

DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY

Alveolar bone graft

This leaflet has been written to help you understand alveolar bone grafting. If you have any further questions that the leaflet does not answer or would like further explanation, please ask your surgeon.

What is an alveolar bone graft?

A number of children with cleft lip & palate have a gap (cleft) in the gum (alveolus) where some of the upper front teeth should grow. This gap in the bone goes through to the nose. The alveolar bone graft is designed to fill the gap in the bone to allow teeth to erupt normally. Filling the gap also closes the connection (fistula) to the nose and improves the shape of the upper jaw for future alignment of the teeth. It also lifts and supports the nose correcting the misalignment caused by the cleft.. Closing the fistula can improve speech by closing the air leak to the nose. Bone grafting has a success rate of approximately 90%.

Why do I need an alveolar bone graft?

An alveolar bone graft is needed to allow the teeth to erupt as they will not grow where there is a gap in the gum (alveolus). The teeth once erupted may need help with orthodontics to improve their position. Some children with a cleft have missing teeth but it still may be possible to avoid any spaces by moving adjacent teeth through the bone graft to close spaces. Sometimes this is not possible and a bridge or a false tooth may be necessary. Closing the fistula can also improve speech where there is an air leak to the nose.

Timing to close the alveolar bone graft

The alveolar cleft (gap in the gum) is not usually closed at the time of lip surgery as a baby as this may affect facial growth. The best time to carry out a repair of the alveolar cleft is between 8 to 11 years of age before the permanent canine tooth erupts.

Preparation for the alveolar bone graft

At approximately seven to eight years of age, you will meet with your orthodontist and surgeon who will examine the dental development and plan the possible need for an alveolar bone graft. Some children will need orthodontic treatment (braces) to align the upper jaw before grafting. The orthodontics may involve a removable or fixed brace which may take approximately nine months to prepare and open the gap in the gum for the alveolar bone graft. X-rays are taken to assess the teeth as there may be extra or missing teeth within the cleft.

Alveolar bone graft operation

The operation requires admission to hospital in the Children's Ward usually on the morning of surgery. Most patients are able to go home after one or two nights in hospital. The operation is done under a general anaesthetic so you are asleep.

First some bone for the grafting is taken (harvested) from the hip (iliac crest) or occasionally the leg. This involves a small cut (incision) over the side of the hip to allow the bone graft to be harvested. The small incision is closed with buried stitches so there are no stitches to remove later.

In the mouth, the gap in the gum (alveolar cleft) is exposed to prepare for the graft. The defect to the nose is repaired and any additional teeth removed. The bone graft is then placed into the cleft and the gum repaired with dissolving stitches.

Long acting local anaesthetic is used both in the hip and mouth so that both are numb after the operation.

After the operation

We like you to stay in bed for the first night in hospital as you may be unsteady on your feet. A soft or liquidised diet is encouraged and drinking is normally allowed as soon as possible after the operation. An antiseptic mouthwash is given to you to rinse the mouth after eating. Pain killing medicines start at the time of the operation and continue when you go home.

The day after the operation we like you to start walking and getting ready for home.

When you get home

We recommend a quiet week at home after the operation paying special attention to keeping the mouth clean with antiseptic mouthwash after eating. We recommend simple soft food that you would usually eat and avoiding sticky foods. If it is term time, it may mean a week off school and also no sporting activities. A waterproof dressing is placed over the hip so showers are possible but not baths or going swimming.

Review after the operation

At approximately 10 days after the operation, a review appointment is made on the Outpatient Clinic. This is to check the wound and the healing of both the mouth and the hip donor site for the bone graft. A further review appointment is then made at six months when a further special x-ray is taken of the alveolar cleft to assess the graft and tooth development. Further appointments will then be with the orthodontist who will plan and discuss brace treatment with you as the teeth erupt into the graft. It may take at least one or two years for the teeth to erupt after the graft.

Complications and risks of alveolar bone grafts

Most patients find the operation site in the mouth heals well and causes few problems. However, the hip can be sore for a few weeks after the operation. Very rarely, there can be numbness over the side of the leg where the bone graft was taken. The numbness usually recovers.

In a very few patients, less than 5%, the bone graft may be partly lost and further grafting may be required. Infection after any operation can occur but is uncommon and emphasizes the need for keeping the mouth clean and protecting the hip after the operation. Antibiotics are always given at the time of operation.

Occasionally, a small swelling on the gum over the bone graft can form and this is called a pyogenic granuloma and is a healing reaction. This swelling is usually treated in the Outpatient Clinic.

Alternatives

At present there are no alternatives to an alveolar bone graft if one wishes to repair the cleft lip and palate and allow the teeth to erupt and develop normally.



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Bengali

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