Limb Lengthening

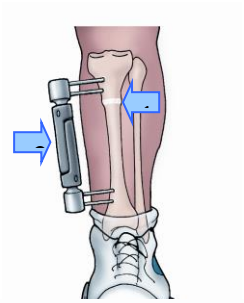
Children and adolescents have tremendous healing potential. Doctors who specialize in the treatment of children's bones can utilize the tremendous healing potential in children and teenagers to make their arms and legs longer. Lengthening may be necessary when a birth defect, severe fracture, or infection creates a significant difference in length of the arm or leg. This difference can affect shoe wear, running, walking, or activities of daily living such as dressing or feeding oneself. Each child and family must be assessed individually in terms of the physical and emotional significance of the difference in length of the arm or leg and the appropriateness of intervention.

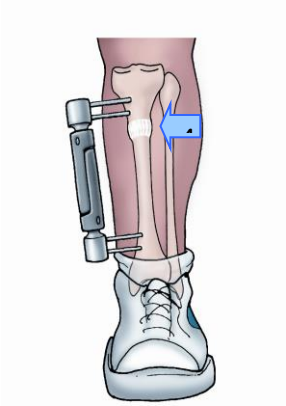
A special x-ray called a scanogram helps to measure differences in leg lengths

If treatment without surgery is no longer felt to be appropriate, then lengthening of the shorter limb can be considered by the child and family. Limb lengthening is a complex process that has been performed by orthopaedic surgeons for over 30 years.

The process of limb lengthening with an external device has 7 major steps:

1) Cut the short bone
2) Attach the device (called an external fixator) that will pull the bone apart making it longer
3) Wait 1-3 weeks to allow the body to produce new bone for the lengthening
4) Lengthen the bone gradually for 30 to 60 days
5) Keep the device on for an additional 2-4 months of to allow the bone to harden and heal
6) Remove the device and complete the rehabilitation process





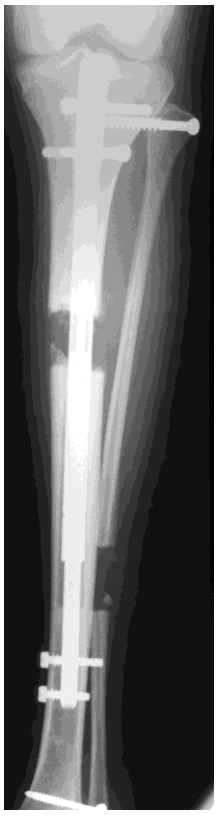
During the limb lengthening process, frequent doctor's office visits are required in order to:

1. Check for evidence of infection around the pins
2. Check the frame of the external fixator for loose connections
3. Check x-rays for evidence of new bone formation and increasing length of the limb

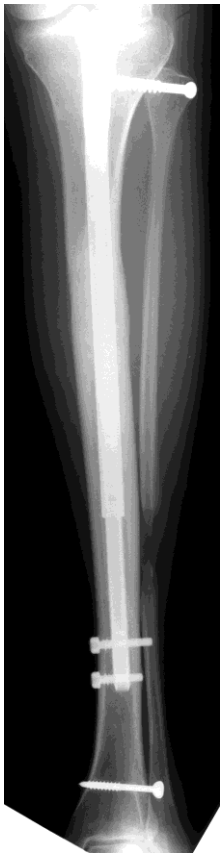
The process of limb lengthening with an internal device has 7 major steps:

1) Cut the short bone

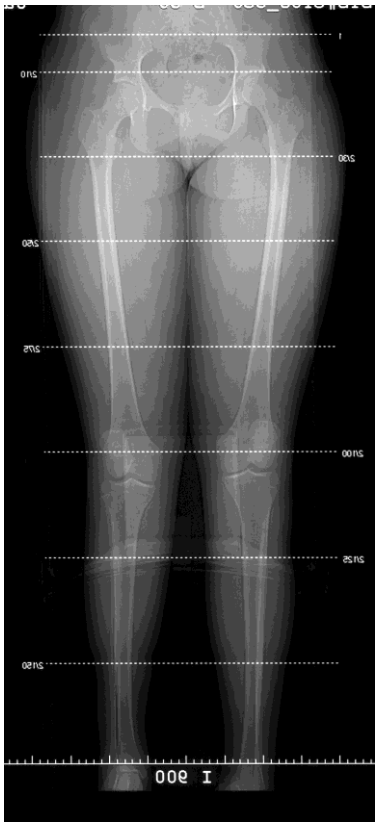
2) Insert the internal device that will pull the bone apart making it longer
3) Wait 3-5 days to allow the body to produce new bone for the lengthening
4) Lengthen the bone gradually for 30 days
5) Rehabilitate the muscles and joints
6) Keep the device in for an additional 12-14 months to allow the bone to harden and heal
7) Remove the device if necessary and complete the rehabilitation process



Tibial nail lengthening



Tibial nail with healed lengthened bone



Equal leg lengths after nail removal