

Modern Rx of Polio

with Ilizarov & new techniques

Poliomyelitis

Best Teacher of Orthopaedics

Teaches

Thorough clinical examination

Muscle charting

Gait Analysis

Analysis of Joint Instability

Precision in Surgery

Importance of Follow - Up

Orthotics

Common Surgeries

- **SupraCondylar Osteotomy**
- **Limb Lengthening**
- **Soft tissue release & distraction**
- **Ankle Fusion**
- **Supra Malleolar osteotomy**

How much to lengthen ?



25 yr old has 4 cm shortening as seen on a full length Xray. However, it is better to lengthen only about 3 cm.

Which method?



Ilizarov fixator with Carbon Fibre rings are light and full control over lengthening zone is possible.



Treatment duration of only 5 months. Gait is improved and fatigue while walking is reduced.

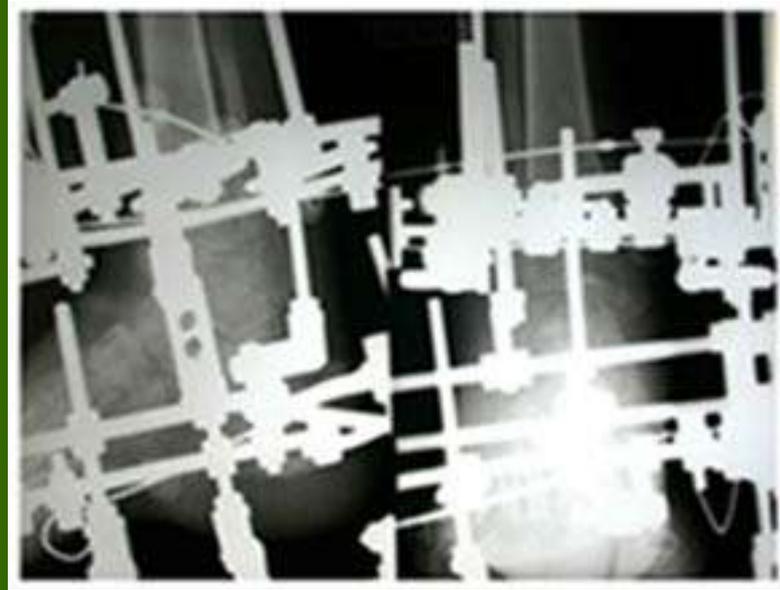
Is lengthening very easy?



Software Engineer with Polio went to the world's best institute for Tibia lengthening--& developed Equinus.

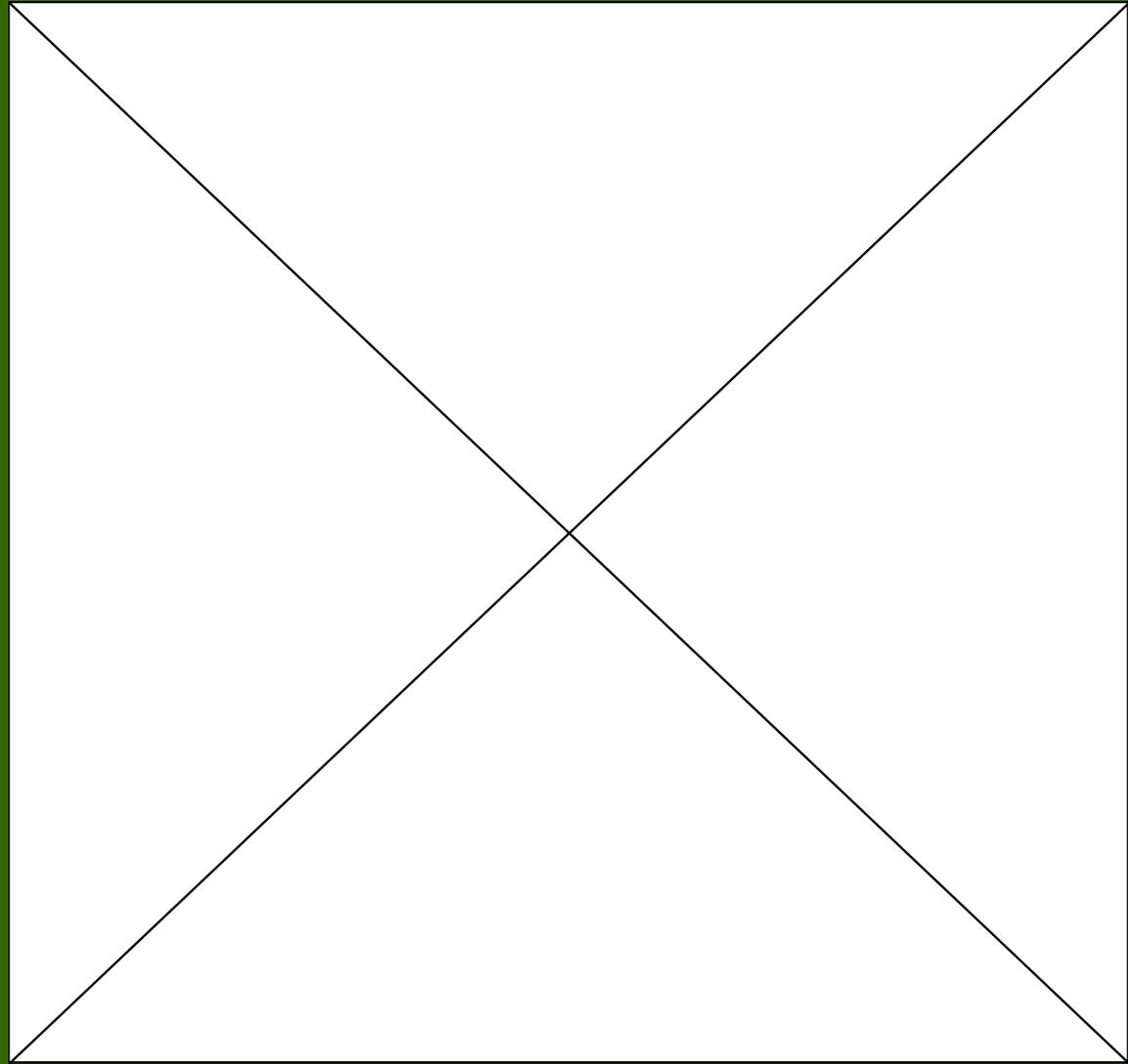


Though the tibial lengthening was flawless and without deviations etc, the ankle went into severe Equinus deformity and he could not walk.

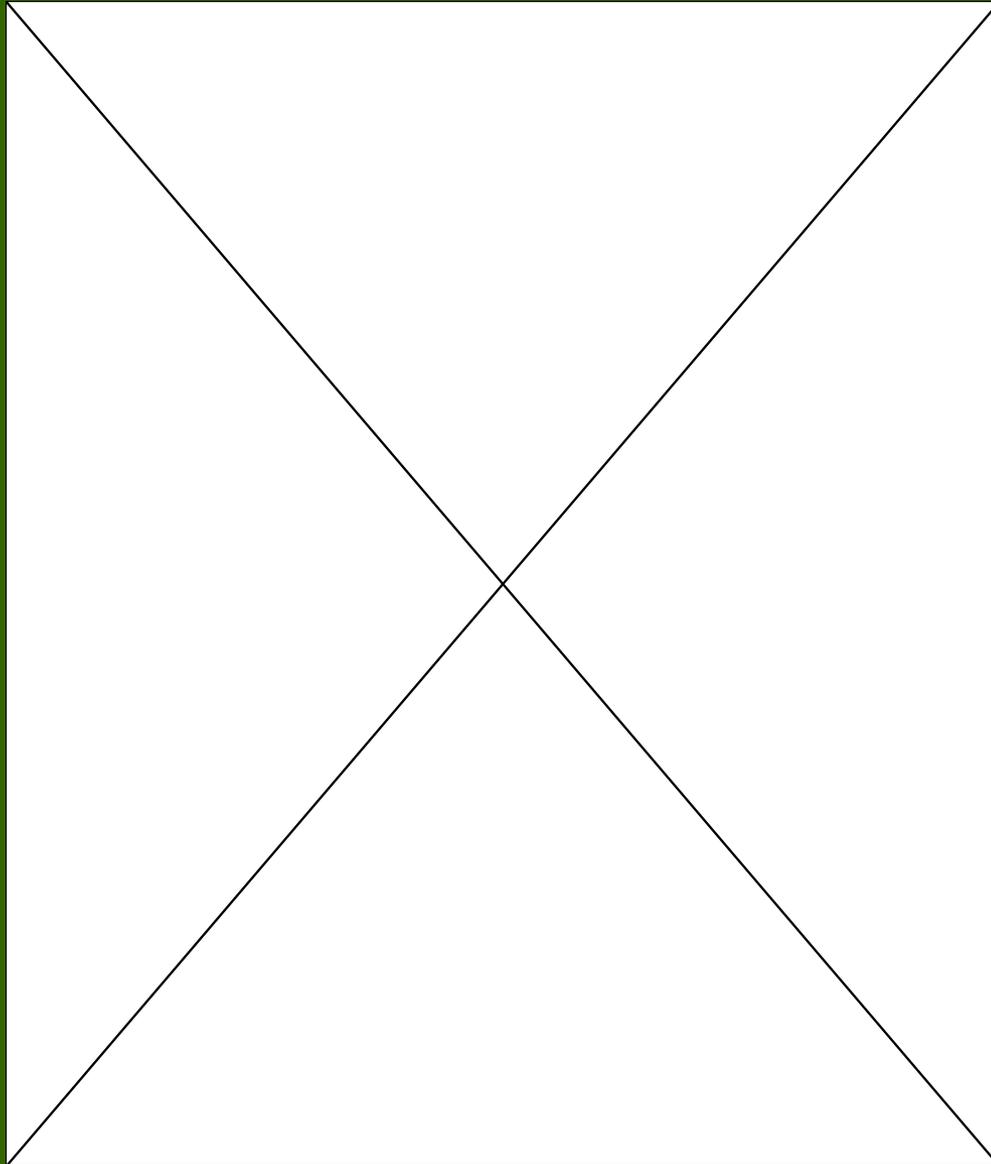


We corrected this problem by adding a fixator assembly to the foot and corrected his Equinus deformity using the Moment Arm vector method that we have developed.

[Click here to see animation](#)



[Click here to see animation](#)





We achieved a complete correction of the Equinus without any damage to the ankle joint.

Fixed Flexion

Deformity

Rx by

Soft Tissue Distraction



Severe fixed flexion deformity of the knee with Equinus of ankle in a 28 year old. Could not walk without support.

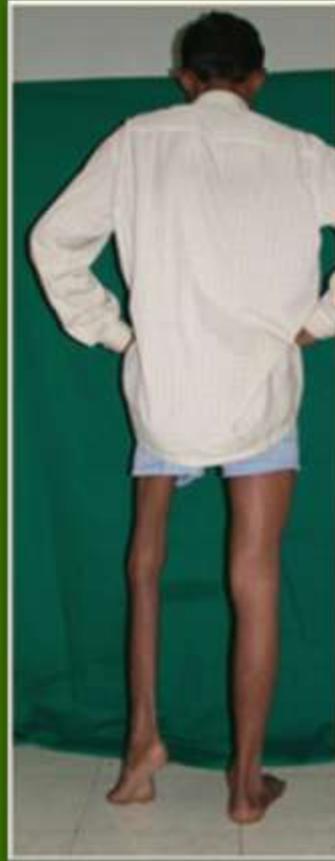


Ilizarov fixator was applied to the knee and ankle with distraction done gradually with preservation of Jt spaces.



Careful application of hinges to the Centre of Rotation of Knee and Ankle ensured full and proper correction.

Lengthening over nails



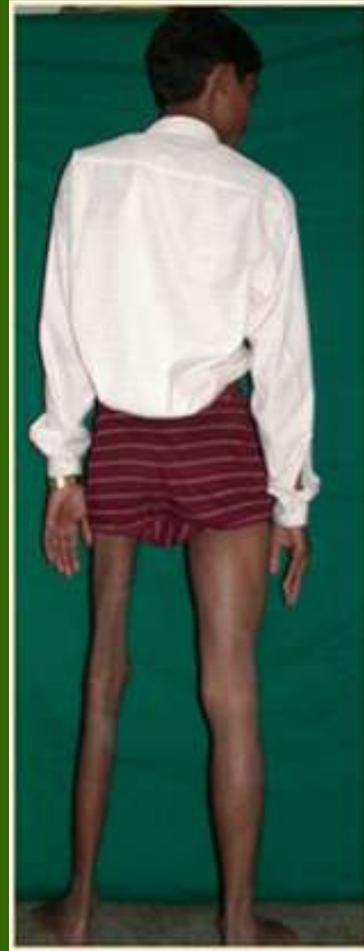
20 yr old with 7 cm shortening of limb. External fixation methods would have taken too long. LON method was chosen to reduce treatment duration.



Specially modified Nail was inserted in the Tibia with a osteotomy and locked at upper end. The Ilizarov fixator Motored the distraction to achieve length after 7 days.



7 cm regenerate gap is seen, achieved within 3 months.
Nail is now locked at distal end and the fixator removed
Bone formation now complete after few months.



Excellent result overall with minimal duration of treatment.

Fixed Flexion
Deformity
Rx by
SupraCondylar
Osteotomy



30 yr old has very poor gait with fatigue and needs to put her hand on the thigh or she falls frequently. Her buttocks also protrude behind while walking.



A percutaneous (minimally invasive) osteotomy at Supracondylar level was done with Ilizarov fixator. Accurate and gradual correction was possible.



Full correction of the bend in the knee was achieved and her walking improved dramatically and knee movements were also completely retained.

FFD Knee

Osteotomy correction

by

Fixator Assisted

Nailing



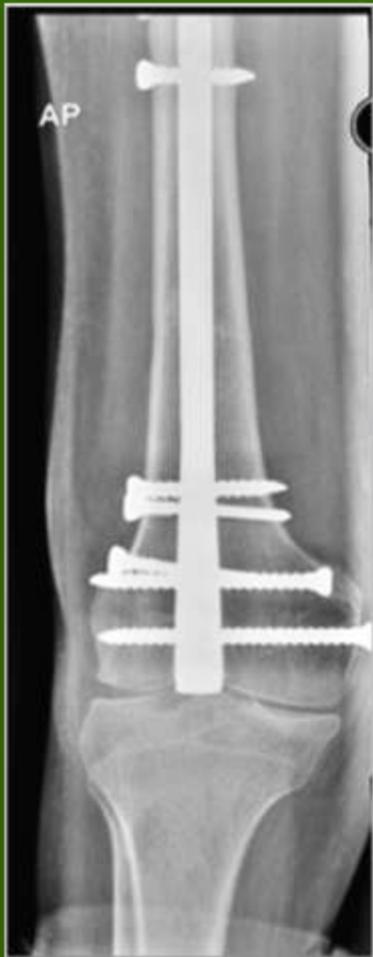
35 yr old with severe bend in the knee and ankle equinus. Could not walk without putting his hand on the thigh. Significant curvature seen in the femur bone.



Fixator assisted nailing was done. Special straight IM nail was inserted through tiny incision at knee. Fixator retained for few weeks for early walking.



Full correction of deformities both in the knee and ankle were achieved and gait improved dramatically.



IM Nail seen inside with full correction of deformity and healed osteotomy site. Full movement in knee is visible due to minimal external fixation.

FFD Knee

Osteotomy correction

With lengthening



30 yr old with hand to knee gait and protrusion of buttocks on walking also has shorteing of 3 cm.



We chose to perform a supracondylar osteotomy with lengthening at same level . 3cm lengthening needed only 5 weeks of external fixation.

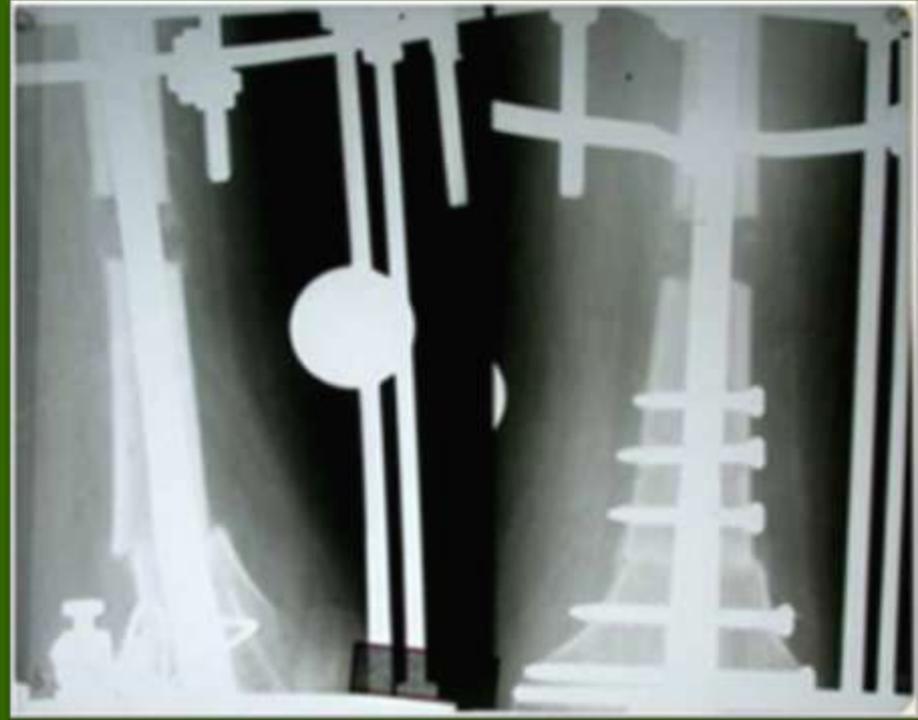


Straightening of the knee was achieved along with 3cm length in minimum duration.

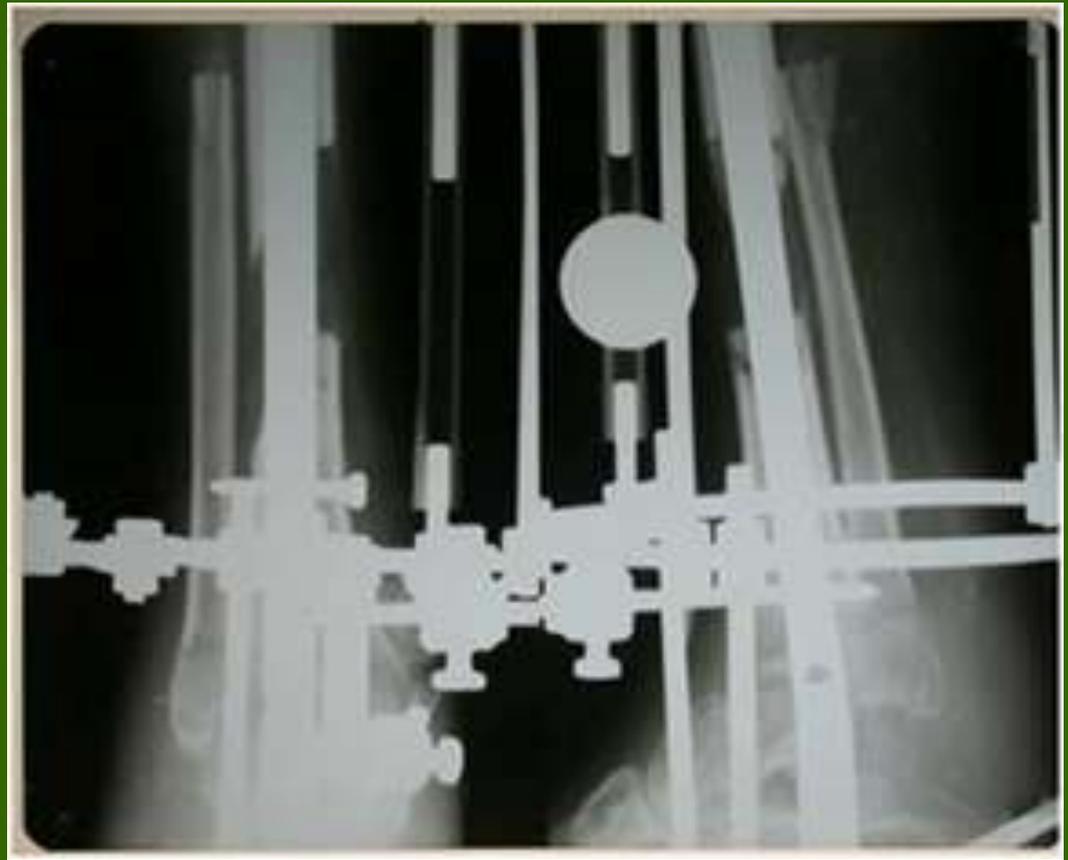
Lengthening
with SCO
&
Ankle Arthrodesis



21 yr old medical student has severe shortening of 7 cm and flexion deformity of knee with unstable ankle joint in Equinus.



We chose to perform only 2 cm lengthening in the femur with correction of FFD to get rid of his hand to knee gait. Osteotomy has healed early in IM nail and length is achieved within 3 weeks. Fixator removed in 3 wks.



Ankle Equinus was corrected with an ankle fusion done with a special IM Nail. Just adjacent to that a lengthening corticotomy also performed to achieve 5 cm length in less than 3 months of external fixation time.



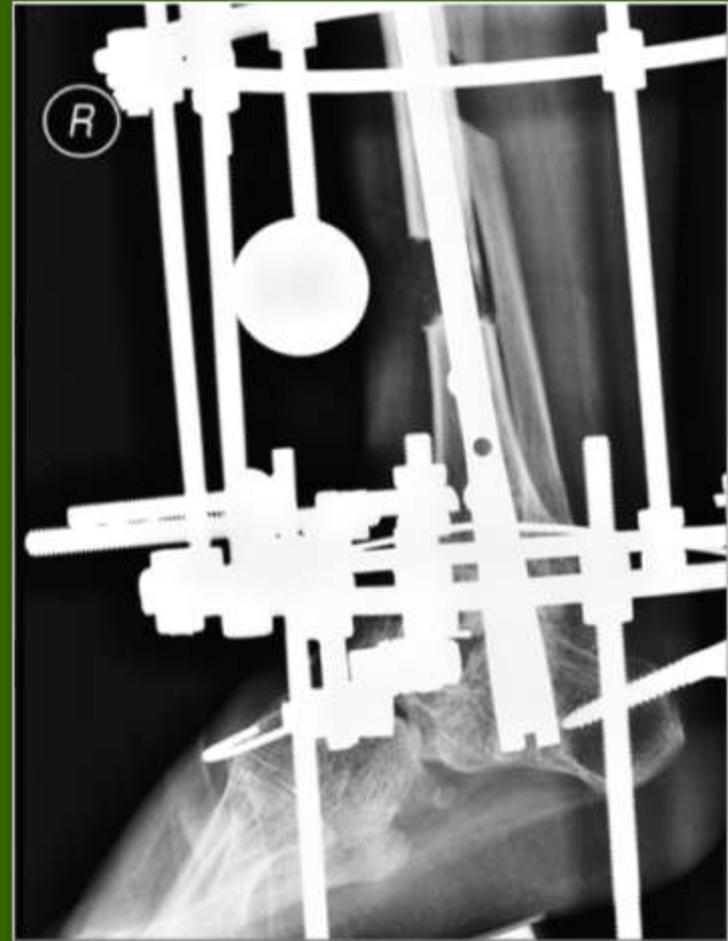
Result shows correction of FFD knee with healing of femur lengthening. Ankle fusion is sound with hardening of regenerate seen early in lower tibia.



Achieved stabilization of ankle , straightening of knee and lengthening of 7 cm in less than 3 months of external fixation.



36 yr old teacher had severe instability of ankle which turned in and caused her to walk with a bad lurching gait with protruberant buttocks. Shortening 4 cms.



FAN technique was used to pass in an IM nail from below to fuse the ankle in minimal plantarflexion and also lengthen the distal tibia. Fixator came off in 2 mths.



Complete correction of ankle deformity achieved. Length achieved. Gait has improved significantly.



27 yr old gym instructor had a FFD of the knee causing a hand to knee gait and shortening of 3 cm.



He had a treatment with FAN method in which a special rod was inserted and two osteotomies were done- one for straightening the knee and another for lengthening.



Fixator was removed in 5 weeks and full correction of deformity was achieved along with equal lengths.



28yr old Software engineer had unstable ankle with collapse in dorsiflexion causing instability of knee as well.



A Supramalleolar Osteotomy was done to change the arc of motion of ankle to act as a bony block to stabilize the ankle by preventing excess dorsiflexion. An HTO was added to correct the varus as well.



The SMO has changed the arc and improved function and stabilized the ankle. Gait is better with no collapse at the knee.



39 yr old engineer had FFD knee with shortening with weakness of plantarflexion causing instability of knee and ankle with a very tiring gait.



All aspects were corrected with an SCO by ilizarov, Tibial lengthening as well as SMO to correct ankle instability.

Recurvatum Knee Osteotomy correction



15 yr old has very severe Knee recurvatum deformity which does not allow her to walk even few steps.



Angulation Translation osteotomies were done in the lower femur and upper tibia thru small incisions.



Full correction of the Recurvatum deformity was achieved by this method atraumatically and she was walking during the entire treatment.

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