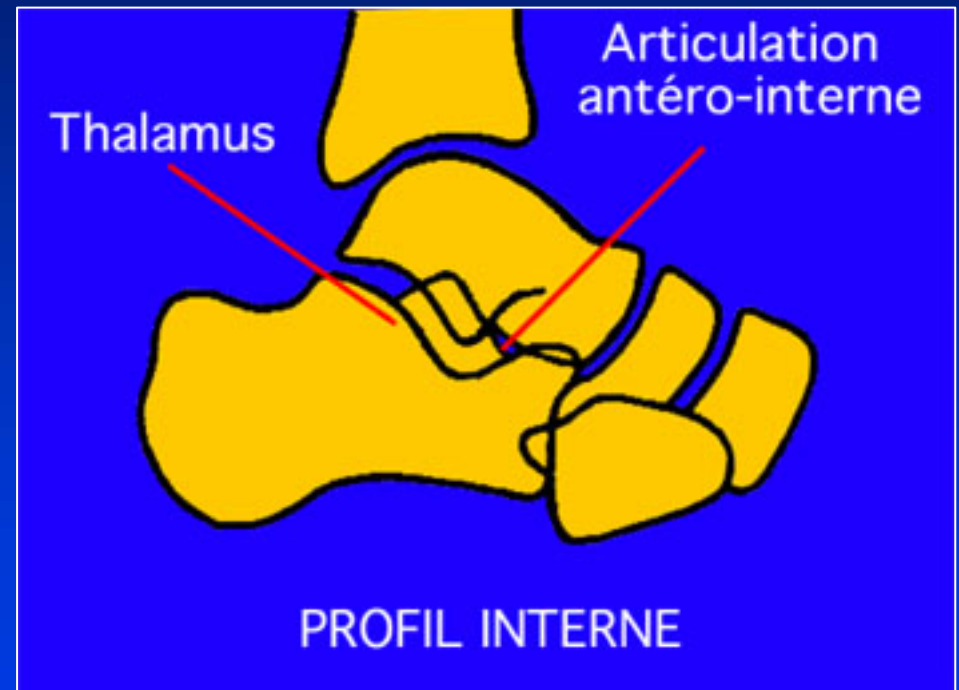
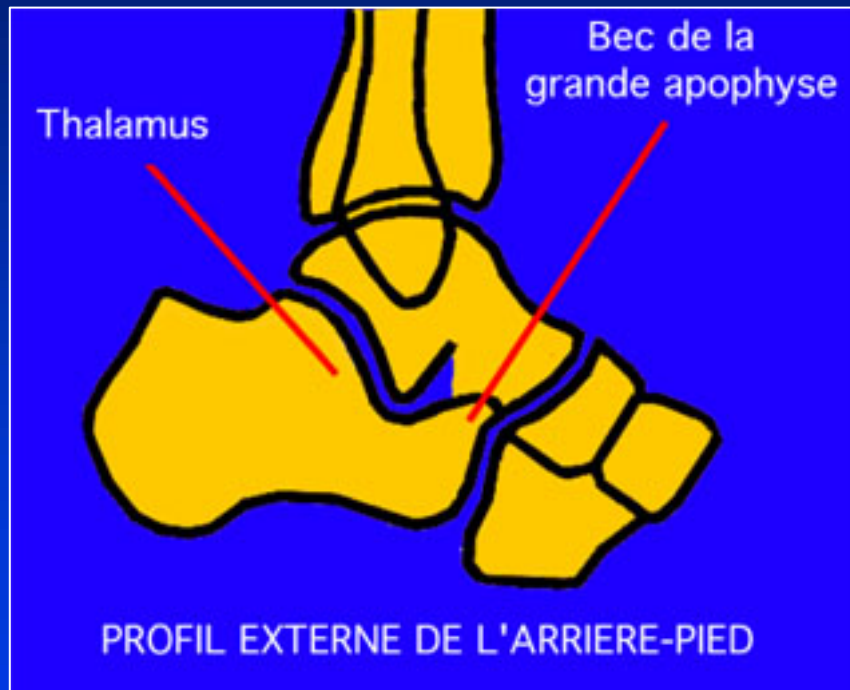


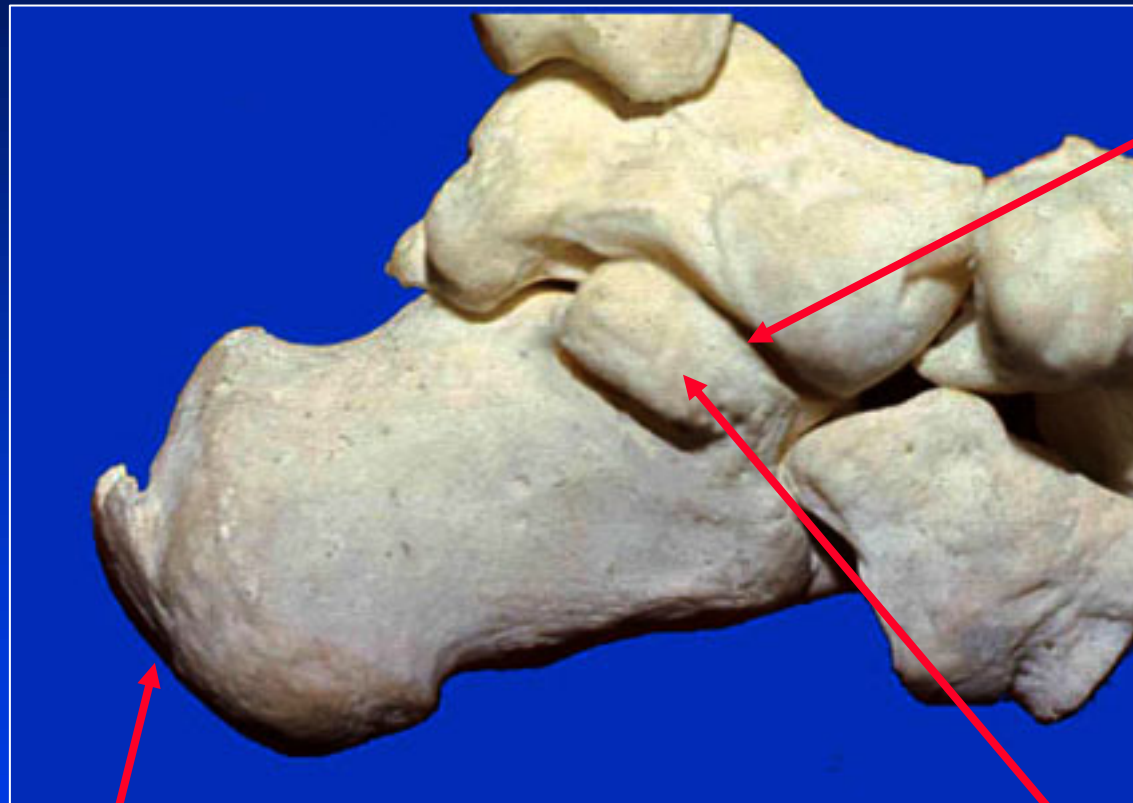
Fratture del CALCAGNO

www.fisiokinesiterapia.biz

Fratture del CALCAGNO



Calcagno visione interna



Articolazione
sotto-astragalica

Grossa
tuberosità

Sustentacolo

Fratture del calcagno

Caratteristiche

- Età media : 40 anni
- Uomini : 87 %
- Trauma :Sports : 75 %
 - Lavoro : 15 % (cadute : 45%)
- Fratt. esposte : 3 %
- Lesioni associate : 30 %
 - M.I. controlaterale, M.I. omolaterale 6 %
 - Rachide, politrauma. 3 %



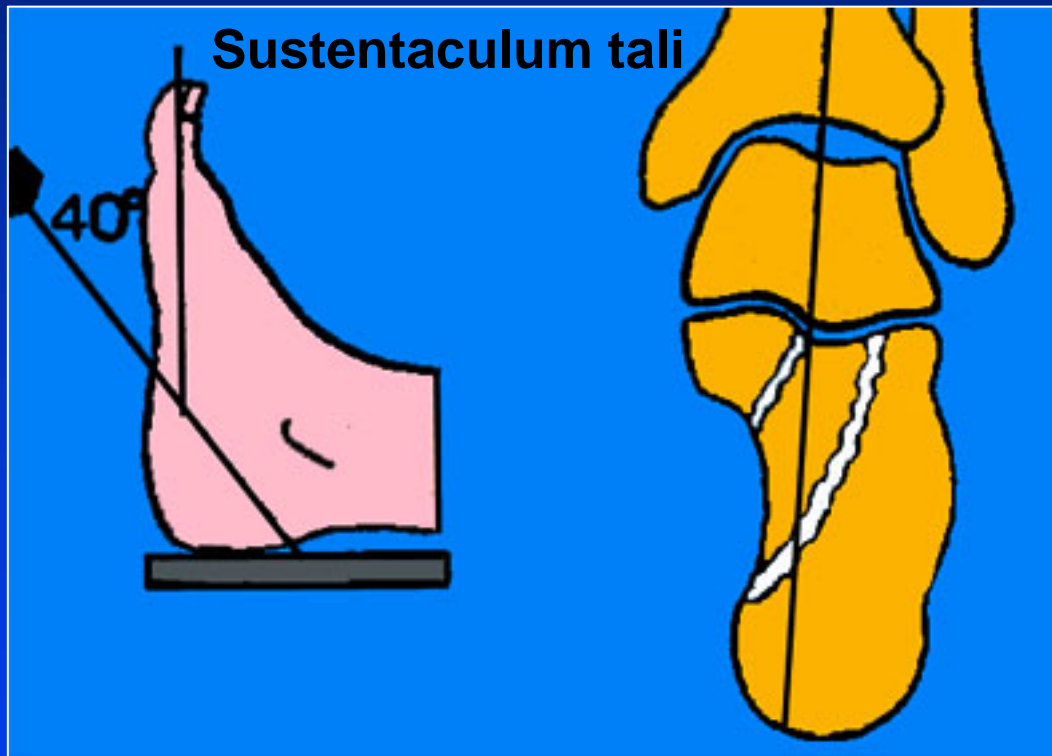
Fratture del calcagno

ESAME

- Tumefazione della pianta
- Tumefazione-ematoma sotto-malleolare
- Ecchimosi plantare precoce



Rx grafie: Incidenza assiale retro-tibiale o dorso-plantare



Calcagno "in A.P."

Fratture talamiche

- parziali
- totali

Fratture parziali del calcagno

Fr. parcellari della
grossa tuberosità



Fr. della piccola tuberosità

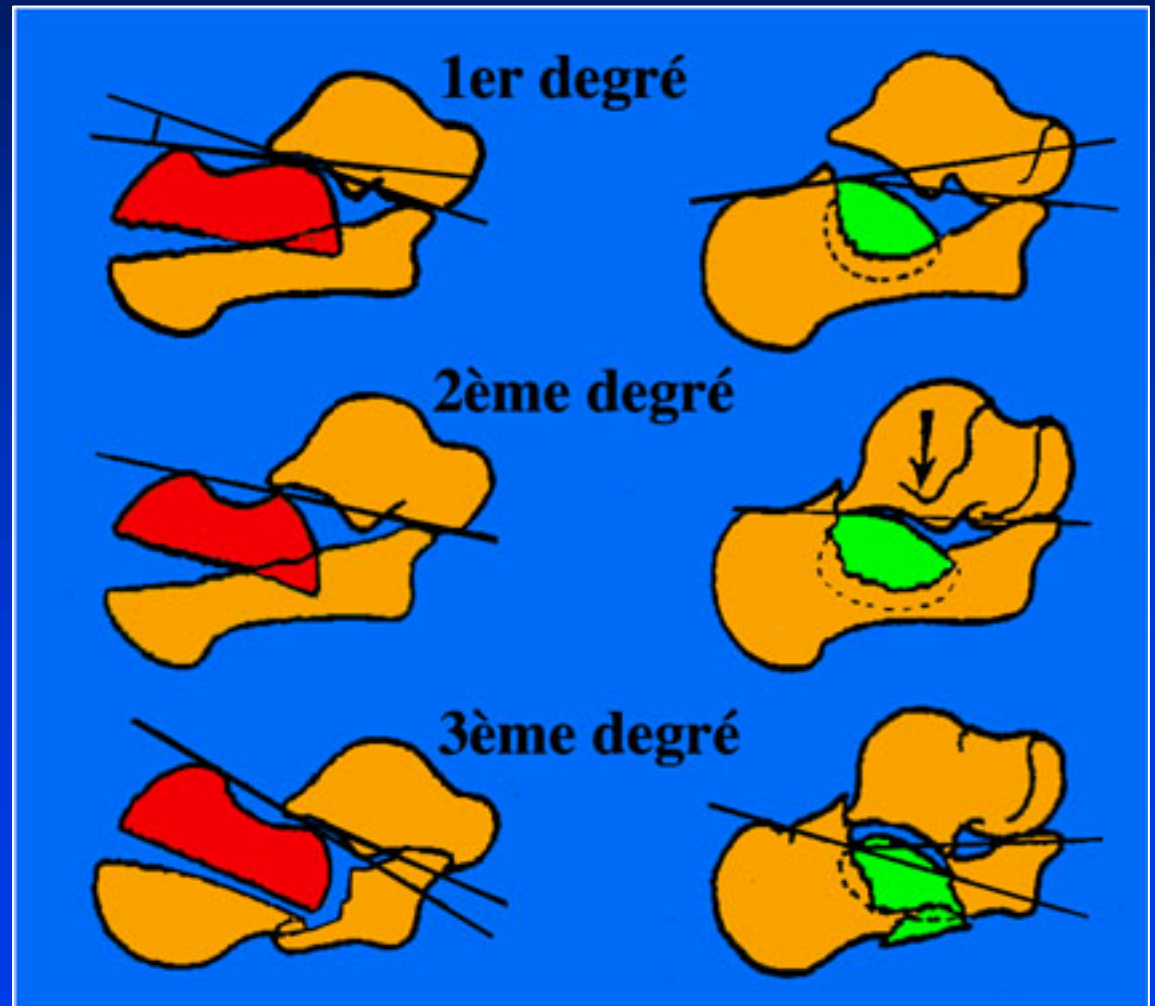
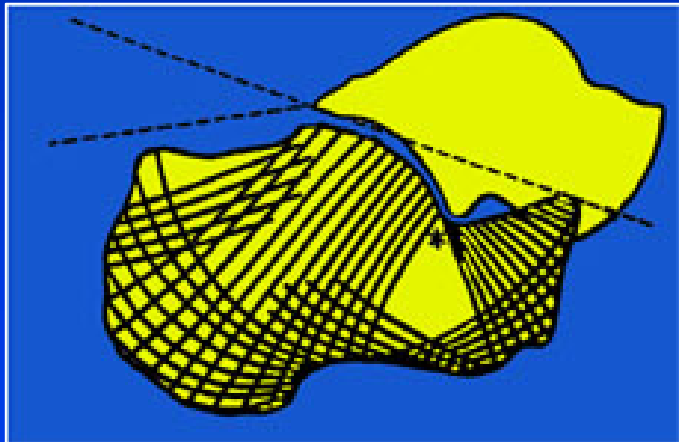
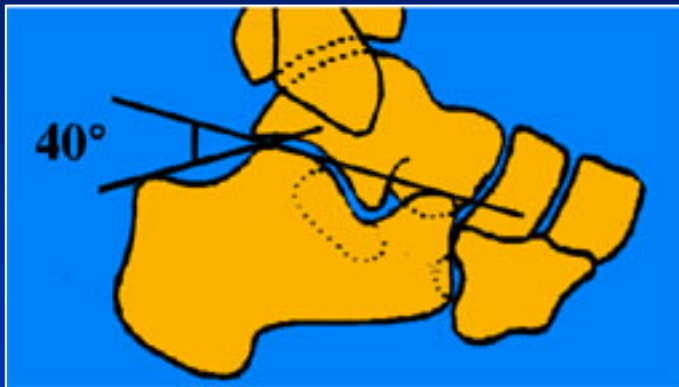
Fr. pre-talamica

Fr. retro-talamica



Catteristiche delle linee di frattura talamiche viste di profilo

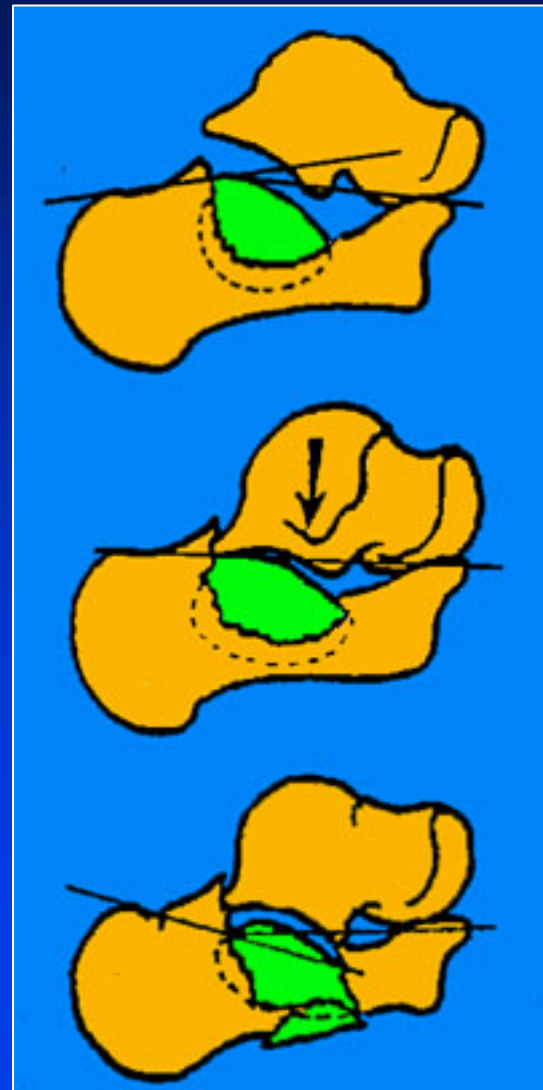
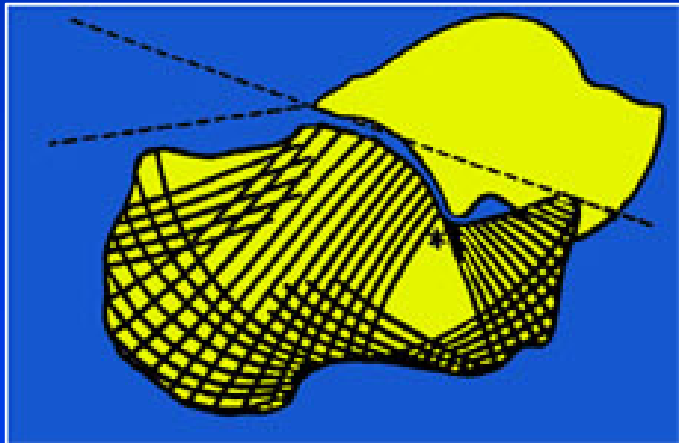
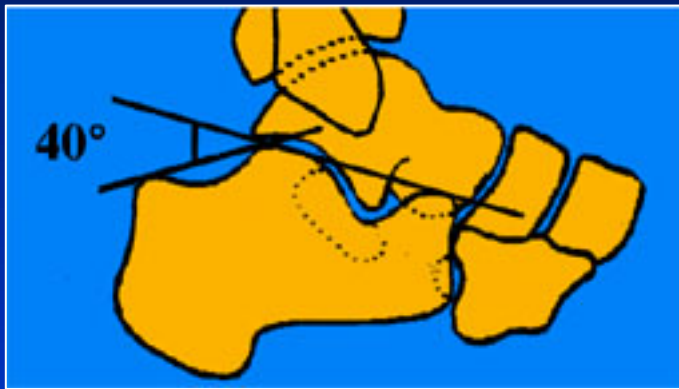
Angolo di BÖEHLER



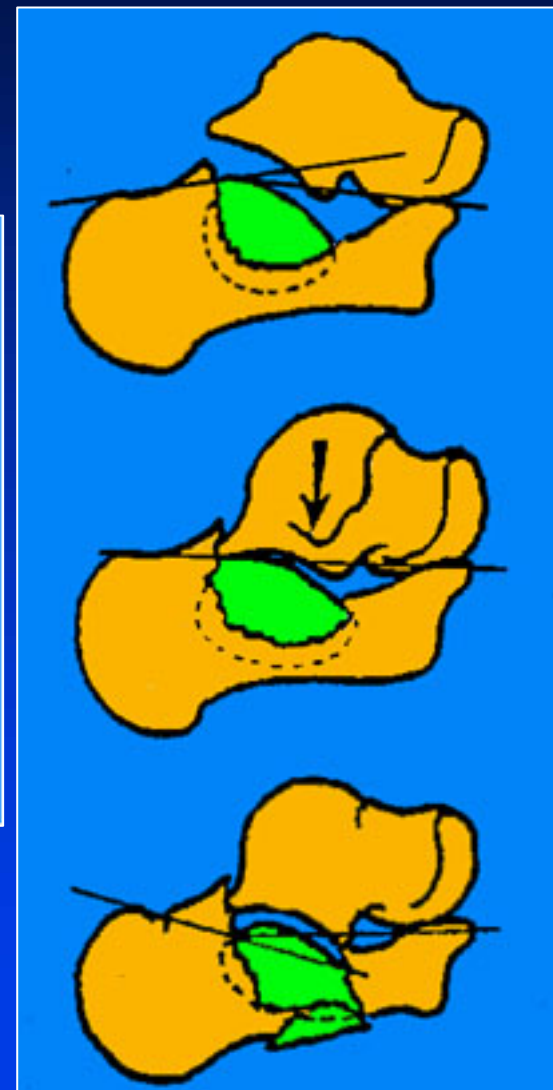
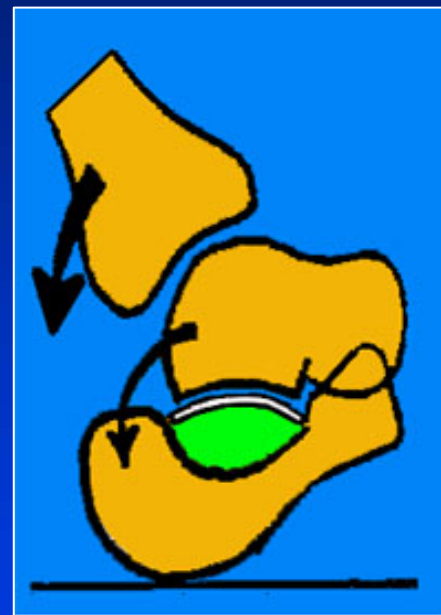
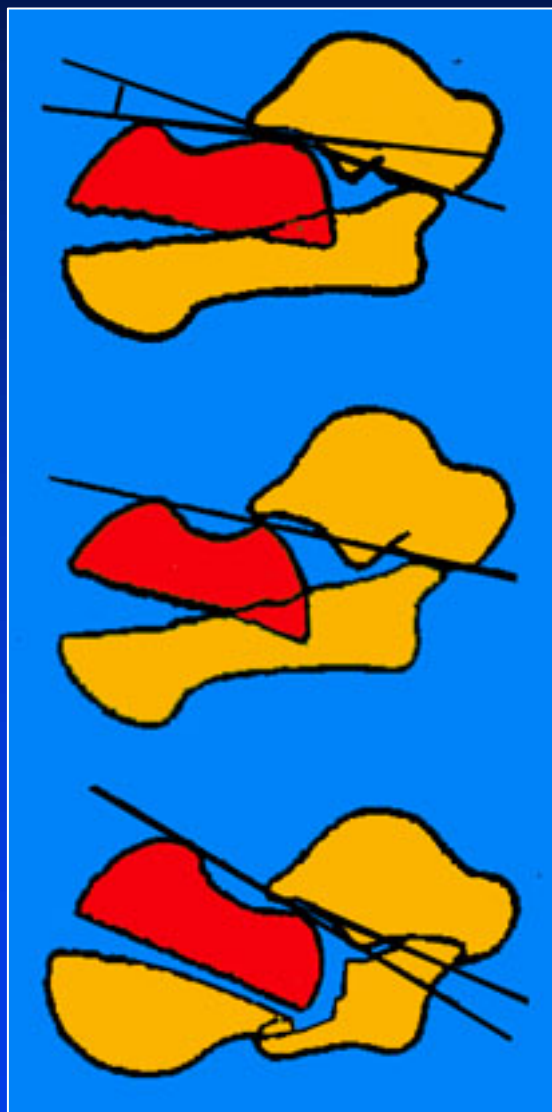
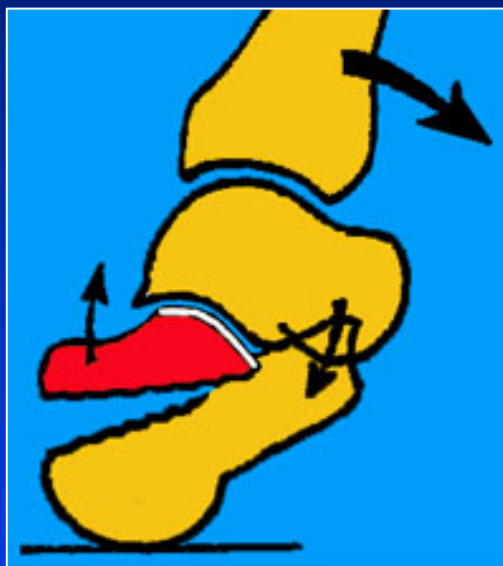
Caratteristiche delle fratture talamiche

Affossamento orizzontale

Angolo di BÖEHLER



Deformità del talamo e tipi di trauma

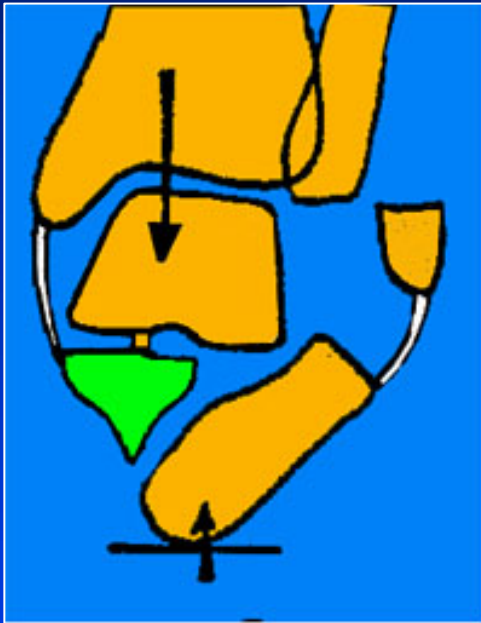


Classificazione delle fratture del calcagno

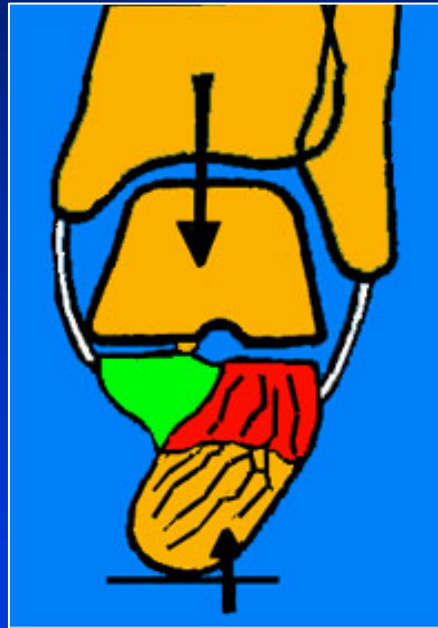
Commentare questi disegni : Nome degli elementi di frattura ?

Deformità ?

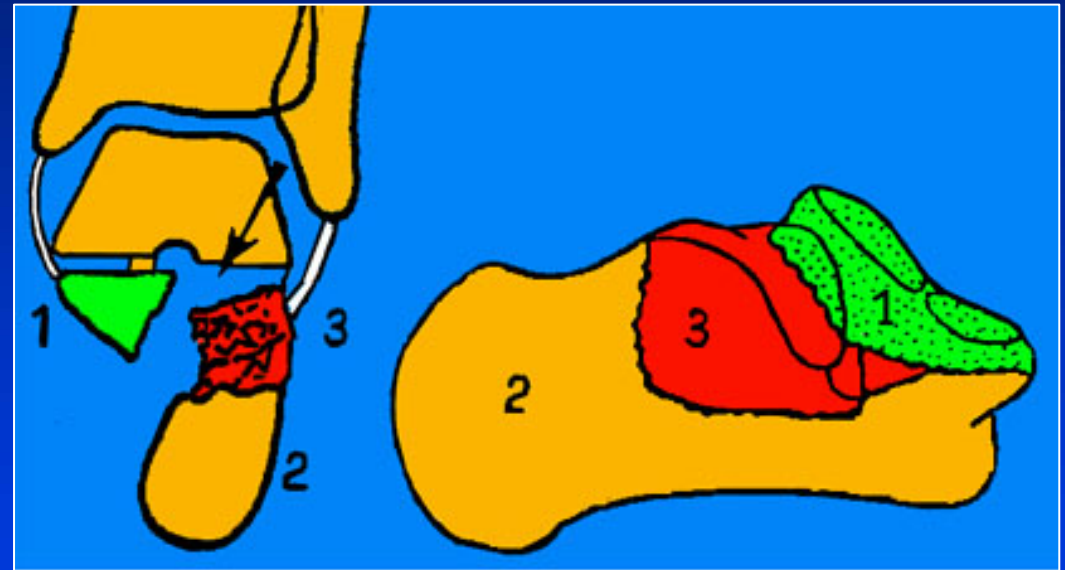
Nome delle lesioni A e B ?



Lesione A



Lesione B

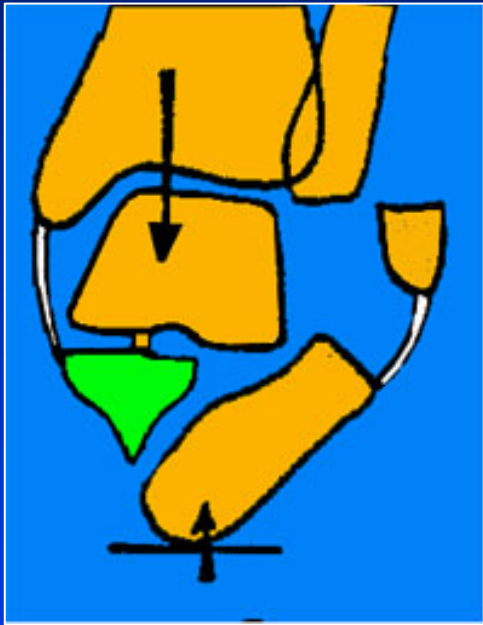


Classificazione delle fratture del calcagno

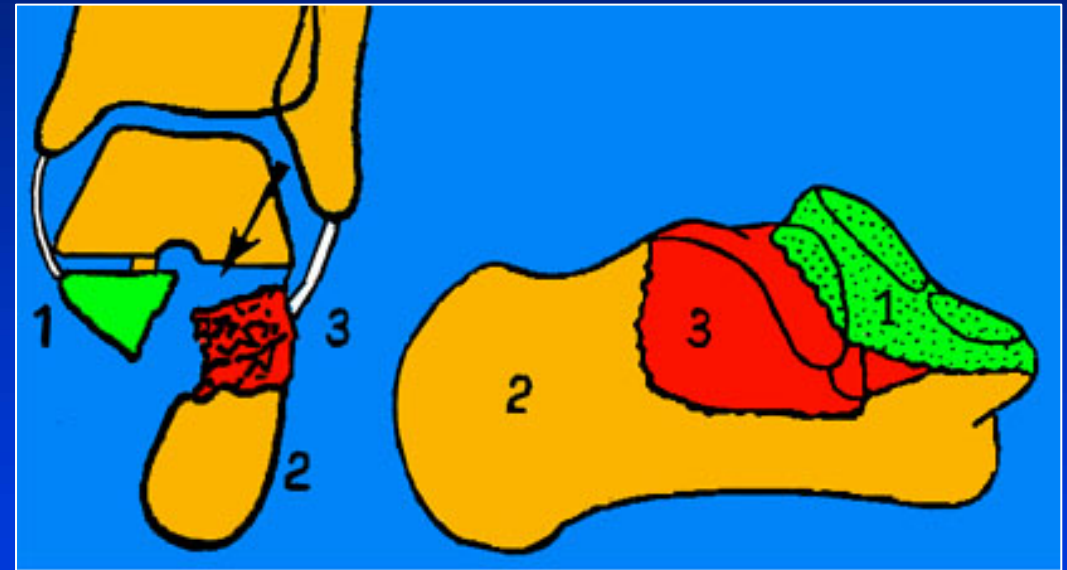
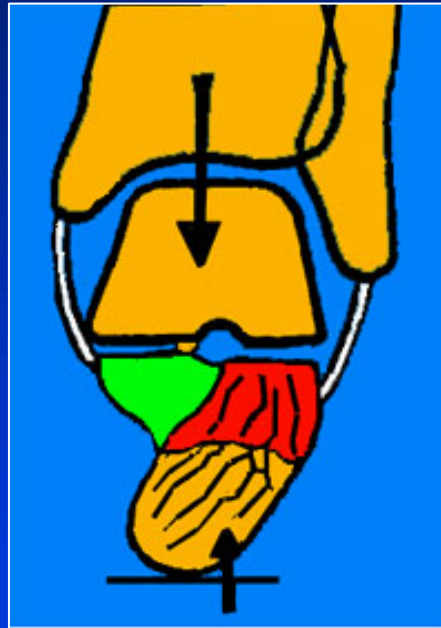
Commentare questi disegni : Nome degli elementi di frattura ?

Deformità ?

Nome delle lesioni A e B ?



Frattura-lussazione
Tipo II

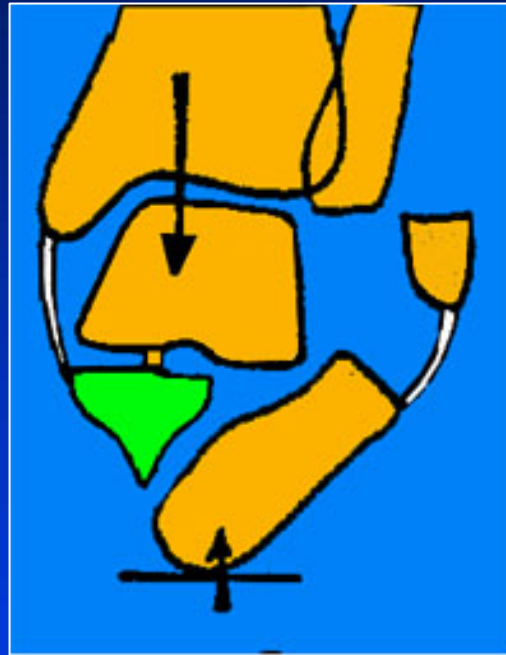


Frattura-separazione Tipo III

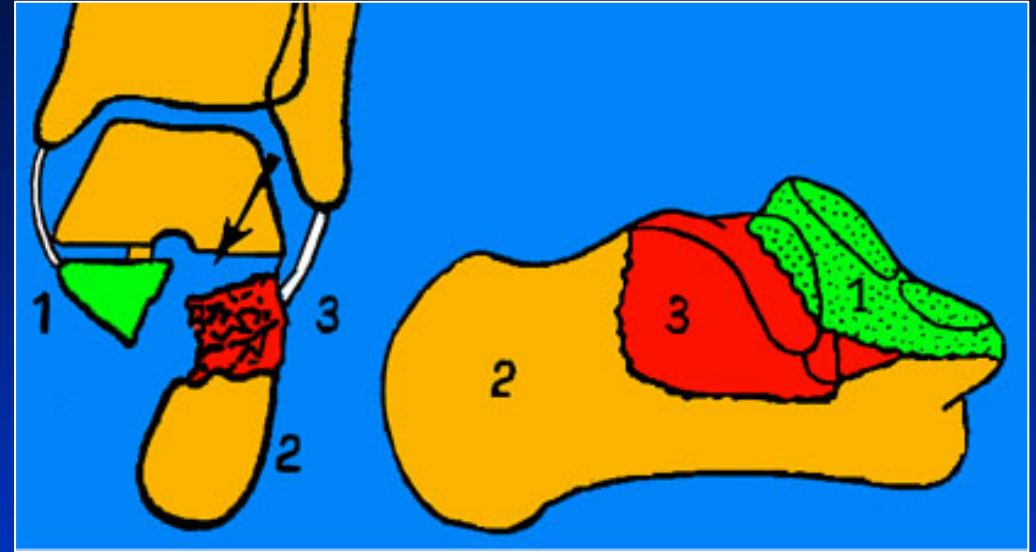
Classificazione delle fratture del calcagno



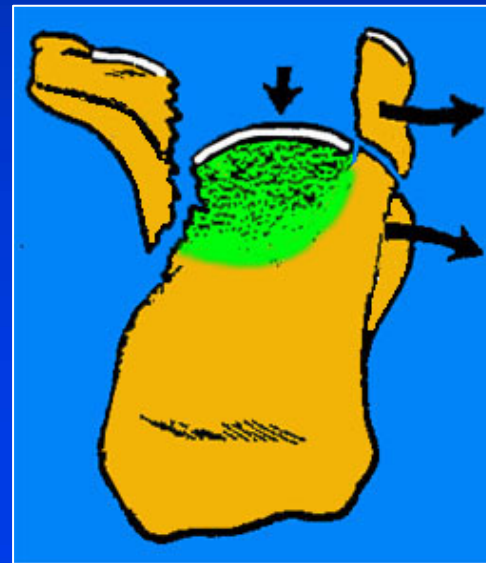
Frattura-separazione
Tipo I



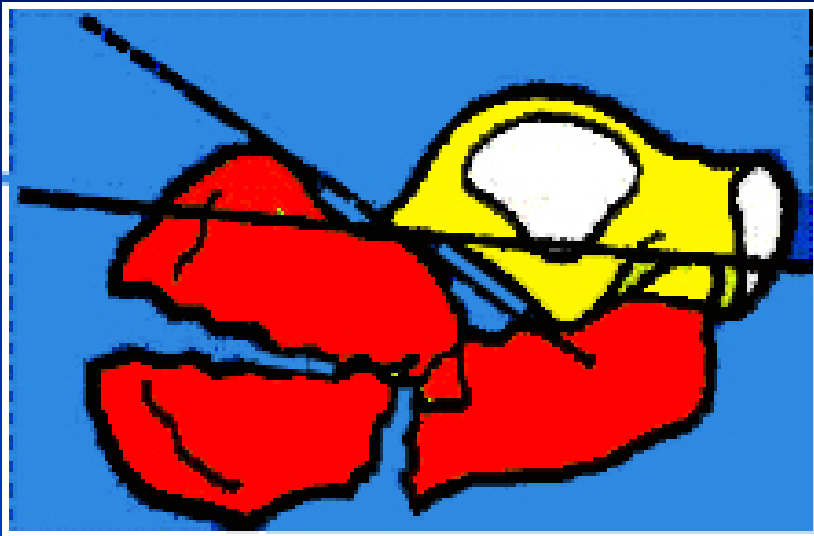
Frattura-lussazione
Tipo II



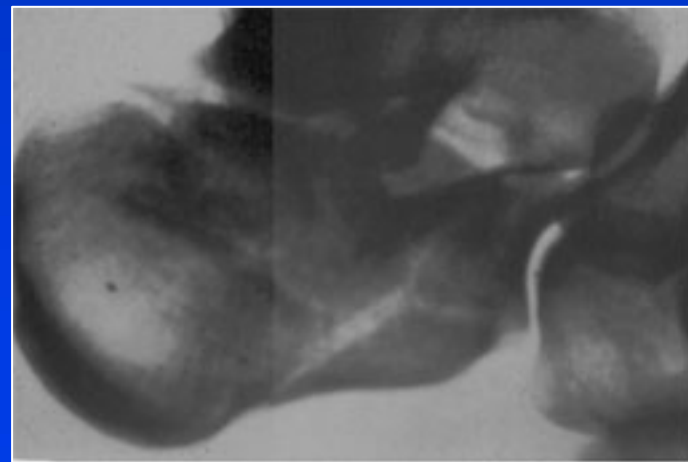
Frattura-separazione
Tipo III

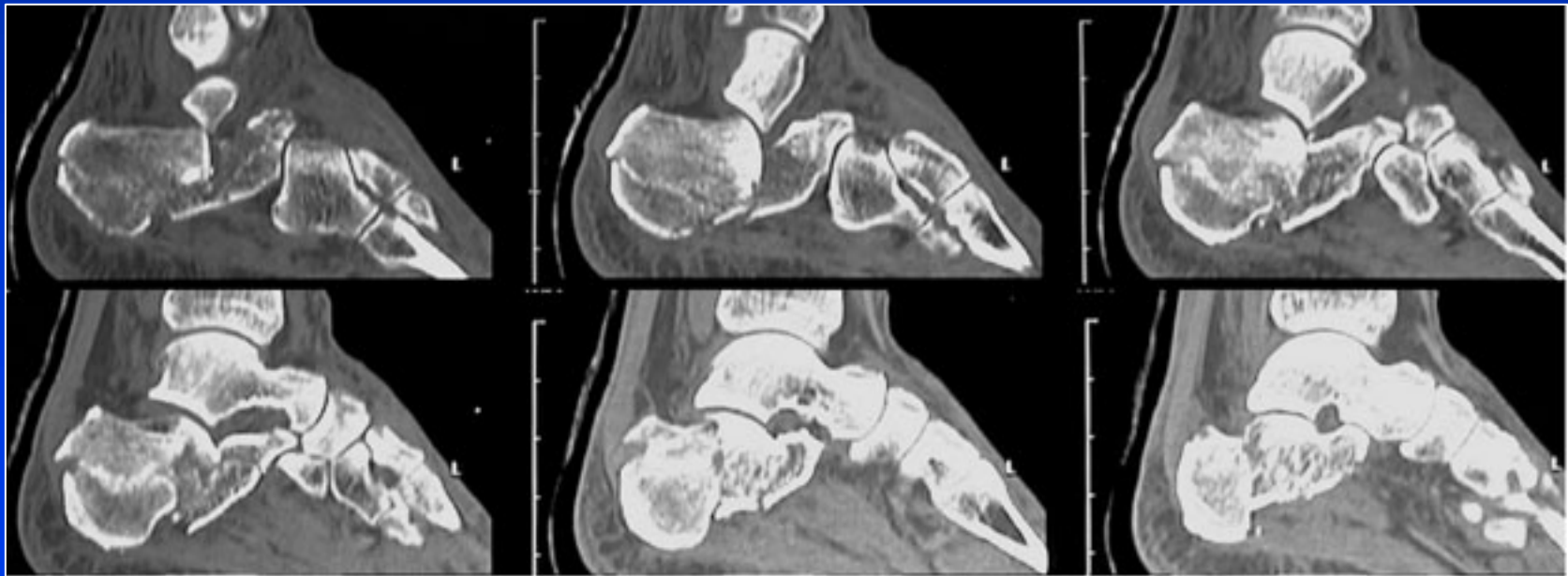
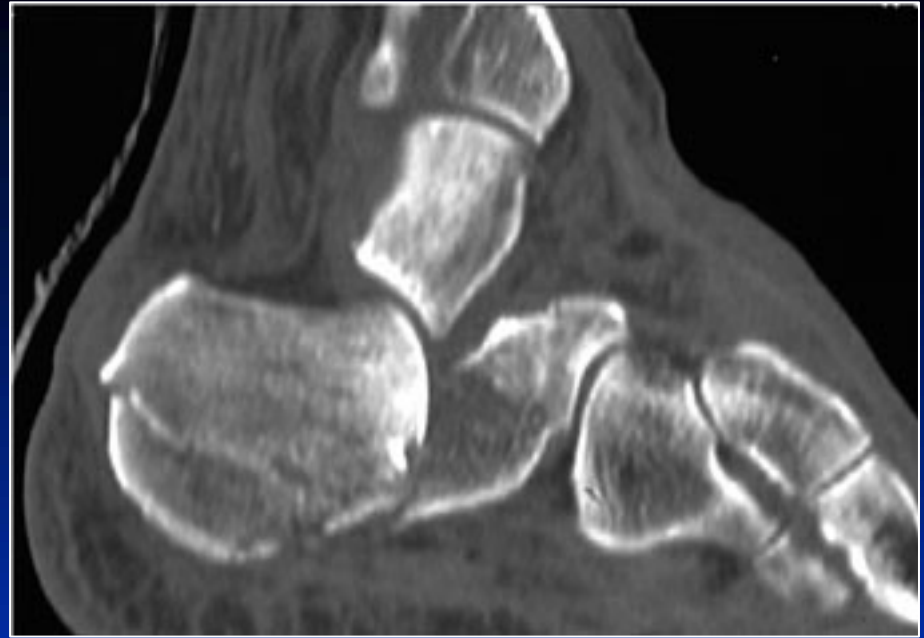


Classificazione delle fratture del calcagno



Frattura Tipo IV







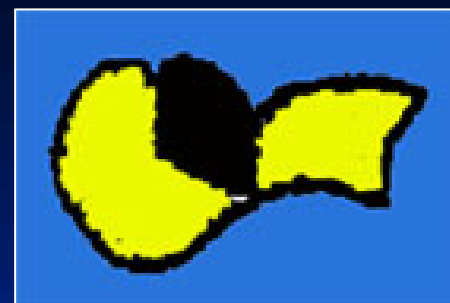
Tratto fondamentale

1 Tratto

2 tratto

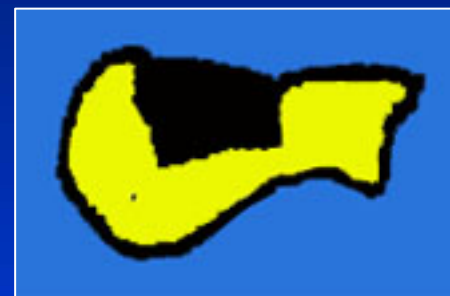
Profilo

Interno



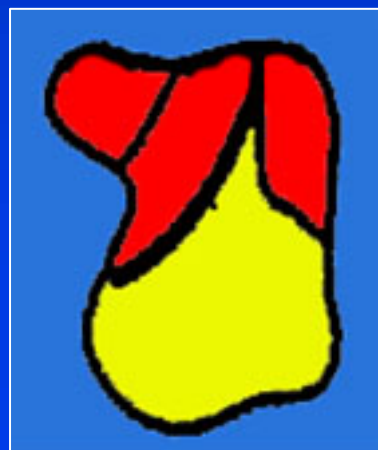
verticale

Esterno



orizzontale

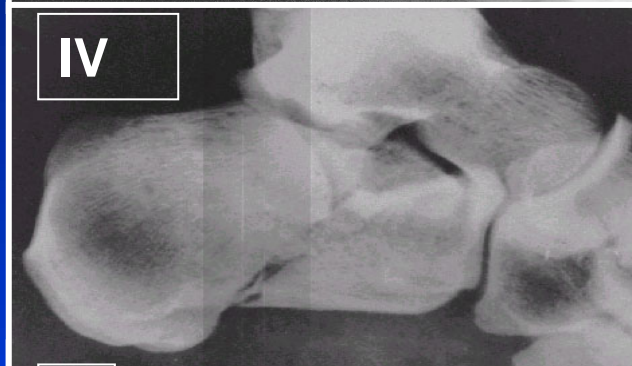
Centrale



misto

Uthéza

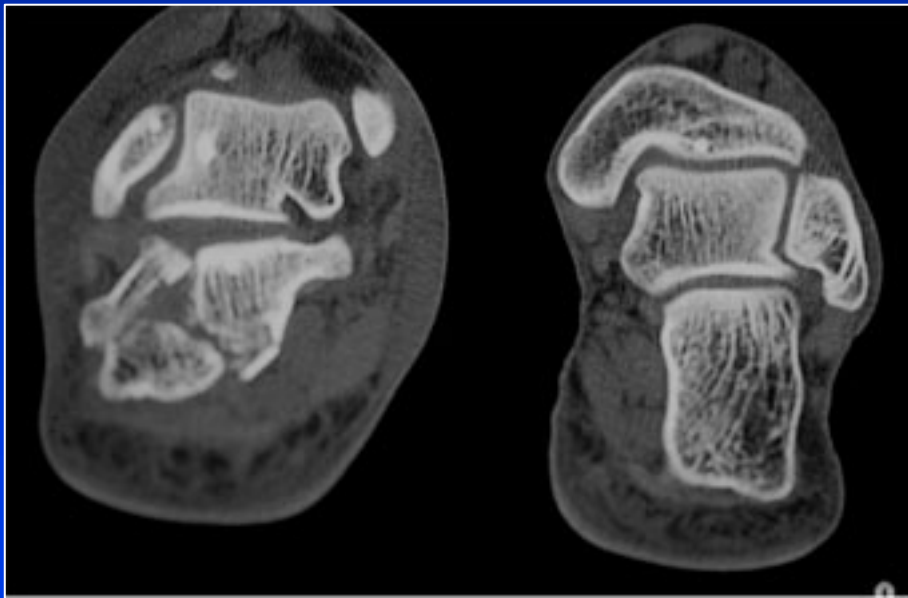
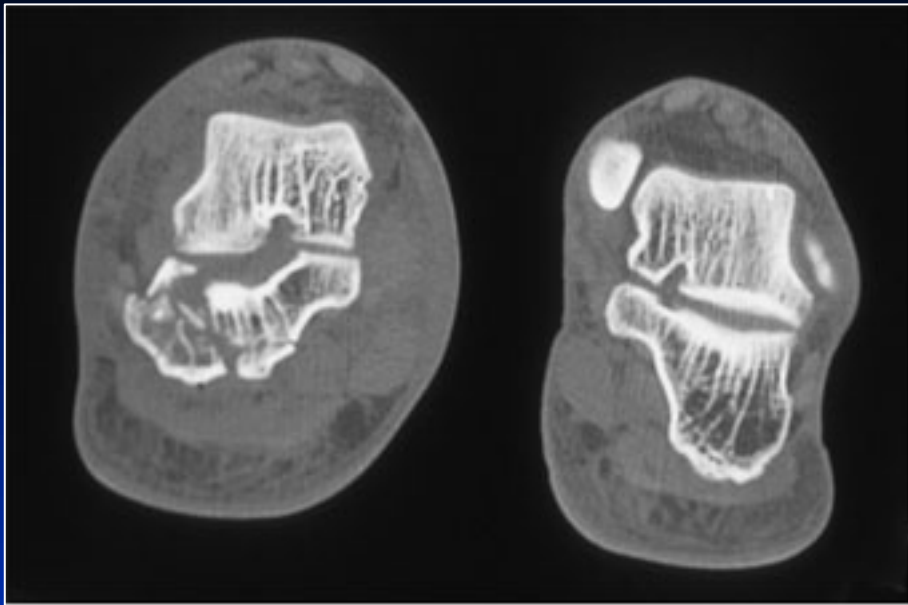
RADIOGRAFIE SEMPLICI



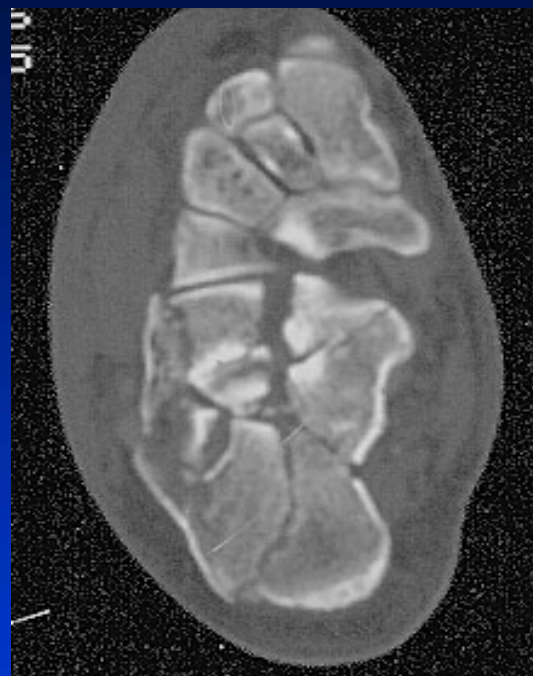
TAC_pre-operatoria



TAC



TAC pre-operatoria



Incongruenza sotto-talamica post. : 90 %

Conflitto malleolare esterno : 80 %

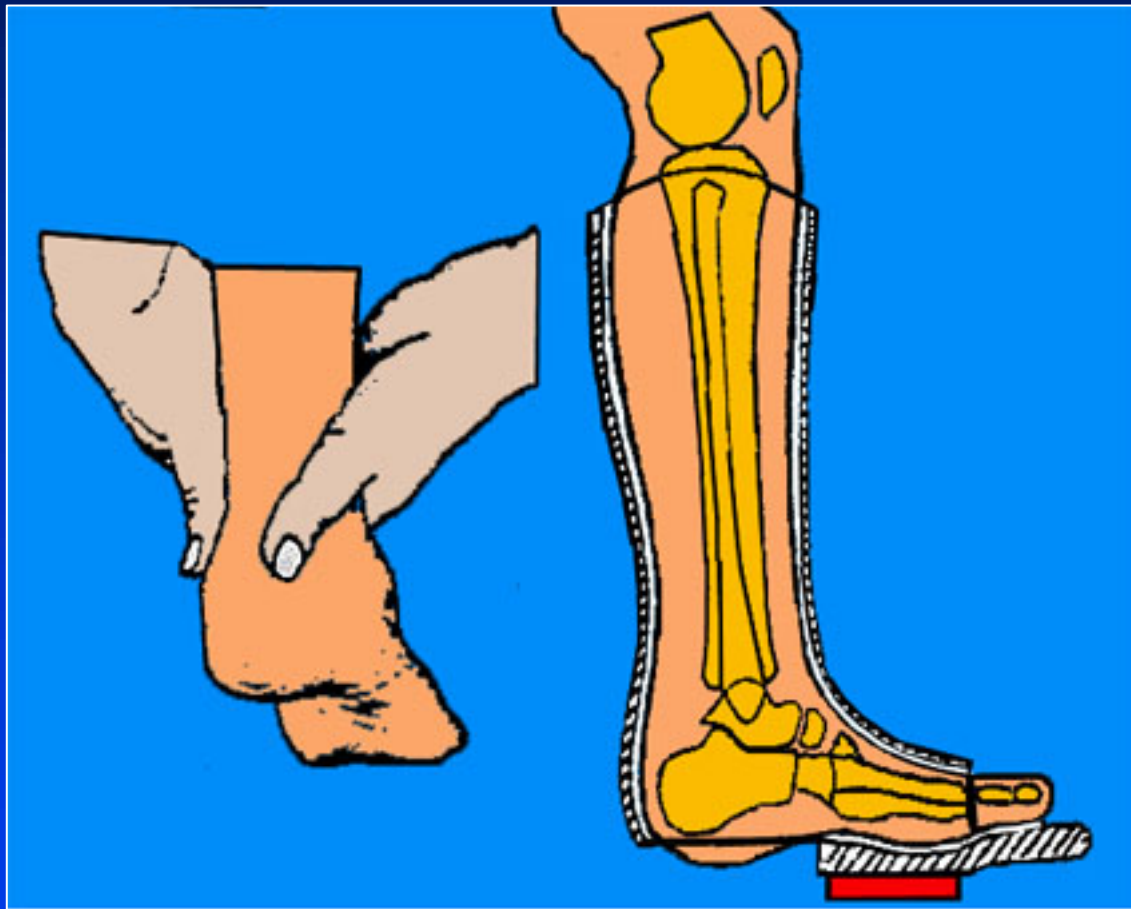
Lesioni della calcaneo-cuboidea : 40 %

TAC pre-operatoria



**Come si immobilizza una frattura di calcagno se
l'indicazione é il trattamento ortopedico?**

Trattamento ortopedico delle fratture di Calcagno



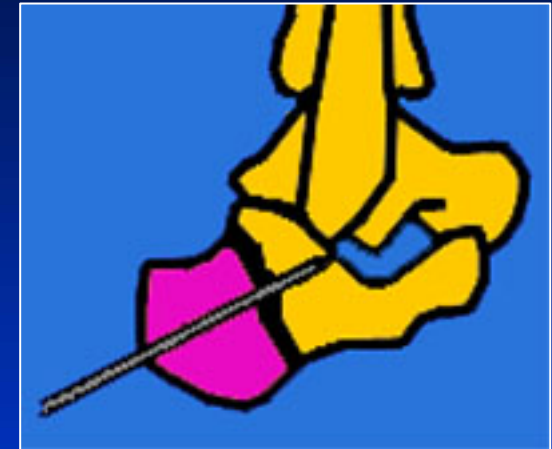
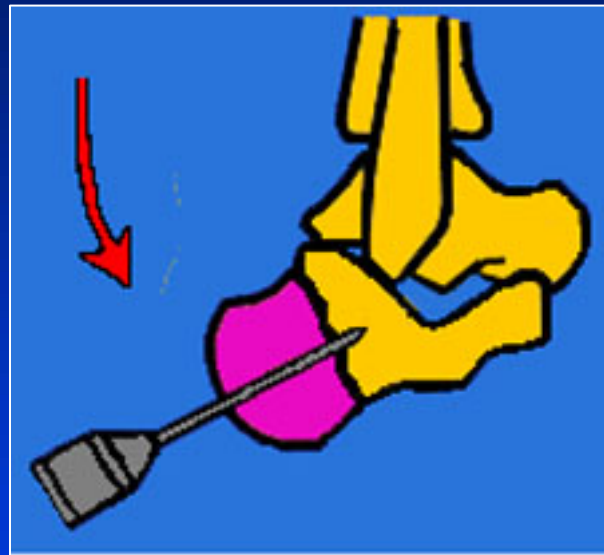
Gesso di GRAFFIN

- Fratture poco scomposte
- Impronta del tallone
- Tallone senza appoggio
- Carico precoce

Modellamento in gesso di Graffin



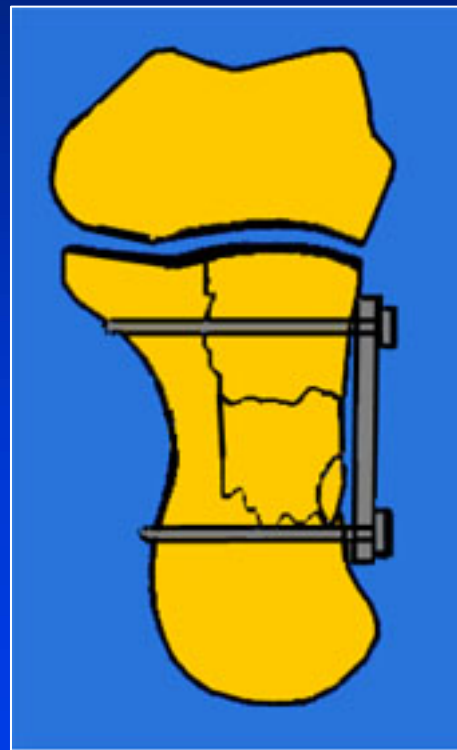
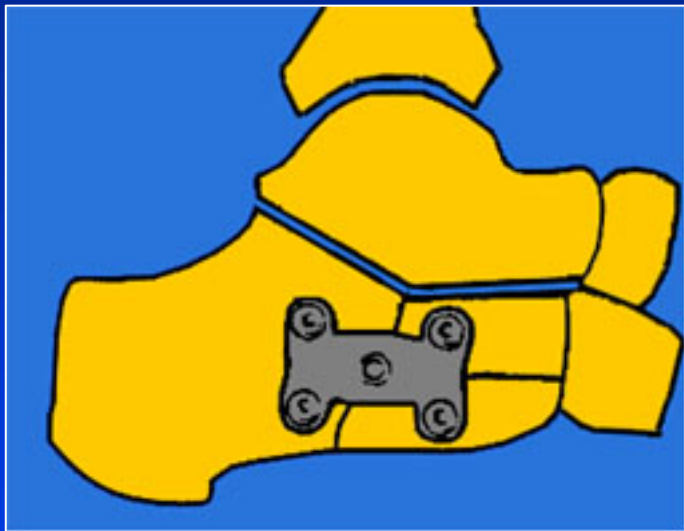
Frattura della grossa tuberosità del Calcagno



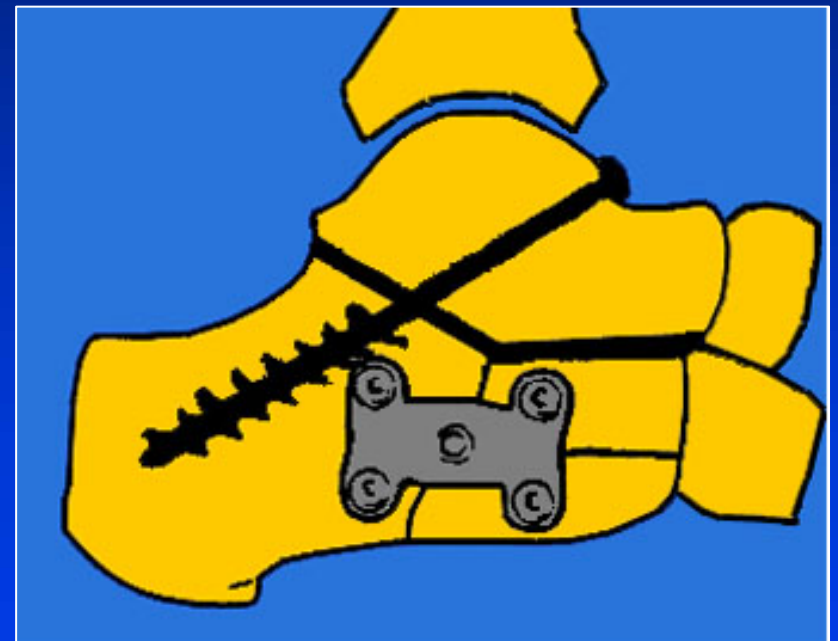
Fili percutanei o viti

Trattamento delle fratture di Calcagno

Osteosintesi

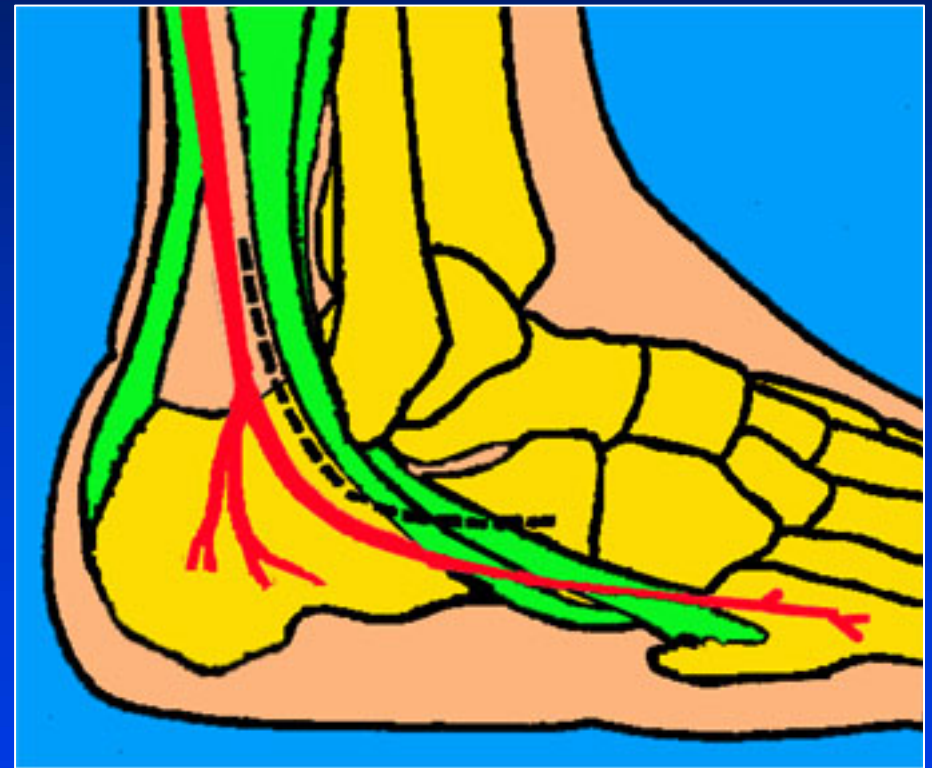
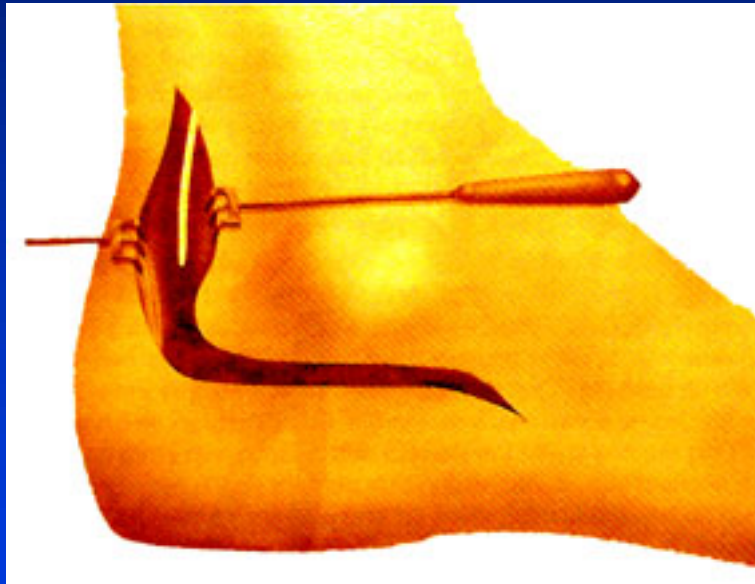


Riposizione+artrodesi
sotto-astragalica



Vie di accesso nelle fratture di Calcagno

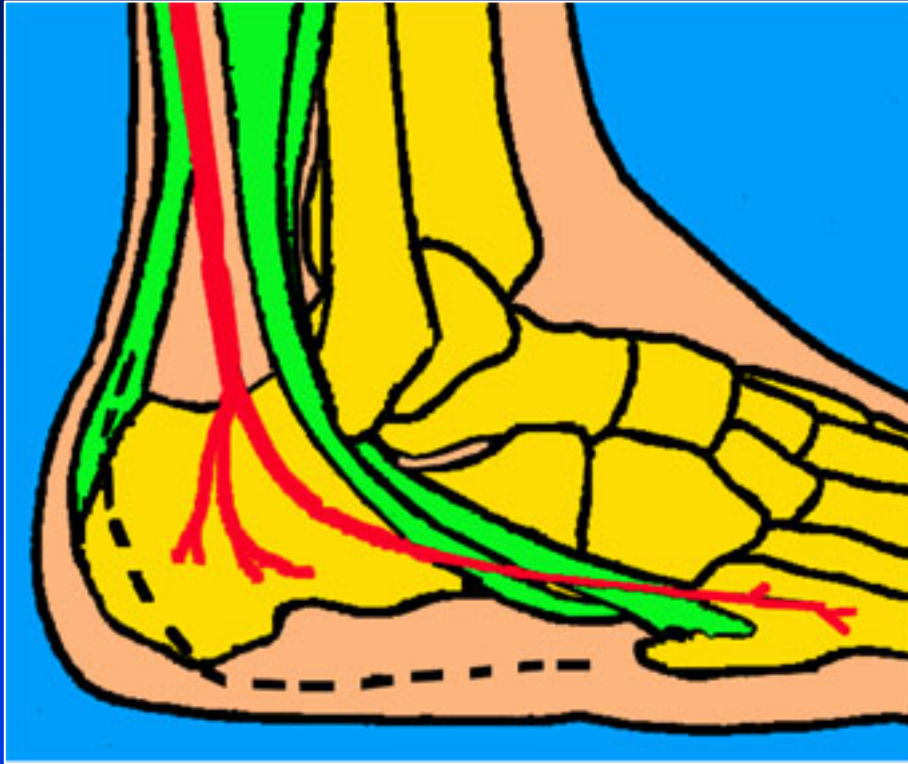
(evitare il nervo safeno peroniero)



Via di accesso classica retro e sotto malleolare

Vie di accesso nelle fratture di Calcagno

(evitare il nervo safeno peroniero)



Accesso di Grammont



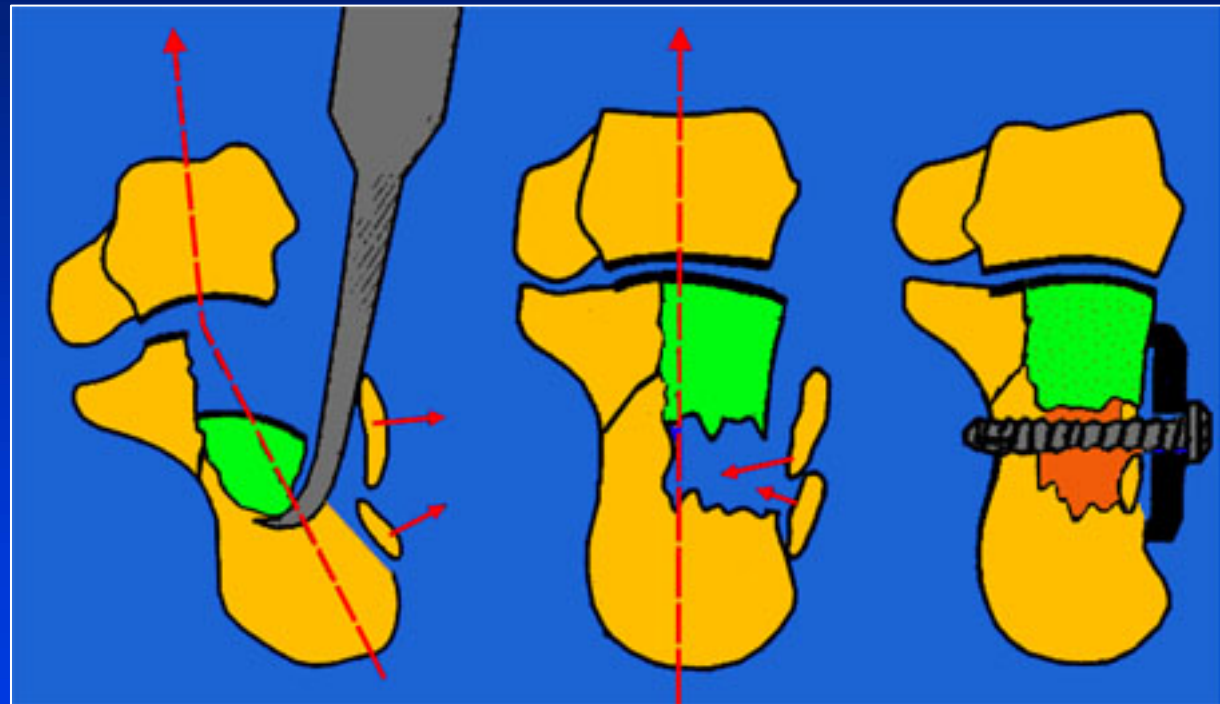
Frattura parziale fissata con una sola vite

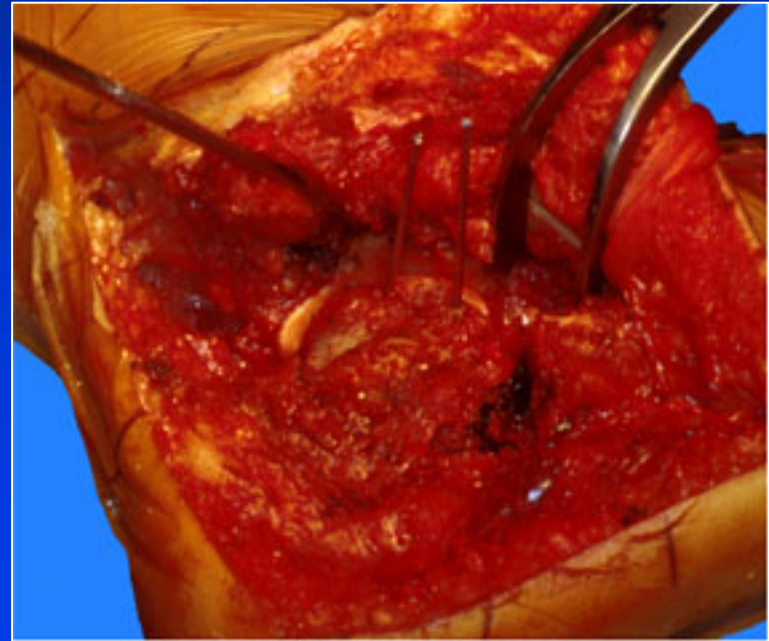
Principi di trattamento chirurgico delle fratture talamiche scomposte

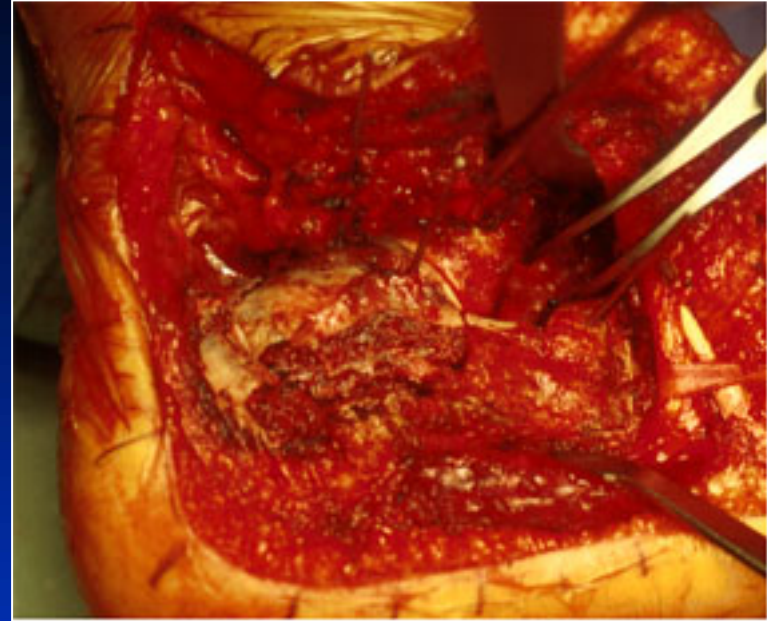
Sollevaramento del talamo

Fissazione con delle viti o con placca

Trapianto per riempire il vuoto







Trapianto osseo sotto talamico necessario in 2 casi su 3

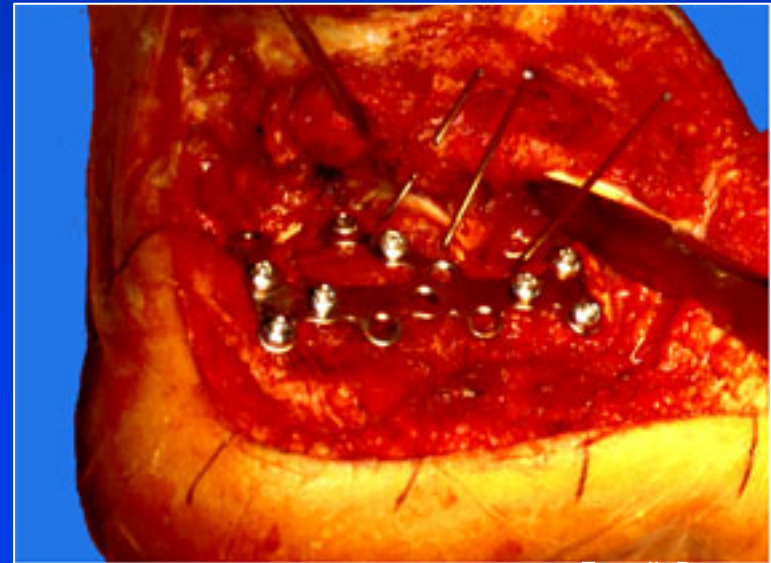
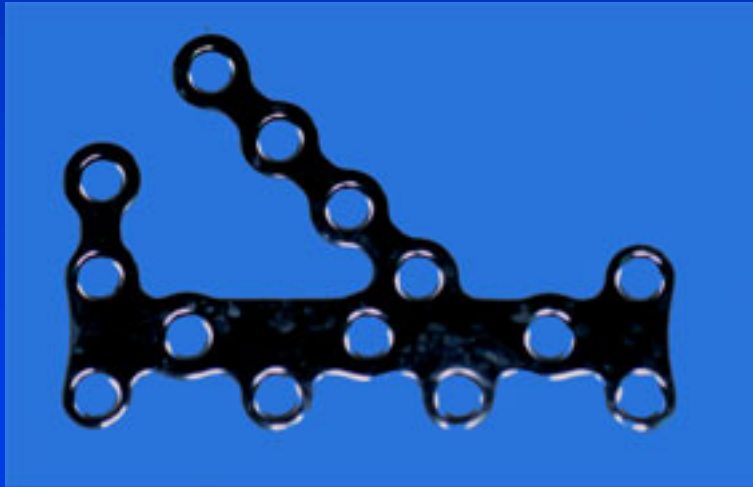
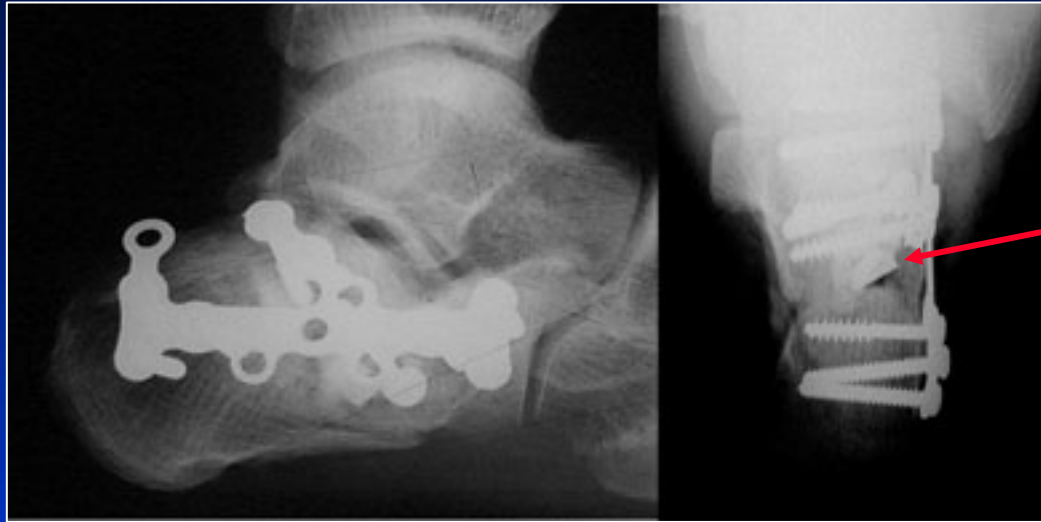


Foto JL Besse

OSTEOSINTESI definitiva



trapianto

Stabilizzazione calcaneo-cuboidea con filo:

1 caso su 2

(filo per 6 settimane)

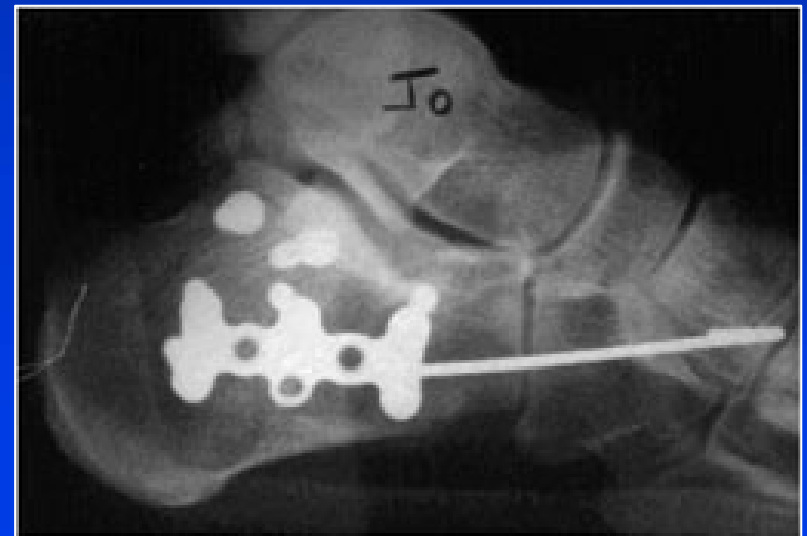
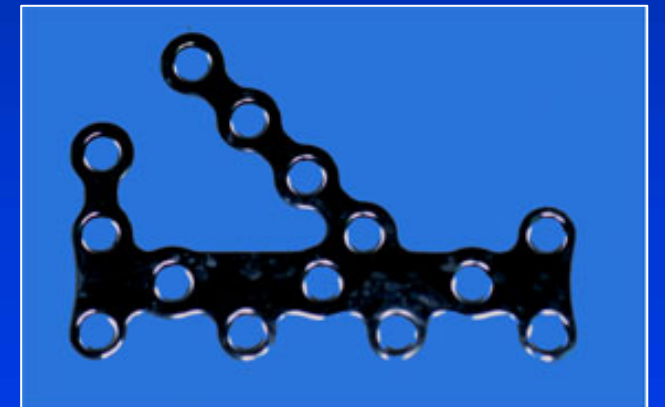
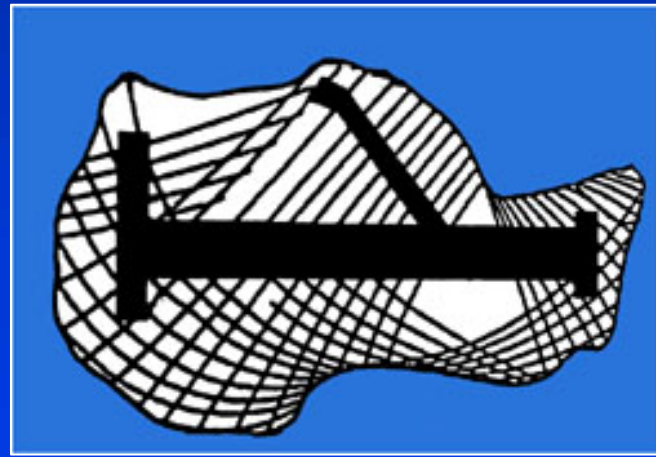
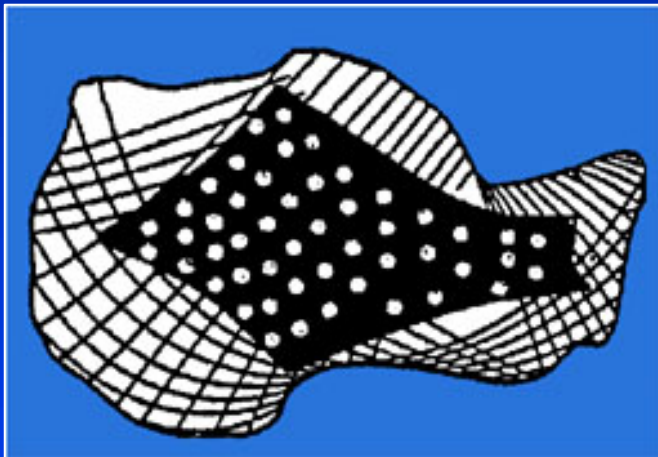
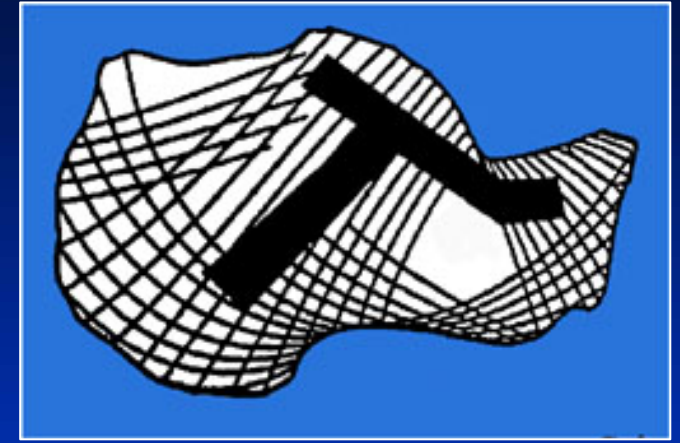
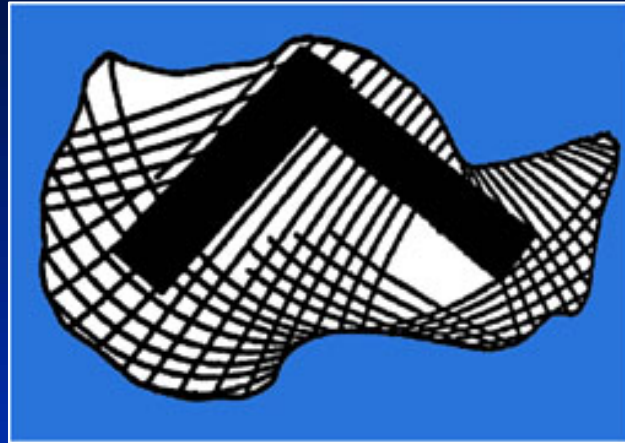
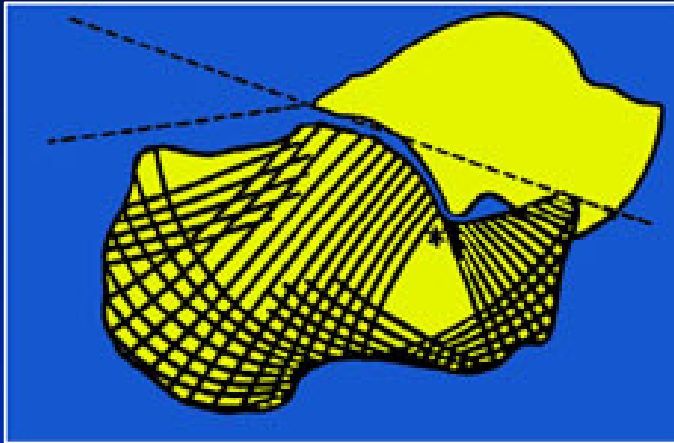
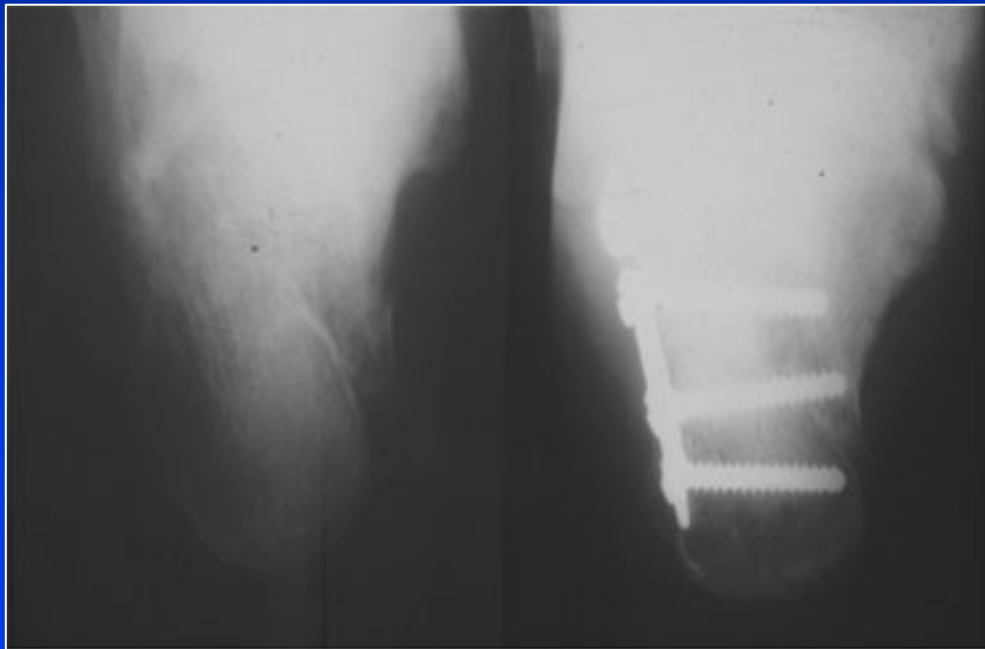
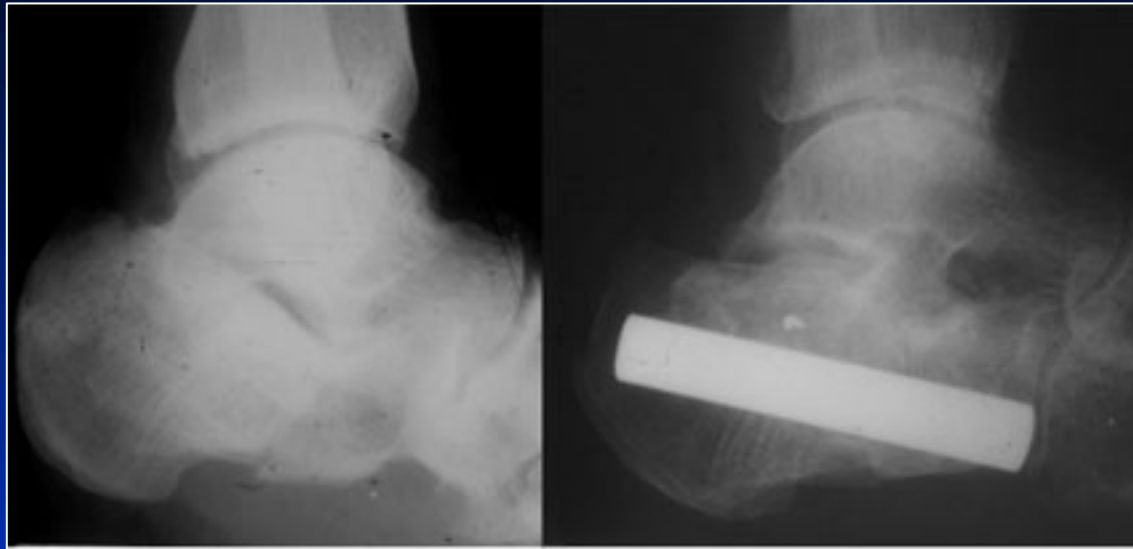


Foto JL Besse

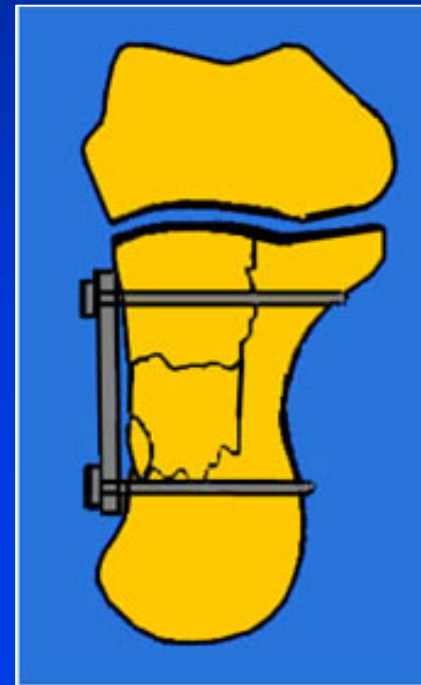
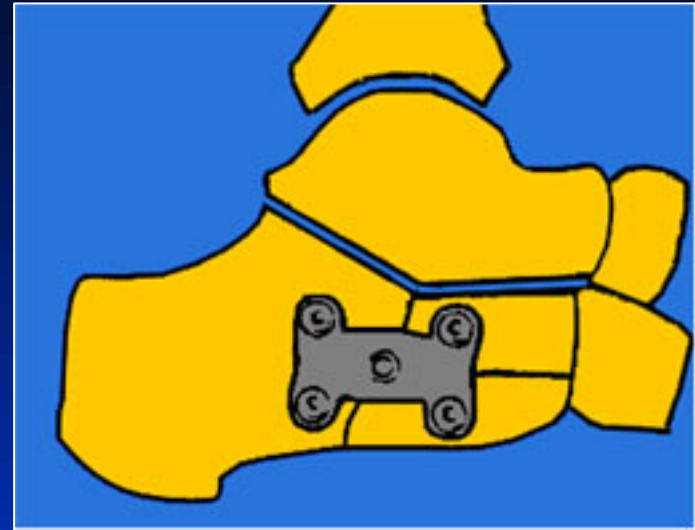
Numerosi tipi di osteosintesi per fratture di calcagno



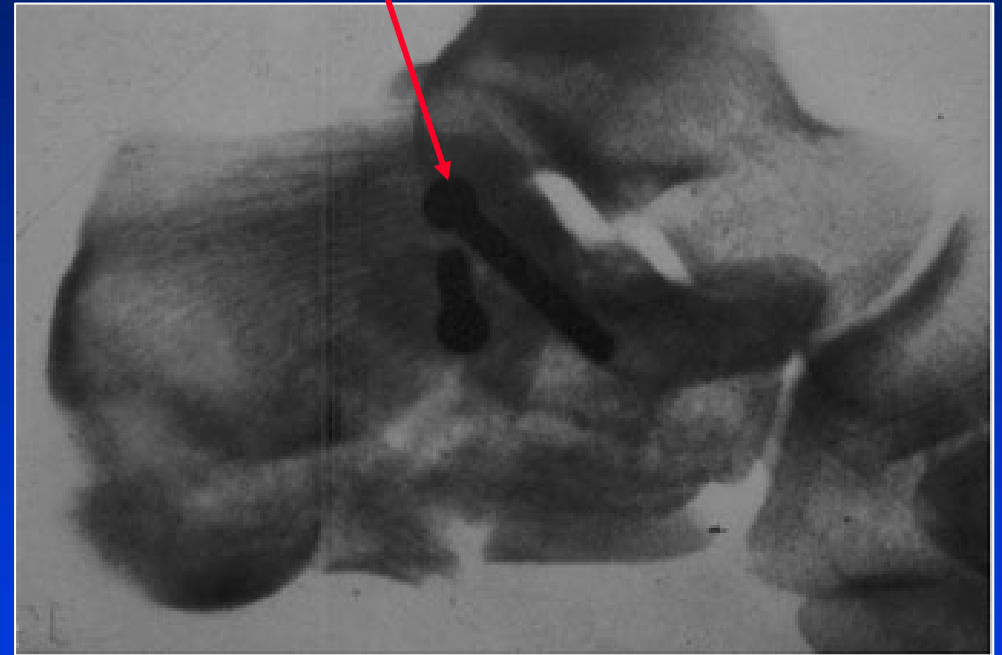
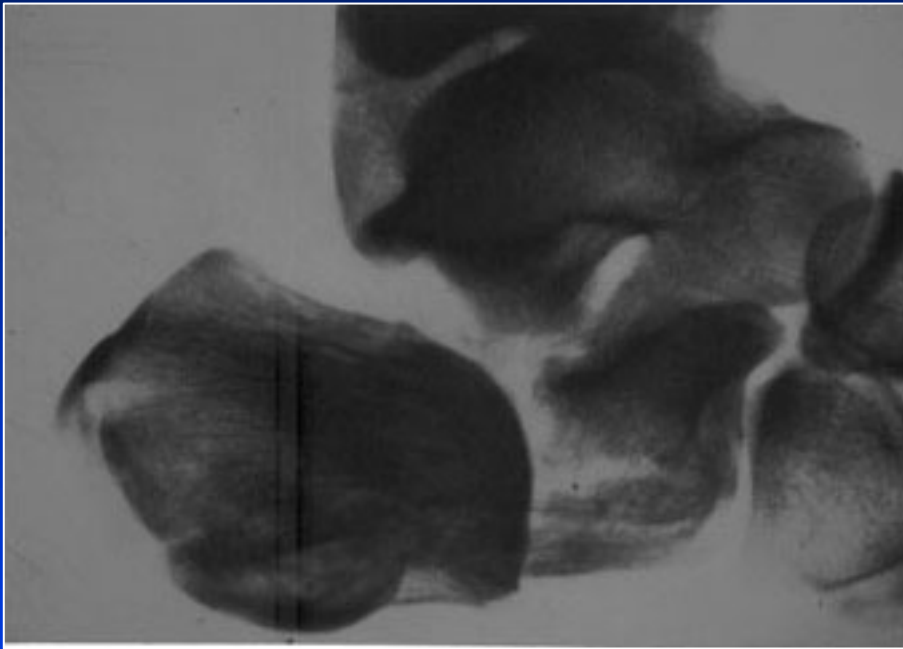
Placca semplice



Placca ad H

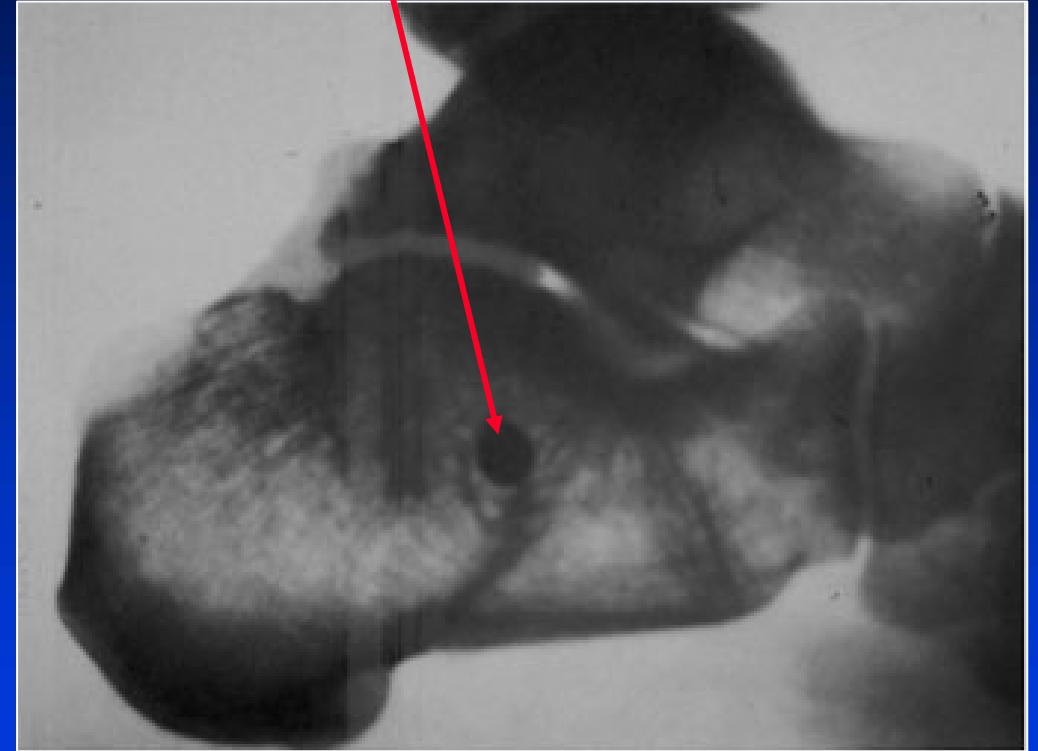
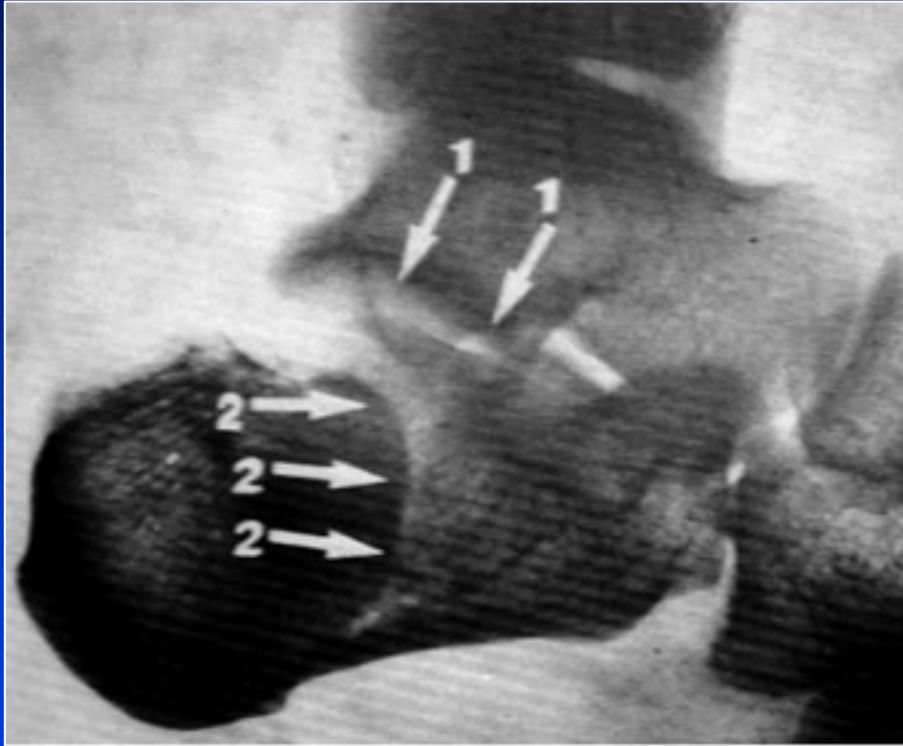


2 viti



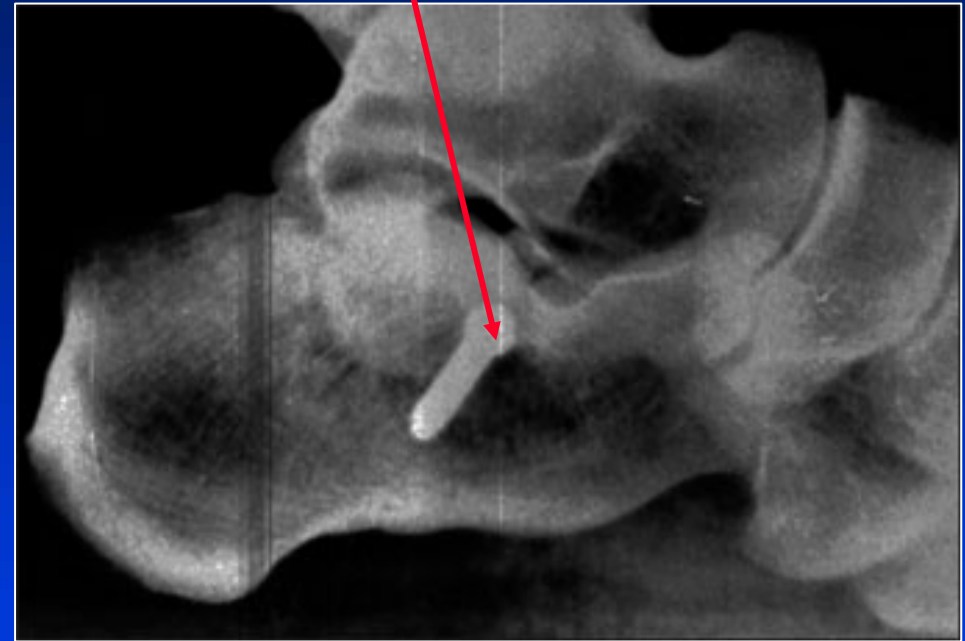
Frattura comminuta: Sintesi per ristabilire ,al meglio ,la superficie articolare (insufficiente)

1 sola vite



Frattura comminuta: Sintesi per ristabilire, al meglio, la superficie articolare

1 sola vite



Frattura comminuta: Sintesi per ristabilire, al meglio, la superficie articolare

OSTEOSINTESI di tutte le fratture TALAMICHE scomposte

Salvo contro -indicazioni

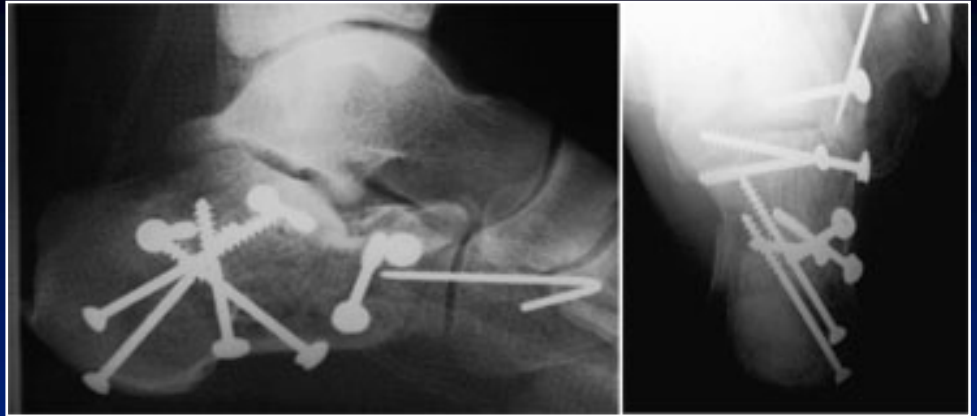
(età – patologie associate – assenza di collaborazione)

In questi casi : trattamento funzionale
o semplice infibulamento percutaneo

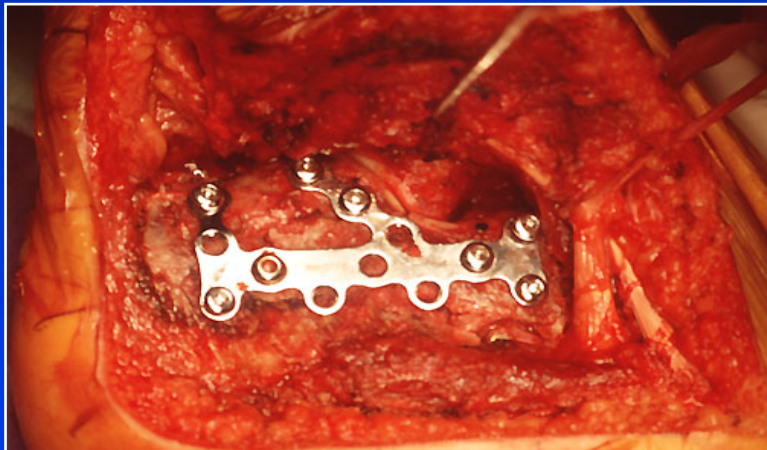
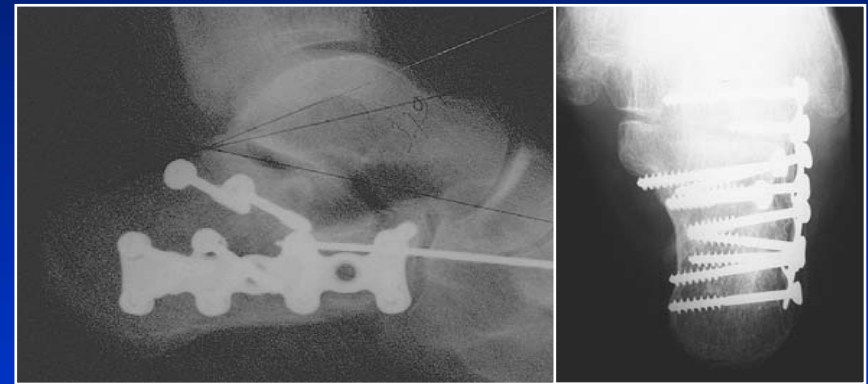


Osteosintesi

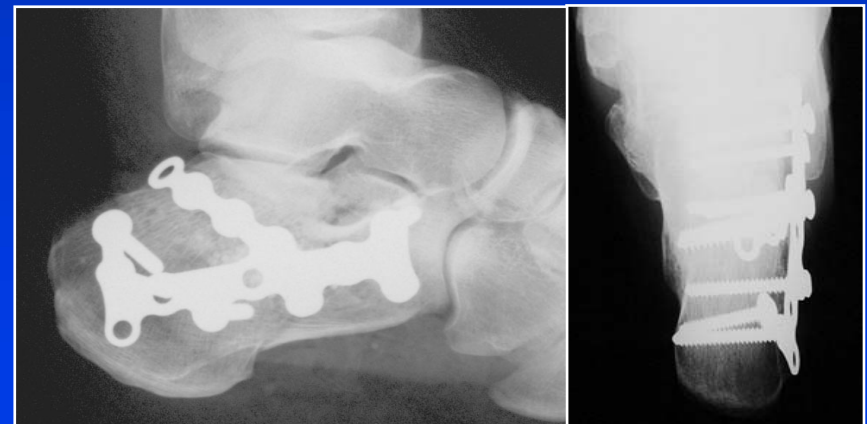
- Viti multiple



- Placca ad H



- Placca AO



RIEDUCAZIONE post-operatoria

Massaggi e linfodrenaggi

$G_8 - g_{21}$: mobilizzazione art. T-T passiva poi attiva (FD – FP)

$G_{75} - G_{90}$: carico parziale in piscina, carico –contatto statico

$G_{90} - G_{120}$: carico completo, propriocettiva bipodalica

> 4 mesi : abbandono dei bastoni, propriocettiva monopodalica
talloniera visco-elastica, scarpe sportive

COMPLICAZIONI

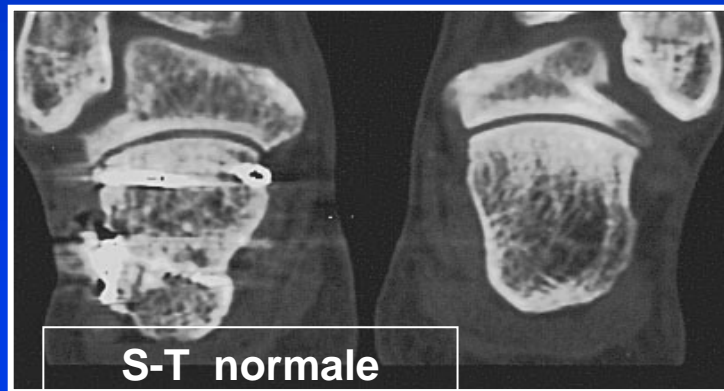
- **Necrosi cutanea** : **3 %**
- **Ritardo di cicatrizz.** : **20 %**
- **Ematoma infetto** : **3 %**
- **Algodistrofia** : **3 %**

Risultati funzionali delle osteosintesi

<u>Eccellenti</u>	(95-100)	11 %	} 88 %
<u>Buoni</u>	(80-94)	77 %	
Medi	(50-79)	12 %	
Cattivi	(<50)	0	

Risultati radiologici

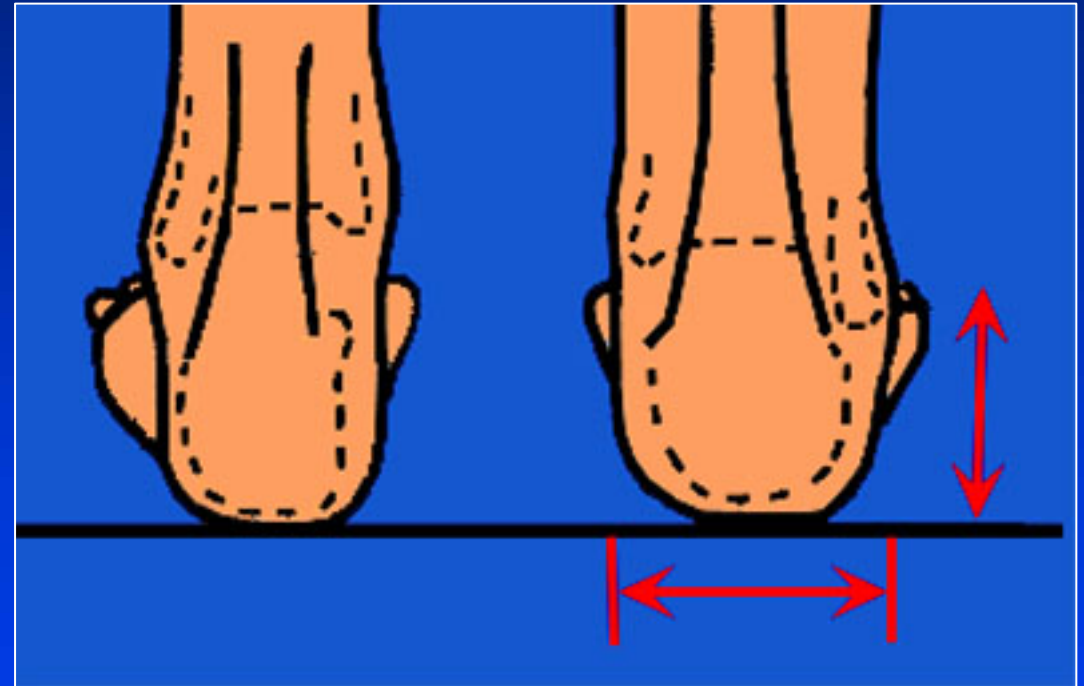
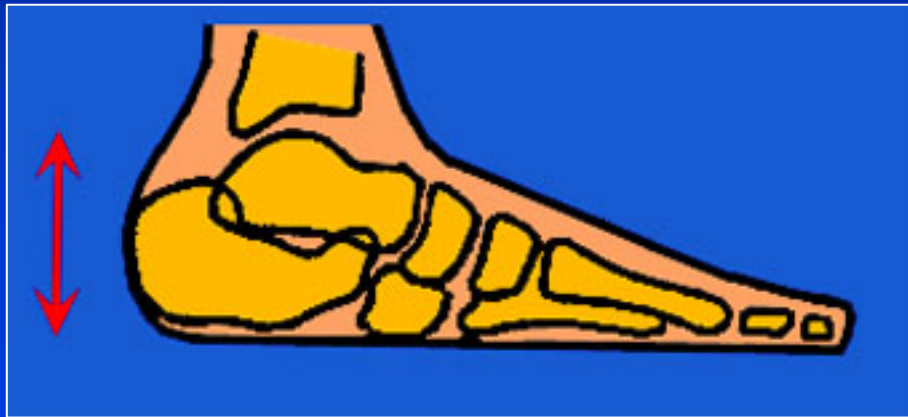
Art. sotto-astragalica posteriore normale : 2 casi su 3



Sequela di fratture del Calcagno

"Piede piatto valgo traumatico"

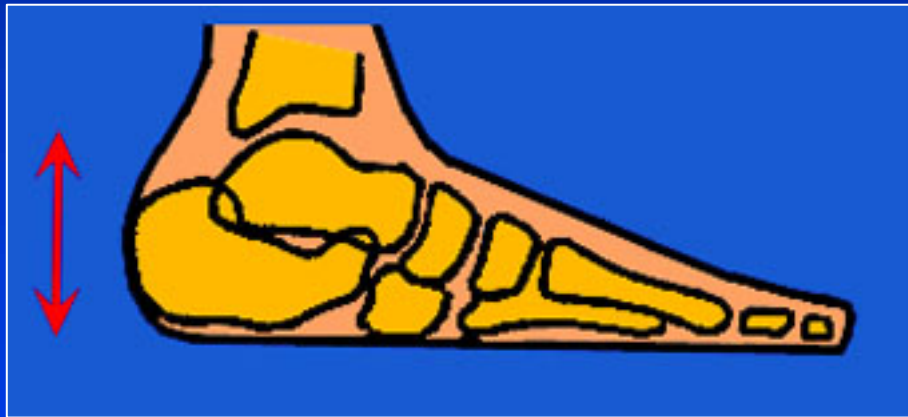
- affossamento del tallone
- allargamento del tallone



Sequela di fratture del Calcagno

"Piede piatto valgo traumatico"

- affossamento del tallone
- allargamento del tallone



Trattamento delle sequele

Riposizione + artrodesi
sotto-astragalica

