

# *Erb's Palsy*

*Association of Ireland*



Osteotomy (Bone) Surgery

**FACT SHEET**

## INTRODUCTION

This fact sheet on Osteotomy (Bone) surgery has been written as an attempt to answer some of your questions regarding bone or osteotomy surgery in the event that this is recommended for your child. Please read our fact sheets on Erb's Palsy.

## WHAT IS AN OSTEOTOMY?

This is an operation in which a bone is cut and reset (usually twisted or rotated) into a different position, in an attempt to improve use of the arm by the patient. This type of operation is used in many different conditions in different bones of the body.

## WHEN IS AN OSTEOTOMY DONE?

An Osteotomy is recommended in those children who have persistent loss of function in the arm because of stiffness in the shoulder, elbow or wrist when other treatment options are not available. It is generally not considered until there is little probability of additional improvement of use of the arm with further time, nerve or soft tissue surgery.

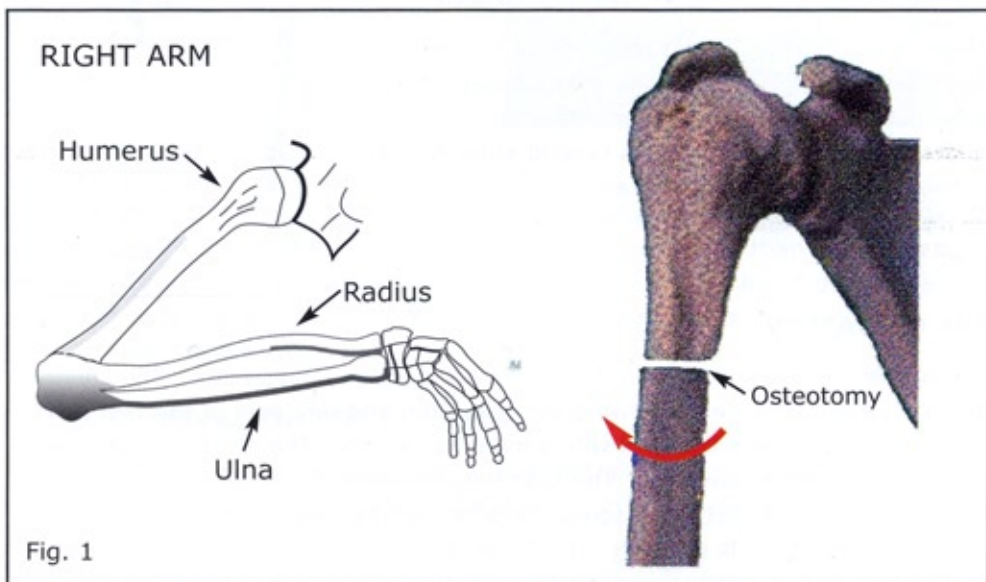


Fig. 1

In Erb's Palsy, an osteotomy can be done on the Humerus or the Radius and Ulna (see Fig. 1).

## HUMERAL OSTEOTOMY

An operation is recommended on the humerus (the bone between the elbow and the shoulder see Fig. 2) if the shoulder is stiff and the hand cannot be brought in front of the body where it is most useful. Many children with Erb's Palsy have stiffness in the shoulder resulting in the arm held stiffly across the body.

## RADIAL OSTEOTOMY

An operation is recommended on the forearm bones when the forearm is rotated so that the hand is held with the palm facing either upwards or downwards. The most useful position for the hand is when the thumb is pointing upwards and the palm facing the other hand.

## AT WHAT AGE IS AN OSTEOTOMY DONE?

There is no specific age for this type of surgery. As stated above, other options of treatment are used before contemplating osteotomy surgery. It is unusual to undertake this type of surgery in the pre-school period. It can be done from 5 -6 years of age and has been done in patients over 50 years.

## THE OPERATION

The operation takes about 1 - 2 hours under general anaesthetic. The children generally have little pain following the operation and any pain in the first day or two is usually taken care of with simple painkillers. The child is usually able to go home after a few days. The scar may measure 3 - 5" on the side of the arm or forearm. A plate and screws or wires will be used to hold the bone together while it heals (see Fig. 3). These are made of rustproof stainless steel. There is no need to remove these in the majority of patients.

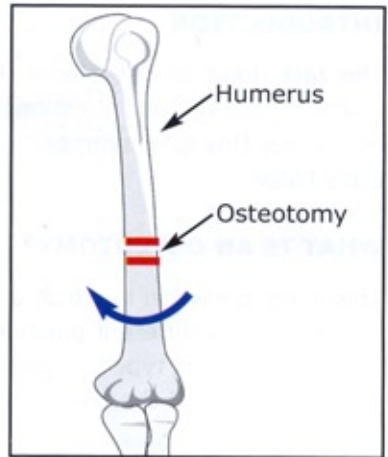


Fig. 2 Humerus

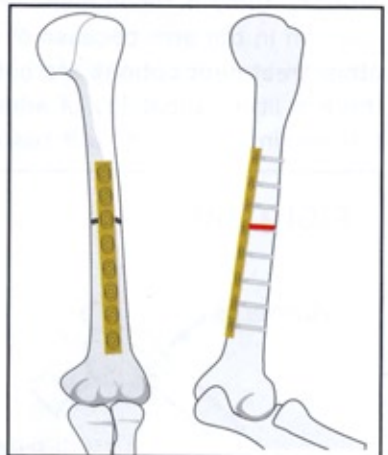


Fig. 3

As with all bone surgeries, the risks for the child include reactions to the anaesthetic, wound infections, pain, failure of the bone to heal and persistent loss of function.

Following a bone operation, your child may be placed in a cast or a sling to restrict the movement of the arm, allowing healing of the bone to take place without disturbance. Each surgeon performing an operation will have his or her own preference for the particular type of cast that will be applied. The length of time in cast may also vary, although this is usually about 4 - 8 weeks depending on the bone and age of child.

The photograph in Fig. 4 will give you an idea of what the plaster cast may look like in the case of a forearm (radial) osteotomy.



Fig. 4

Generally a "fibreglass" cast is used.

Keep the cast as dry and clean as you can. It is always amazing how quickly your child will adjust to being in plaster - often more quickly than the parents. The first week is the hardest and the last week the longest, but it does pass. If your child does not appear "right" always contact the staff at the hospital, there is always someone there 24 hours a day to give you advice.

## **AFTER REMOVAL OF THE PLASTER**

The skin under the cast can get very sore, especially in the skin folds, i.e. the inside of the elbow, there might also be a lot of dried skin on the arm.

Because the arm has been held in a cast for a period of time, it can be stiff initially. This usually loosens out quite quickly with an exercise programme under the guidance of the surgeon and physiotherapist. At first, the scars look very red and angry but with time they will fade. If the scars are infected or

bleeding in any way, seek medical advice.

The doctor will review your child in the clinic on a number of occasions and order follow-up x-rays to ensure that the osteotomy is healing satisfactorily. As the bone heals, your child will be able to return to full activities and contact sports. Generally, they should stay off contact sports such as football for up to three months following surgery.

In the long term, your child should not have any problems in relation to the osteotomy or the metalwork used to stabilise the bone. There is no necessity to remove the metalwork from the arm. Occasionally some children do have pain in the arm and may benefit from removal of the metalwork.

## CONCLUSION

Fortunately, most children do get improved function in their arm following the bone surgery. For those children with persistent loss of use of the arm, further surgery may be suggested over the following years. This could include either tendon transfer or further bone surgery. However, it is possible that further surgical intervention will not be possible or advantageous.

We hope that this fact sheet has answered some of your questions if you have been advised that your child may benefit from osteotomy surgery. However if there is anything you don't understand, any question unanswered or you feel you would like to be put in contact with other parents who have experienced this situation before you or just want to share your concerns and worries in a safe environment, please do not hesitate to contact the support group. We see this as one of the main functions of our group and we would hope that you in turn might offer this support to another parent.

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The Erb's Palsy Association of Ireland was set up by parents of children of Erb's Palsy to provide information and help to other parents whose children have this condition. The Association is run solely by these parents and is striving to achieve a better recognition and understanding of the nature, causes and proper treatment of the condition.

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