gum
- Discuss any medical conditions or medicines that you are taking with Professor Coulthard before your operation date. Take your routine medicines at the usual times with a small sip of water unless instructed otherwise. If you use any inhalers, even infrequently, please bring them with you for the anaesthetist to see
- It is particularly important that you discuss any medication for diabetes before your appointment for treatment
- Try not to smoke for 12 hours prior to your surgery
- Please inform us if you are suffering from a cough, cold or other illness during the week prior to your operation
- Please inform us if you think that you may be pregnant
- You must make arrangements for a responsible adult to collect you from hospital to take you home by private car or taxi and not on public transport
On the day of your operation

- The nurse will check your details, your pulse and blood pressure, and you will be given a name bracelet to wear on your wrist
- You will meet your surgeon and anaesthetist, and will be asked to sign a consent form if you have not already done so
- Before you go into theatre it will be necessary for you to get changed. Remove any nail varnish or make-up. Your nurse will escort you to the anaesthetic room where you will meet the anaesthetist again and the anaesthetic assistant, who will care for you throughout your procedure
- Following your surgery, you will wake up in the anaesthetic room. Here specially trained nurses closely monitor your condition
- Once awake and comfortable, usually after about half an hour, you will return to your room.

After your operation

- You may eat and drink again as usual
- Although you may think that you have recovered quite quickly, the effects of your anaesthetic may not have worn off entirely for 24 hours. If you go home on the day of your operation, you must not be alone at home until the following day
- It is important that for 24 hours following your treatment you:
  - Do not smoke or drink alcohol in any form or return to work
  - Do not drive any vehicle, operate any machinery or domestic appliances or go out alone
  - Do not take important decisions such as buying expensive items or sign important documents
  - Do not do anything that requires skill or judgment