



PATIENT INFORMATION BOOKLET

Deformity Correction – ‘Guided Growth’ PediPlate® Insertion



DR DAVID BADE

PAEDIATRIC & ADULT
ORTHOPAEDIC SURGEON

This booklet aims to provide you and your family with some general information about your child's procedure with Dr Bade, the expectation when they are discharged and what to do if you have any further questions.

WHAT IS LOWER LIMB ALIGNMENT?

Many parents worry about the shape of their child's legs and feet or the way their child walks at one time or another.

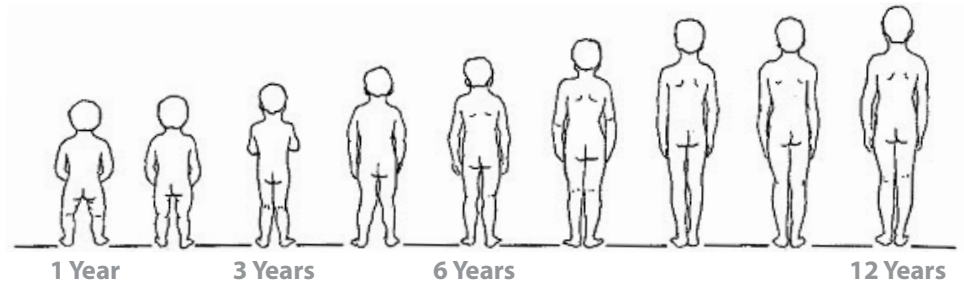


Figure above: Normal development of leg alignment from birth to 12 years old.

(Tolo VT, Wood B, Amaral RS. Pediatric Orthopaedics in Primary Care. Baltimore, MD: Williams & Wilkins; 1993:254.)

When children begin walking between ten and eighteen months, they stand and walk with a wide base of support. There is usually some bowing of the legs which are externally rotated slightly for stability. The feet are flat in appearance.

In the two to five year age group, the lower limbs start to show a posture of knock knees.

The knock-kneed posture corrects by the age of seven to eight years (with the knees together, and the ankles should just touch).

If the angulation is extreme or asymmetric (only on one side), further investigation may be required to work out why this has occurred. Surgical options for correcting the angulation as well as the best timing to perform this will be discussed.

WHY DOES THIS HAPPEN?

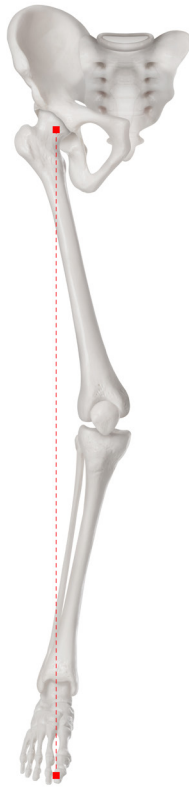
The growth plates (physes) are sites where new bone growth is generated. They are located at both ends of a long bone - such as the femur (thigh bone).

Bones do not all grow the same way and sometimes a child may have a condition where either the bone is not straight, or one leg is longer than the other.

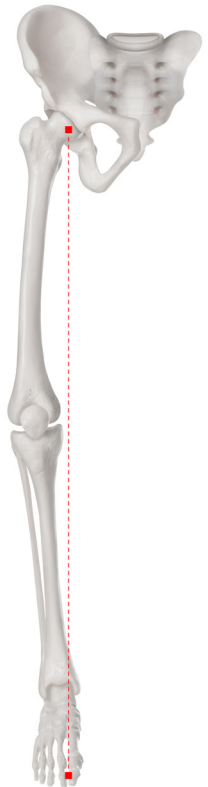
Alternatively, they may have a congenital abnormality, an infection or trauma that can result in the limbs to grow with bow legs or knock knees and sometimes more complex deformities.



Normal Knee



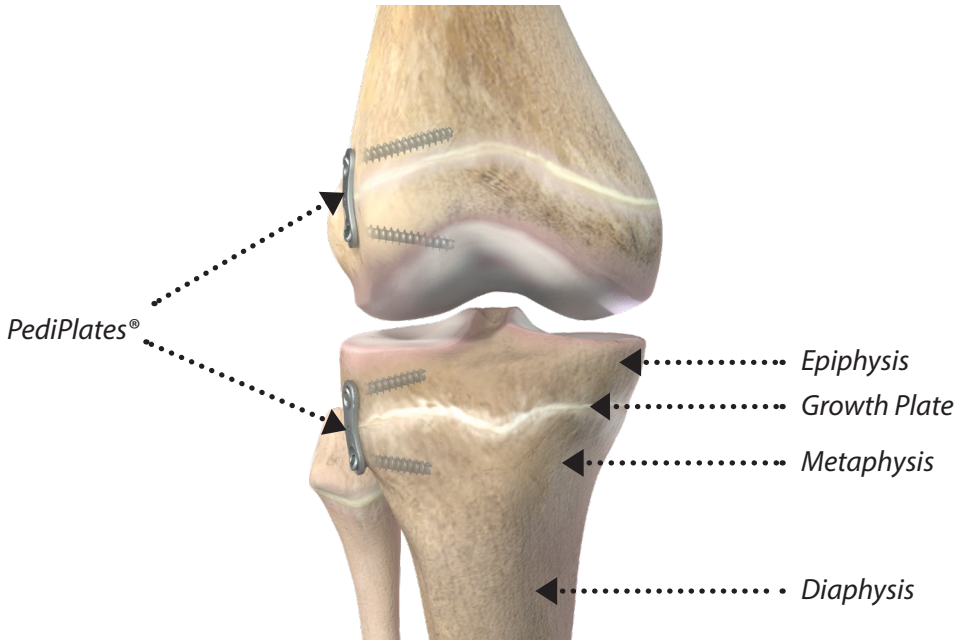
Knock Knee (Valgus)



Bow Legs (Varus)

HOW IS IT FIXED?

To help straighten or correct leg length differences of the bone, PediPlates® are placed across the growth plate. This causes the growth of the bone to slow and correct the deformity. Importantly, this will not affect the overall height of your child.



Once the desired effect has been achieved, the plates will be removed and bone growth will resume. This procedure is only effective for children at a specific point in their growth stage as it relies on normal development of the bone to help correct deformities.

PediPlates® or similar implants can also be used to treat deformity conditions that affect the other growth plates in the body. For example, fixed flexion deformity of the knee, ankle equinus and ankle valgus.

WHY IS IT FIXED?

It's important to correct this condition as it can affect our walking gait and this can increase the risk of Osteoarthritis and further complications during adulthood.

POTENTIAL SHORT TERM PROBLEMS THAT MAY OCCUR.

Infection – it is possible for any surgical wound to become infected. Antibiotics are always given at the time of surgery to prevent this. If there is any redness or ooze from the wound it is important to contact Dr Bade's Practice Nurse immediately between 8:30am - 4:30pm, or present to your nearest Emergency Department outside these hours. If the infection is severe, it is possible the plates may need to be removed.

Bleeding – It is extremely uncommon for bleeding to be a problem following this procedure. There may be a small amount of ooze on the dressings. Unless they are saturated, the dressing's DO NOT need to be changed.

Pain – Orthopaedic surgery can be uncomfortable and as a result your child may experience some pain. The Anaesthetist will use a combination of techniques to make sure your child is as comfortable as possible.

POTENTIAL LONG TERM PROBLEMS THAT MAY OCCUR.

Failure to Correct - The PediPlates® will not work should your child finish their growth stage prior to the correction being completed. The procedure relies upon prompt recognition of the problem so the procedure can be performed within an appropriate timeframe.

Overcorrection - If you do not attend regular follow-up visits with our clinic, usually every 3 months, it is possible that your child's legs will over correct and cause a deformity in the opposite direction to which they started. It is ESSENTIAL that you attend the post-operative appointments and regular long leg X-ray films will be needed for each follow-up appointment. This is to ensure that the PediPlates® can be removed at the correct time.

Implant Problem - It is possible that the screws can become loose or back out of the bone in rare circumstances. This will require a consult with Dr Bade on best practice for management.

Rebound Phenomenon - This situation occurs when the PediPlates® have been removed at the correct time however with their removal, there could be a risk that the growth plate is "released" and grows more than expected. As a result, the deformity may recur.

BEFORE ADMISSION TO HOSPITAL

If your child has any of the following symptoms, please notify Dr Bade's Practice Nurse on (07) 3059 6259 between 8:30am - 4:30pm Monday to Friday or call The Mater Hospital on (07) 3163 2490.

- General 'unwell' feeling
- Ear infection
- Cough, cold or fever
- Vomiting or diarrhoea
- Contact with any infection illness – e.g. Chicken Pox, Measles
- Any broken skin, cuts or acne

Before your child commences this journey of insertion of PediPlates® (guided growth plates), Dr Bade suggests that you take a photo of your child's legs whilst standing. This is for your own benefit so that you can see the progression post insertion of the device.

WHAT TO BRING TO HOSPITAL - CHECKLIST

- Pyjamas and/or clothes that are front opening for easier dressing
- Toiletries, including toothbrush, toothpaste, hairbrush
- Comforters/Toys
- Regular medications and relevant medical information
- Sanitary pads or tampons, nappies or pads as required by your child
- Any special dietary requirements
- Any special feeding equipment and feeding device connectors
- Mobile phone, iPad or any other electronic devices for entertainment

WHAT TO EXPECT ON THE DAY OF SURGERY

Your child will be admitted to hospital when appropriate for the surgery time. Just before you leave home, your child will need to have a shower or bath and wash themselves with antibacterial wash.

Approximately one week prior to your child's surgery date, you will receive an email with fasting and admission times. If you do not receive this email, please call Dr Bade's practice. This will go into detail of when they cannot have anything to drink or eat with specific timings. Please note that chewing gum, lollies and water are considered to be foods and drinks.

On the day of the surgery, you and your child will be seen by Dr Trung Du (Anesthetist) and Dr Bade. It is important to tell the Doctors or admitting nurse if your child is taking any medicines, including herbal or homeopathic tonics. Your child will be weighed and their vital signs (temperature, pulse, respiratory rate and blood pressure) will be recorded. Your child will be asked to wear a hospital gown and long hair should be tied back.

The admitting nurse will apply an identification band to your child's wrist or ankle which stays on for the duration of admission for identification and safety reasons. If the identification band falls off or is pulled off, please notify the nursing staff as a new one will need to be applied. The admitting nurse will ask about your child's medical/surgical history and any particular needs your child may have while in hospital. It is important to provide staff with detailed and accurate information so that they can properly plan to meet your child's needs.

Dr Du may request medicine be given to your child before surgery which can cause drowsiness. If this is the case, it would be advisable to take your child to the toilet before this medication is administered. Post administration of pre-medication, your child should remain on their bed and supervised at all times or have the bed rails up. Once your child is asleep, Dr Du may perform a nerve block to help minimise the pain after the procedure.

While your child is having surgery, you may wait at the hospital. If you wish to leave this area, please inform the Receptionist/Nurse of your contact number.

AFTER THE PROCEDURE

Although Orthopaedic procedures can be uncomfortable, Dr Du will use a number of techniques to ensure your child is as comfortable as possible.

For a couple of days after the procedure when some of the medication from the operation starts to wear off, you may be advised to administer oral medication. It is essential to follow the prescribed dosing and timing recommended by the Doctors to ensure adequate relief.

Contact - Dr David Bade

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 drbade.reception@gmail.com



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All information contained in this booklet has been supplied by qualified medical professionals as a guideline for care only. Seek medical advice, as appropriate, for specific concerns regarding your child's health. Please contact Dr Bade's rooms for any further questions.