

Η ΑΝΑΓΕΝΝΗΣΗ ΔΥΣΠΛΑΣΙΚΩΝ ΚΑΤΩ ΑΚΡΩΝ, ΜΕ ΔΙΑΤΑΤΙΚΗ ΙΣΤΟΓΕΝΕΣΗ

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Επίκουρος Καθηγητής Ορθοπαιδικής Ορθοπαιδικής Παίδων ΑΠΘ

Πρόεδρος Ορθοπαιδικής Τραυματολογικής Εταιρείας Μακεδονίας Θράκης

Congenital limb deficiencies

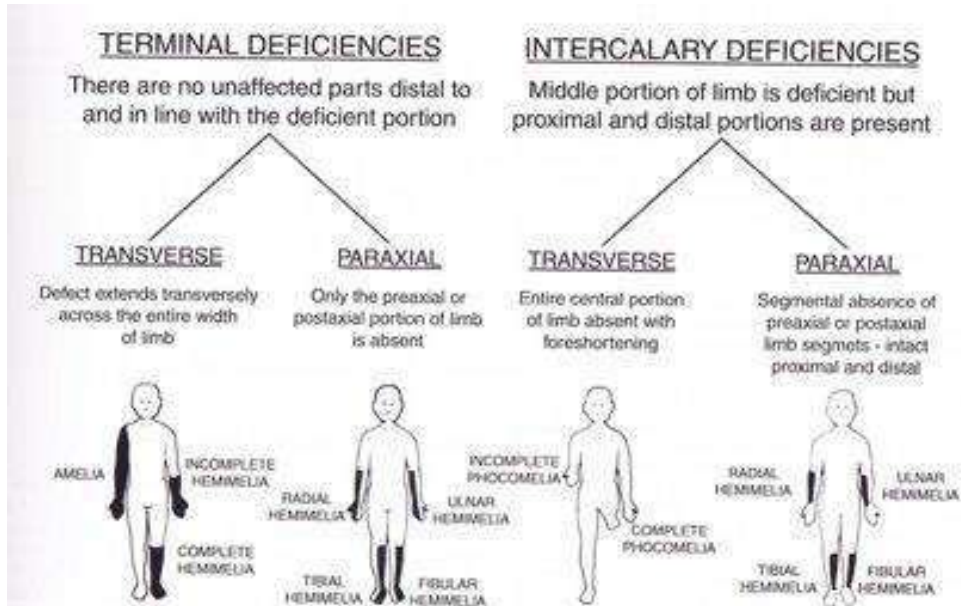


FIGURE 32-4. Frank and O'Rahilly classification of congenital limb deficiencies. (From Herring JA, Cummings DJL: The limb-deficient child. In Moseley RT, Weinstein SL (eds): Lovell and Winter's Pediatric Orthopaedics, 4th ed, vol 2. Philadelphia, Lippincott-Raven, 1996.)

Διαμαρτίες μηριαίου

Coxa vara
Congenital Short Femur
PFFD



Διαμαρτίες μηριαίου

Femoral deficient child

Spectrum of dysplasia, with severe leg length discrepancy



υποπλασία μηριαίου

Τύπος μηριαίας ανεπάρκειας, όπου όλα τα στοιχεία του μηρού είναι σχηματισμένα αλλά υπάρχει σημαντική βράχυνση, μεγαλύτερη από 4 εκ



Severe shortening of the limb



PFFD

Pappas classification 9 types

Nine classes of congenital abnormalities of the femur					
	Class I	Class II	Class III	Class IV	Class V
Diagram					
Femoral (proximal) femoral pelvic abnormalities	Normal (shorter than normal) and/or lack of acromioclavicular development	14-30 Proximal femoral (short) hypoplasia, bone structure adapted to malunion	35-60 No proximal femoral development beyond proximal femoral head, malunion of proximal humerus	60-67 Proximal femoral head and neck located by (long) malunion in a Class III position (short)	68-85 Proximal femoral head and neck located by (long) malunion in a Class III position (short)
Associated abnormalities	None shown	Thin distal humerus, flat, oval, and acromion abnormal	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus
Treatment objectives	Proximal management	Proximal femoral stability through proximal management	Proximal femoral stability through proximal management	Proximal femoral stability through proximal management	Proximal management

	Class VI	Class VII	Class VIII	Class IX
Diagram				
Femoral (proximal) femoral pelvic abnormalities	20-34 Distal femoral shaft, irregular, and complete irregular distal femoral distal	35-50 Core rare Hypoplastic femur because proximal epiphysis irregular with distal femoral shaft defect; femoral Vagles distal femur	55-61 Core rare Hypoplastic femur Proximal head and neck malunion Proximal femoral plate abnormal Abnormalities of proximal humerus with associated bowing of shaft and ridge of distal femur	61-80 Humeral femur
Associated abnormalities	None shown (but text says 'Some have lower leg flexion shown')	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus	Thin distal humerus, flat, oval, and acromion abnormal; flat and high riding patella; flat and high riding tibia; flat and high riding fibula; flat and high riding calcaneus
Treatment objectives	Proximal management	Proximal femoral stability through proximal management	Proximal femoral stability through proximal management	Proximal management

Figure 63-1 The nine classes of congenital abnormalities of the femur are shown here diagrammatically. Information is given regarding the natural history of each and the aim of treatment.

(Reproduced with permission from Pappas, A. N., *J Pediatr Orthop* 3:49-59, 1983.)

PFFD

Proximal Femoral Focal Deficiency^b



Aitken or Pappas classification

PFFD c



PFFD d



PFFD e



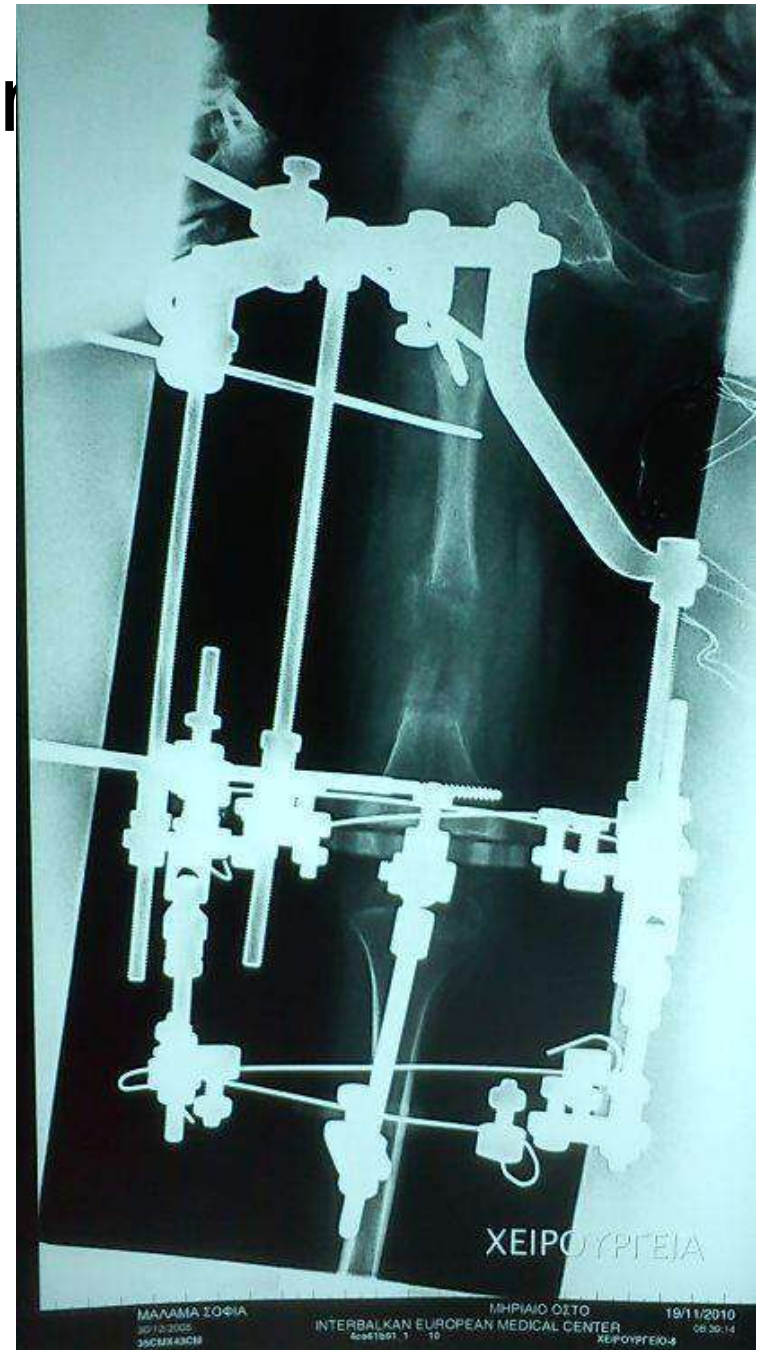
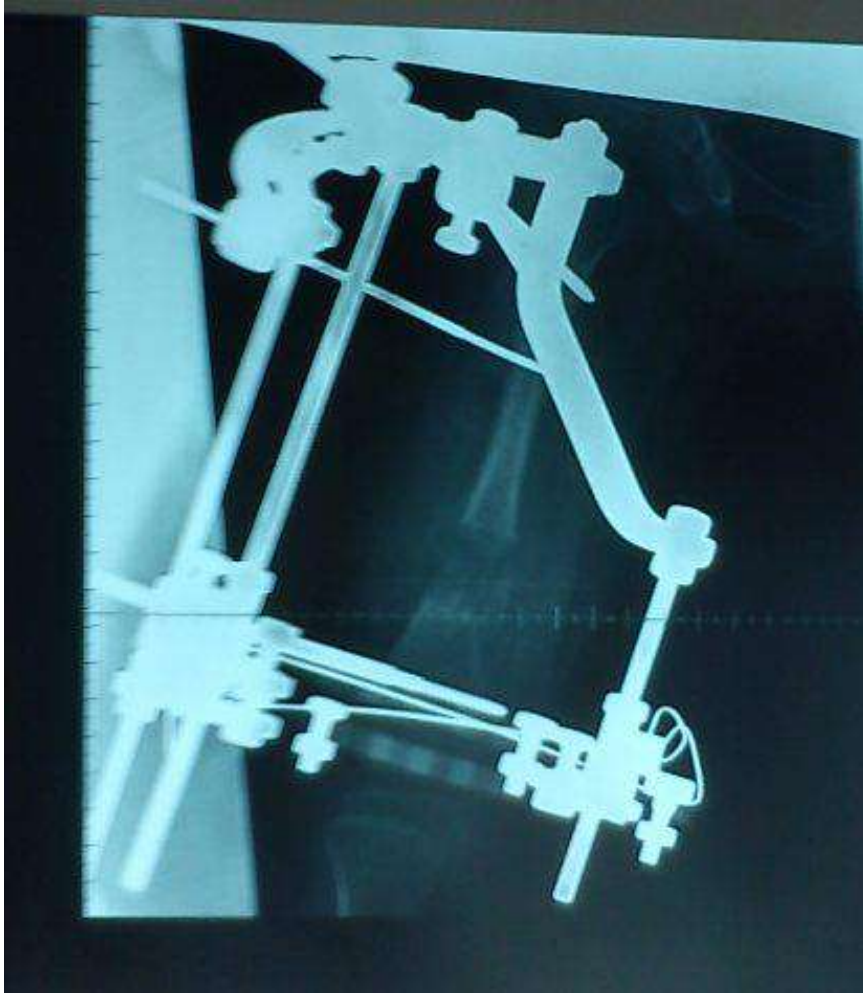
PFFD

Proximal Femoral Focal Deficiency^b



Aitken or Pappas classification

PFFD Ilizarov treatment



PFFD Ilizarov treatment



PFFD Ilizarov treatment



PFFD Ilizarov treatment

Initial length 15 cm
Increase 6.2 cm
41% increase
Healing index 18
days/cm



PFFD Ilizarov treatment

Απουσία πτώσης
Σταδιακά οίδημα
ΑΡΝΗΣΗ
ΦΟΡΤΙΣΗΣ



PFFD Ilizarov treatment



PFFD Ilizarov treatment



PFFD III



PFFD Ilizarov treat



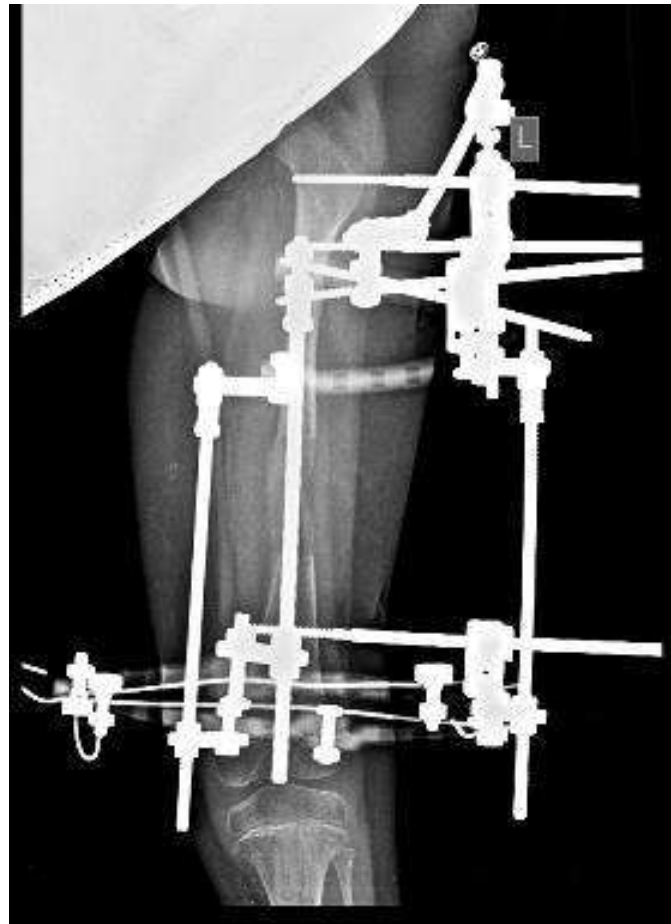
PFFD Kot Marl 9-2007 **Us diagnosis**



PFFD Kot Marl 10-2012



PFFD Kot Marl 3-2013



PFFD Kot Marl 4-2013



Lep



Lep



PFFD Lep 3yrs



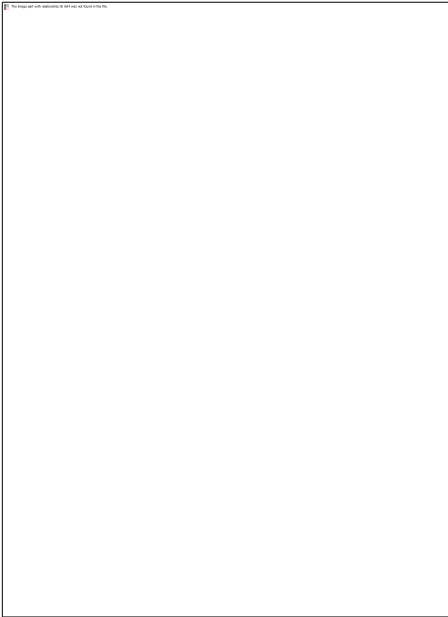
PFFD Lep 6yrs



PFFD Sar



PFFD Sar an m



PFFD Sar an m



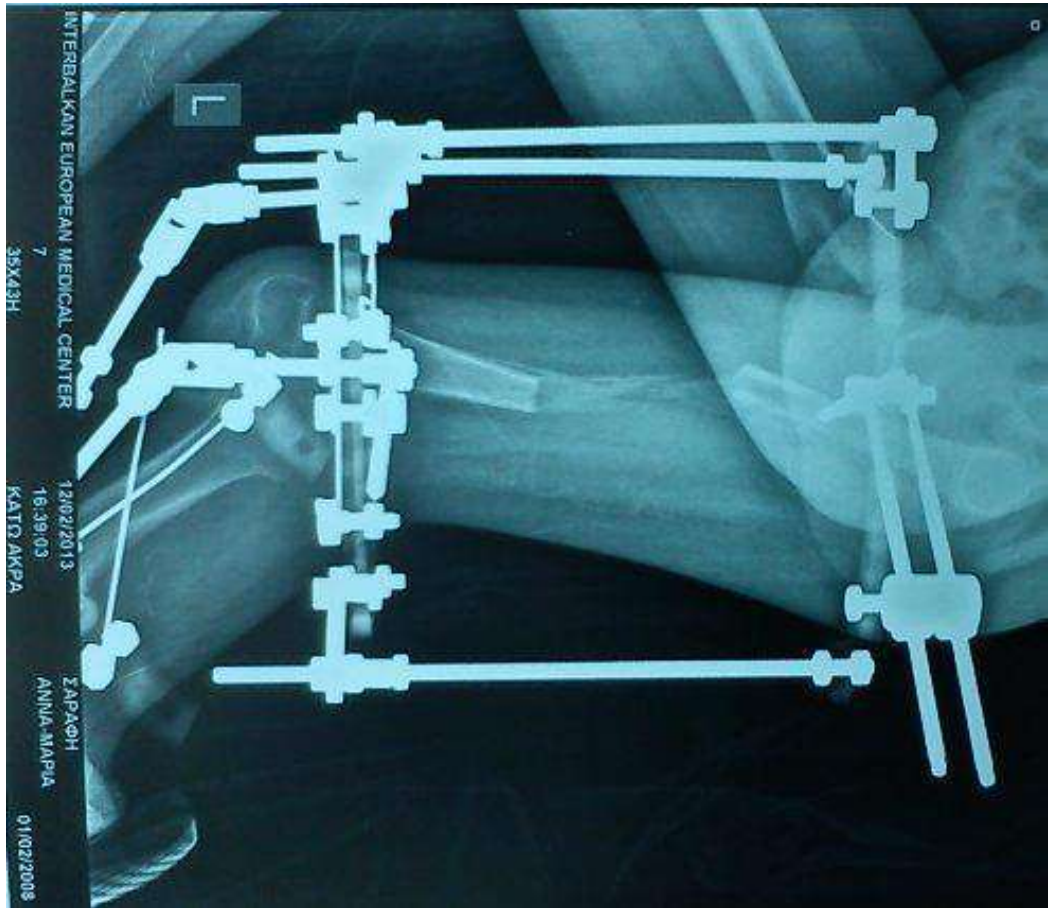
PFFD Sar an m



PFFD Sar an m



PFFD Sar an m knee subluxation



PFFD Sar an m knee subluxation



PFFD Sar an m Removal of Ilizarov

Initial length 19
cm
Increase 6.5 cm
33% increase
Healing index 16
days/cm



PFFD Sar an m **removal of device** 6.5 cm



PFFD Sar an m 2016



Complications of lengthening in femur hypoplasia

Fracture of bone

Deformation of new bone

HIP DISLOCATION

Knee subluxation

Valgus knee

Patellar subluxation

Διαμαρτίες κνήμης

απλασία -υποπλασία κνήμης
Jones classification



Διαμαρτίες κνήμης



Διαμαρτίες κνήμης

απλασία κνήμης



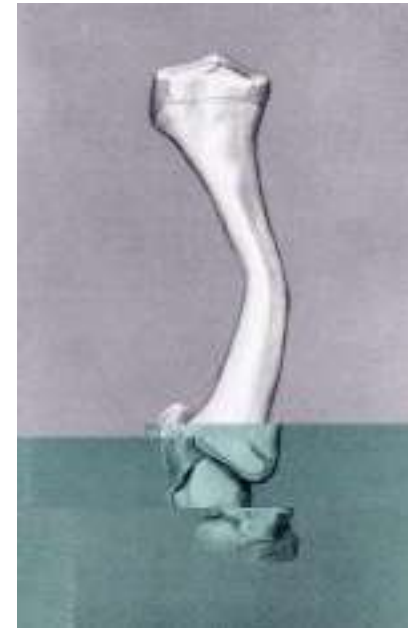
Συνοδές βλάβες

Διαμαρτίες κνήμης



Επιμήκεις διαμαρτίες περόνης

Υποπλασία περόνης
απλασία περόνης
Kalamchi classification



Fibular hemimelia (Κ Βαρβ)



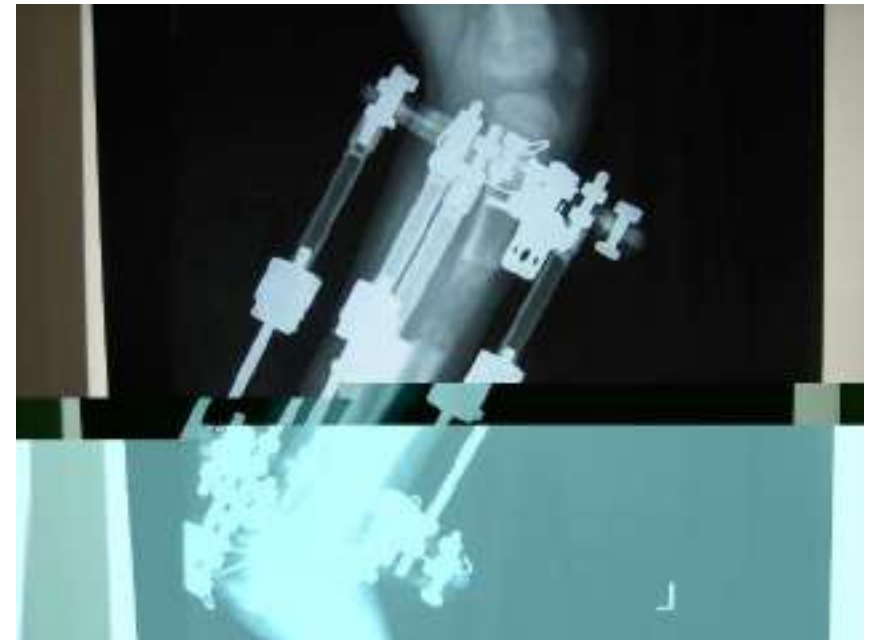
Fibular hemimelia (Κ Βαρβ)



Fibular hemimelia girl with normal rays ilizarov treatment Κ Βαρβ



Fibular hemimelia girl with normal rays ilizarov treatment (K Βαρβ)



Fibular hemimelia
girl with normal rays
Ilizarov treatment (Κ Βαρβ)



Fibular
hemimelia
(Κ Βαρβ)
4-2013
13yrs



Fibular
hemimelia
(Κ Βαρβ)
9-2016 16
yrs



Fibular
hemimelia
(K Βαρβ)
9-2016 16
yrs



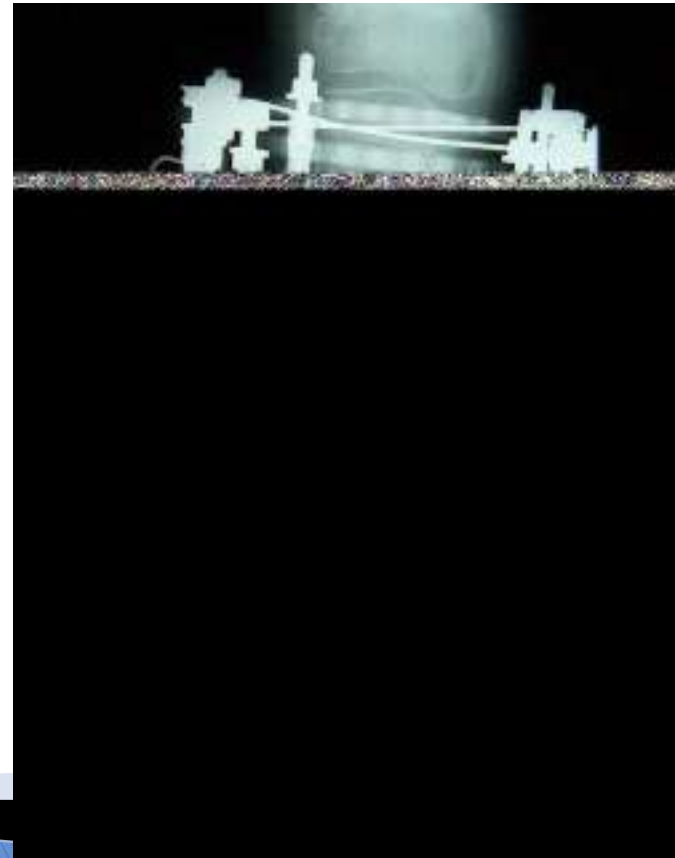
Proximal deficiency with foot deformity (T. M)



Επιμήκης απουσία ακτίνας T.M.



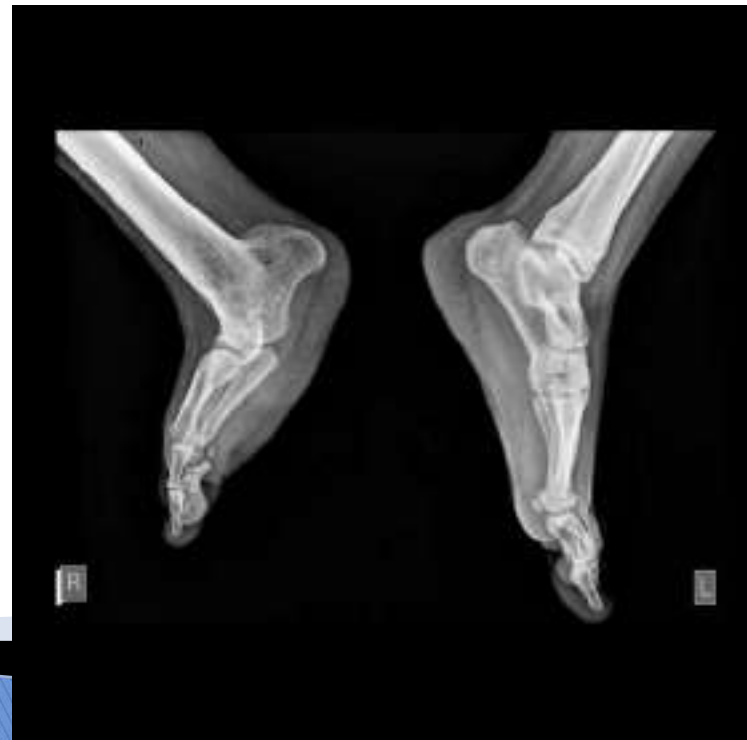
Fibular hemimelia treatment with Ilizarov



Fibular hemimelia treatment with Ilizarov



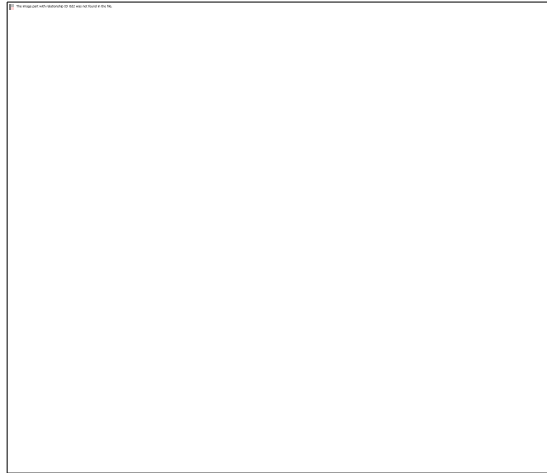
Fibular hemimelia treatment with Ilizarov



Fibular hemimelia treatment with Ilizarov



Ραιβοιπποποδία με άτυπη μορφή ??



Κνημοπερονιαία διάσταση β



Κνημοπερνιαία διάσταση c



Κνημοπερνιαία διάσταση c



Αρχική διόρθωση της ιπποποδίας και ραιβότητος





Πρώτη επέμβαση και διόρθωση ποδός



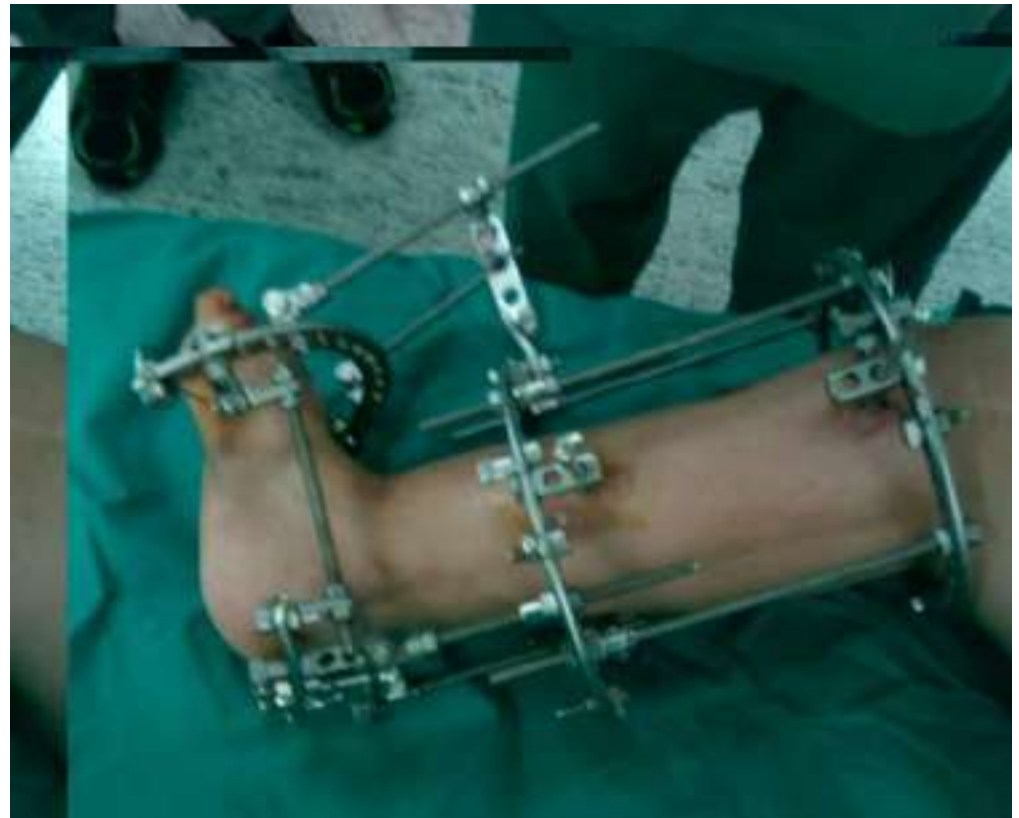
Πρώτη επέμβαση και διόρθωση ποδός



Πρώτη επέμβαση και διόρθωση ποδός ακτινολογική εικόνα



Επιμήκυνση κνήμης 3,5 εκ Αφαίρεση συσκευής 2-7-2016



Επιμήκυνση κνήμης 3,5 εκ
Αφαίρεση συσκευής 2-7-2016



Τελική εικόνα 9-2016



Τελική εικόνα 9-2016



Τελική εικόνα 9-2016



Τελικη εικονα 9-2016



**Lengthening of the congenital
short femur using the Ilizarov
technique**

A SINGLE-SURGEON SERIES

W. J. S. Aston,

P. R. Calder,

D. Baker,

J. Hartley,

R. A. Hill

From the

Hospital for

Sick Children,

Great

Ormond Street,

London, England

Lengthening of a
congenitally short femur
is extremely
challenging.

THE JOURNAL OF BONE AND JOINT
SURGERY

VOL. 91-B, No. 7, JULY 2009

Femoral dysplasia
limb deformities

Challenge for the surgeon
Approach for a
handicapped child
Strong emotional liaison
with the child and family
Parental expectations

Active life of an orthopaedic
surgeon is NOT sufficient to
treat these children
G Pistevos

Παναγιώτης Κωνσταντινίδης
Χρύσανθος Χρυσάνθου
Εκτορας Κεσσίδης
Αντώνης Γιαννακόπουλος
Δήμητρα Δήμου
Γιώτα Φαράντου (παιδιατρική κλινική)



Thank you

