

Physical therapy and bracing for **internal femoral** limb lengthening.

1. Immediately after surgery:
 - a. Use of a dorsiflexion non-weight bearing brace to keep the ankle in neutral. This brace should be used 12 hours a day. Use of a knee extension orthosis (TROM locked in extension). This brace should be used 12 hours a day. The patient may choose how to alternate brace use to achieve the durations detailed above. These braces may be removed for physical therapy.
*** if the patient had a hamstring recession during surgery, then the prescribed knee brace must be used full time for 6 weeks. The ankle brace must be used for 8 hours a day in addition to the knee brace.
 - b. Gait training, (non-weight bearing) NWB on the affected extremity. The patient may rest the leg on the floor for balance, if necessary, in order to prevent falls.
 - c. Patient should practice ankle pumps, gentle passive and active knee ROM (if no gastroc lengthening), hip extension stretching, quad strengthening (straight leg raises) and abductor strengthening (abduction leg raises).
2. 1-2 weeks after surgery PT 2-3 times per week:
 - a. Brace use continues as described above.
 - b. Resistance bands may be used for ankle strengthening.
 - c. Continue to build strength and achieve flexibility in all muscle groups within WB limitations.
 - d. The patient may not participate in any kneeling activities on the affected leg.
 - e. Patient should be performing a home program outside of PT.
 - f. The patient must maintain ankle passive dorsiflexion to neutral and passive knee extension with a deficit no greater than 20 degrees, and full hip extension.
***If the patient starts to demonstrate any knee flexion contracture, then a knee extension brace used full time and the ankle dorsiflexion brace used 8 hours per day.
***stomach lying is very helpful to prevent hip flexion contractures and should be encouraged.
3. *After* total lengthening and correction is achieved, but *before* the new bone has healed:
 - a. If the patient has achieved goals within the limitations of the weight bearing protocol, then a reduction in PT frequency can be discussed with input from the PT and the physician. This is only considered if the patient has demonstrated an understanding of the home program and achieved goals.
 - b. If the patient has any flexion contractures at the hip, knee or ankle, PT must continue at the 2-3 times per week intervals
4. After the new bone has healed, and before implant removal:
 - a. The patient will be instructed to partial weight bear initially.
 - b. Advancement to (full weight bearing) FWB will depend on x-ray appearance.
 - c. After FWB is achieved, the patient may participate in all weight bearing and strengthening activities.
 - d. The patient may not participate in high impact activities.
5. After implant removal
 - a. NWB for 4 weeks
 - b. Continue all NWB strengthening and stretching

6. After clearance to resume WB post device removal
 - a. Advance to (weight bearing as tolerated) WBAT
 - b. Resume PT as indicated to achieve full activity goals

***Each patient's specific instructions and clinical course will vary according to their particular condition and clinical/therapy needs.