



A patient's guide to

Epiphysiodesis

What is it?

The leg (and indeed the arm) grows in length because there is a growth plate (physis) at the top and bottom of both the thigh bone (femur) and the shin bone (tibia). These growth plates grow throughout childhood but will 'disappear' as you go through puberty and by the time you are 16-17y in boys or 14-15y in girls, you will be skeletally mature and there will be no physis left.

Epiphysiodesis is a technique used to permanently stop growth from one (or more) of the 4 growth plates in a limb to correct problems with leg length. It is commonly performed around the knee, in either the femur or tibia, and less commonly, at the hip joint level (top or proximal part of the femur) or at ankle joint level (distal part of the tibia). It must be done before you have finished growing i.e. before skeletal maturity. The timing of the procedure depends on how much the difference is between your two leg lengths: the bigger the difference, the earlier the procedure takes place and /or the more growth plates we stop.

Growth can be prevented by disrupting the growth plate by drilling it and curetting it to damage the growth plate cartilage within the bone. This stops growth permanently.

Occasionally, if it is difficult to predict the correct timing of the procedure and it might be useful to perform a temporary procedure. In these cases, either a screw is placed directly across the growth plate on both the inside and the outside (medial and lateral sides) of the leg or by using a small plate and screw system. The screws and/or plates can be removed to allow growth to continue when the correction has been achieved.

Often, a number of epiphysiodeses can be performed at the same time to achieve the desired correction. It may be performed at the same time as corrective surgery in the hip or ankle is performed.

Why is it done?

Epiphysiodesis is used in patients with problems with limb length. By reducing the rate of growth of the longer leg, it allows the shorter leg to catch up so that by the time you have finished growing, your legs are essentially the same length.

The procedure is performed under a general anaesthetic. The growth plate is identified using x-ray and a small incision is made at each side of the growth plate (on the medial and lateral sides, normally a short distance above or below the knee). If a permanent growth arrest is required, a drill is used to open the growth plate and the cartilage layer where bone is formed is removed using a curette; if the growth arrest is planned to be temporary, either a screw or a plate and screws are inserted. After surgery, the wounds are closed with absorbable sutures and, in the knee and ankle, a wool and crepe bandage is used to wrap the leg.

Following surgery, the patient can remove the bulky bandage after 48 hours, wounds should be checked at two weeks (either at clinic or with the GP practice nurse) and clinic review is usually at between six and twelve weeks.

Pain relief

We usually use local anaesthetic in the wounds during surgery so pain should not be a major problem in the immediate post-operative period. Simple painkillers like paracetamol or ibuprofen are usually all that is needed but in patients with severe pain a small dose of opiate may be necessary on the first postoperative night. No strong painkillers are usually necessary on discharge home.

Weight bearing status

Postoperatively the patient is allowed to fully bear weight. Crutches may be provided for comfort but should not be needed for more than a few (5-7) days.

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