

CONGRESSO NAZIONALE SIFE

Rigenerazione Ossea con tecniche di fissazione interna ed esterna.
Prevenzione e trattamento delle infezioni ossee in traumatologia

27-28 Ottobre 2023

MILANO

SIFE
SOCIETÀ ITALIANA
FISSAZIONE ESTERNA

I difetti ossei: trattamento biologico e non **IL PERONE VASCOLARIZZATO**

Bruno BATTISTON

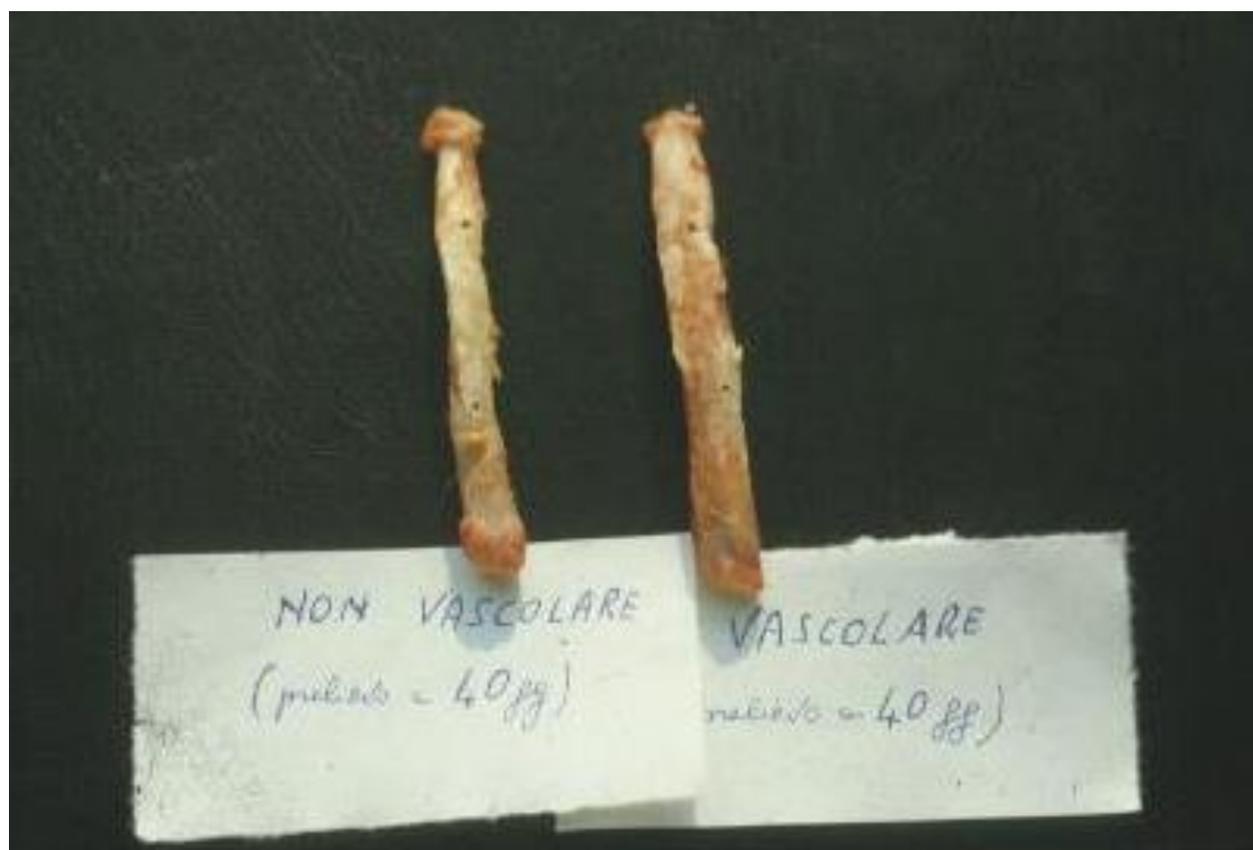
Direttore U.O.C. Traumatologia ad indirizzo Chirurgia della Mano e Microchirurgia
Dipartimento di Ortopedia e Traumatologia C.T.O. - Città della Salute e scienza - Torino



Gruppo di Chirurgia della
Mano e dell'Arto Superiore
del C.T.O. di Torino

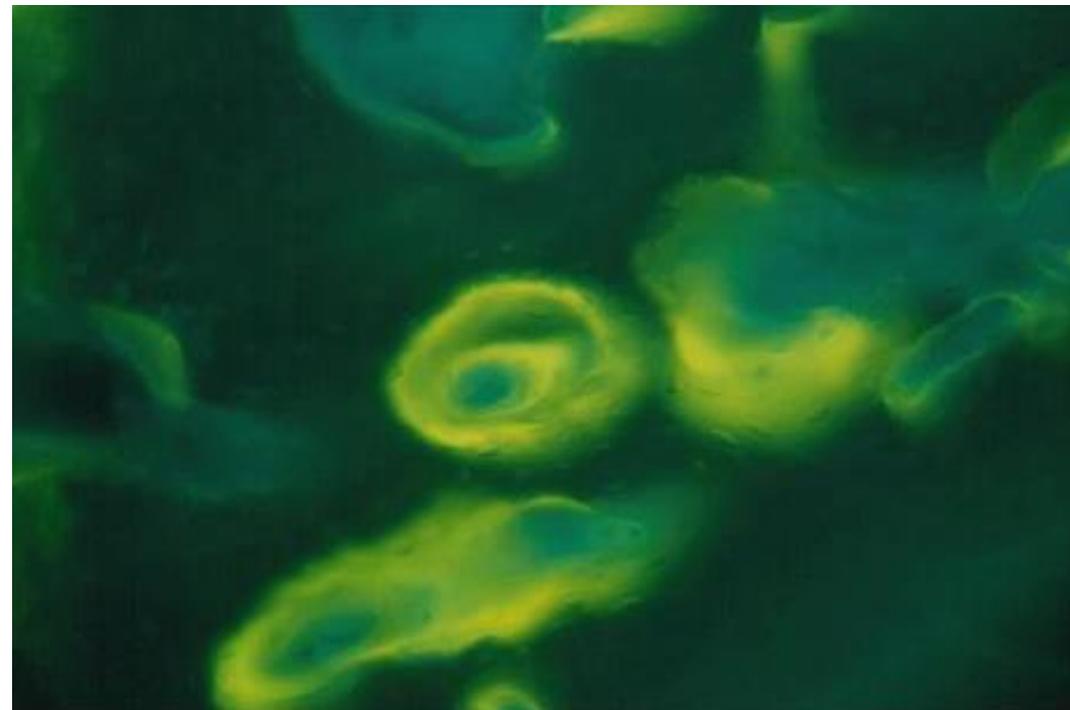
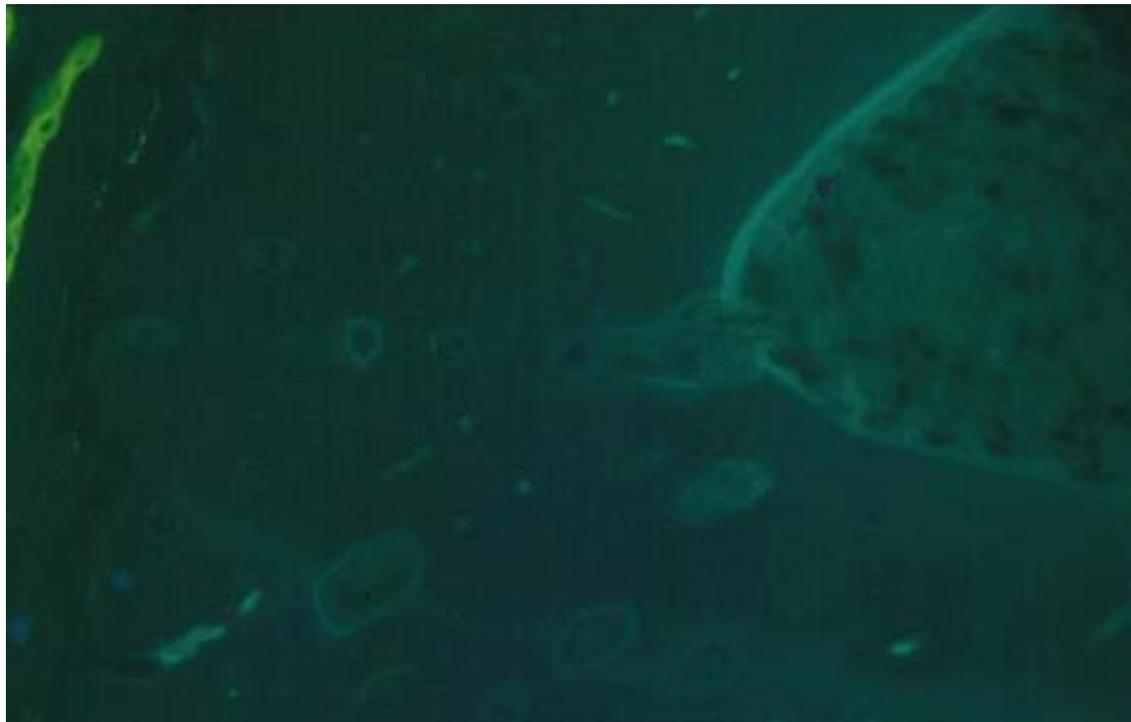
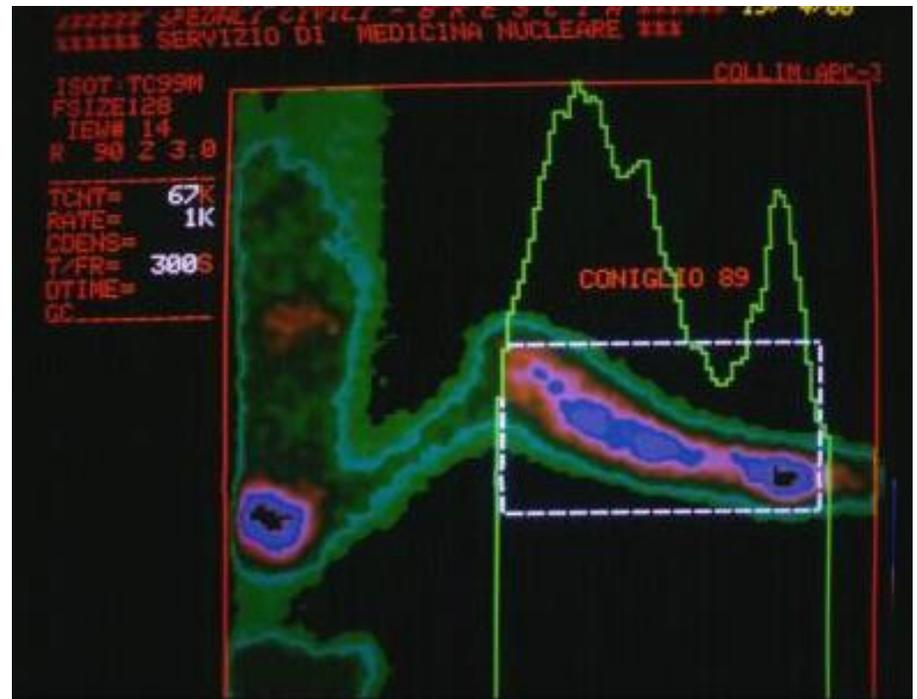
RICERCA SPERIMENTALE
Battiston et al., GIOT 1989

**Innesti ossei vascolarizzati
versus avascolari nel coniglio**



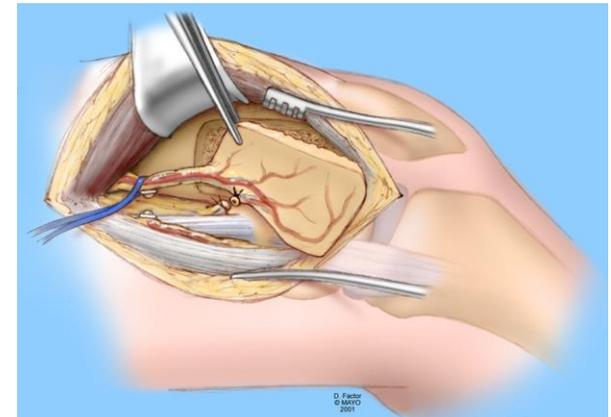
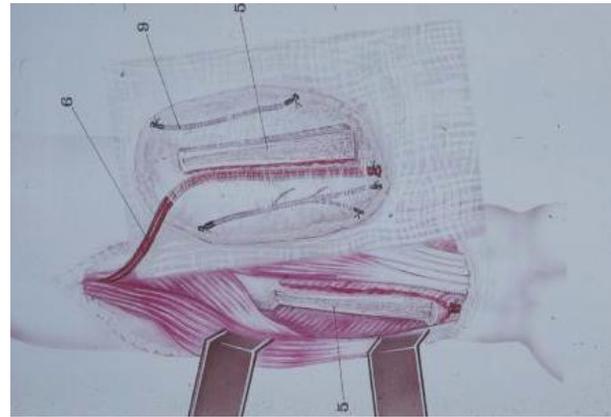
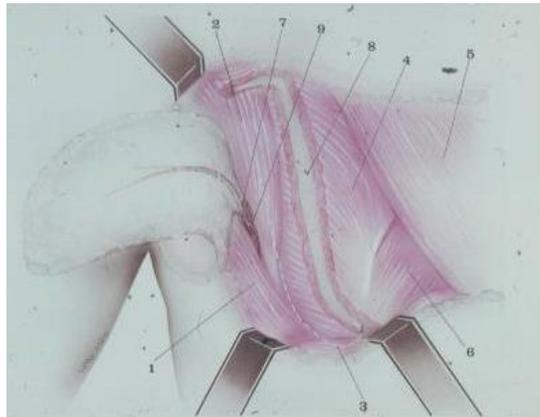
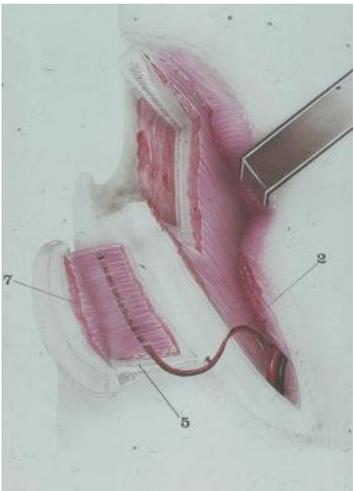
NON VASCOLARE
(peso = 40 mg)

VASCOLARE
(peso = 40 mg)

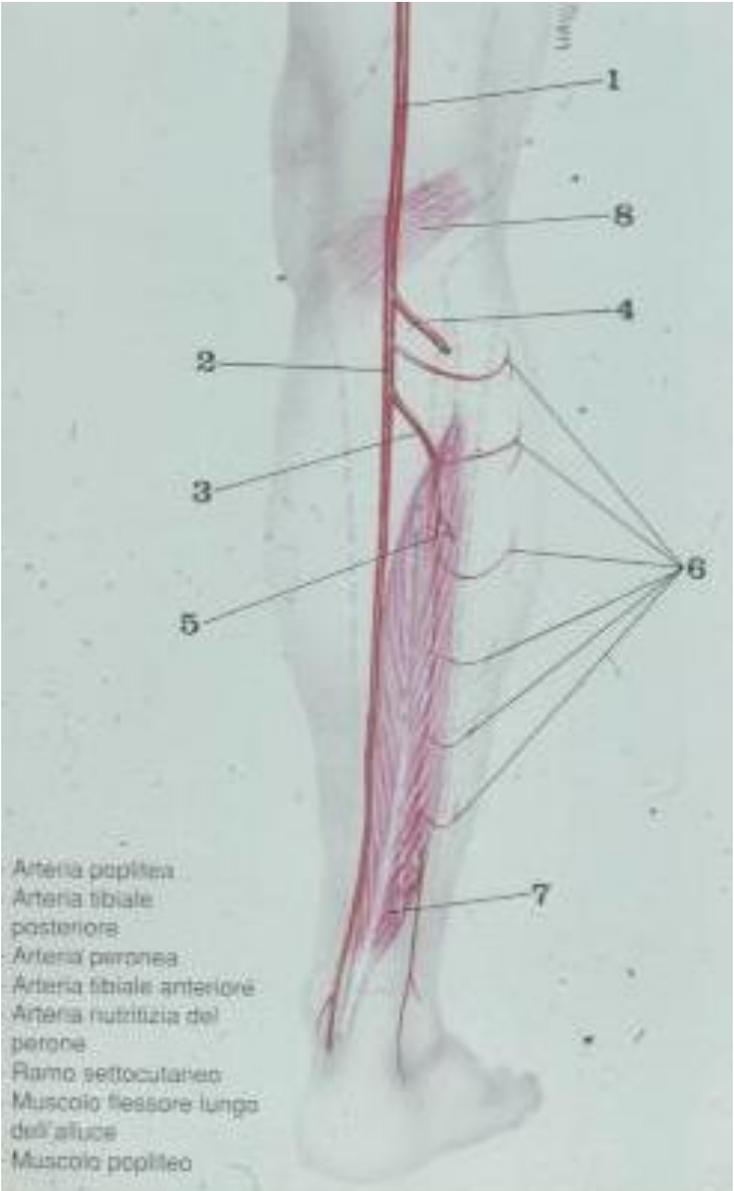


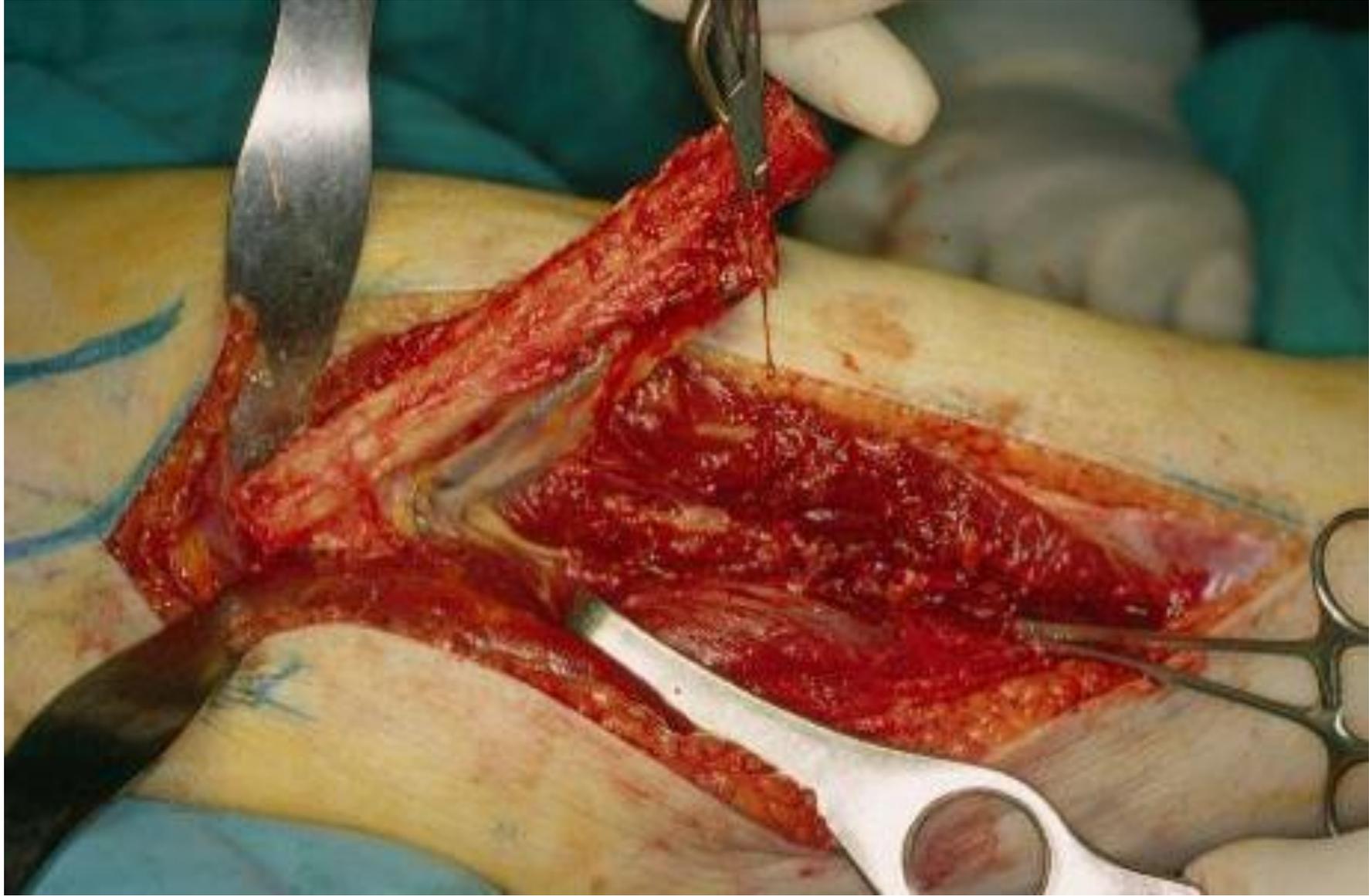
STUDI ANATOMICI

hanno portato all'identificazione di numerosi innesti ossei che possono essere trasferiti ricostituendone la vascolarizzazione



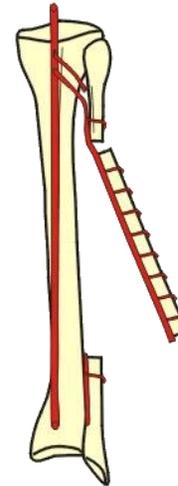
PERONE VASCOLARE



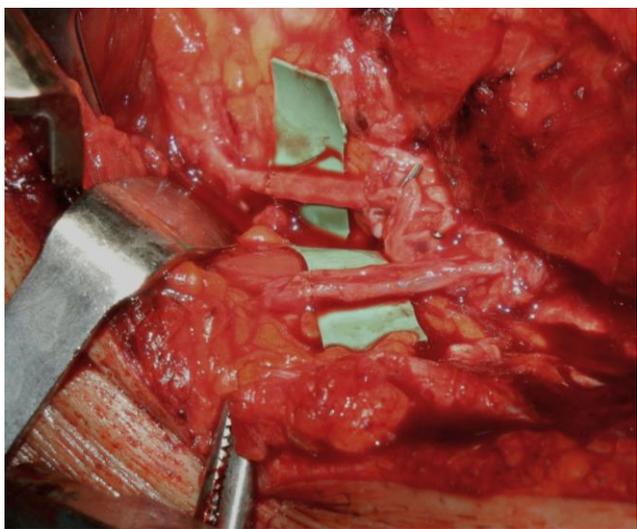
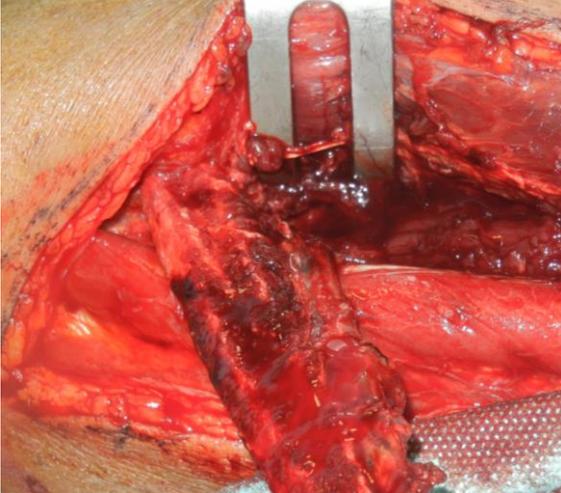
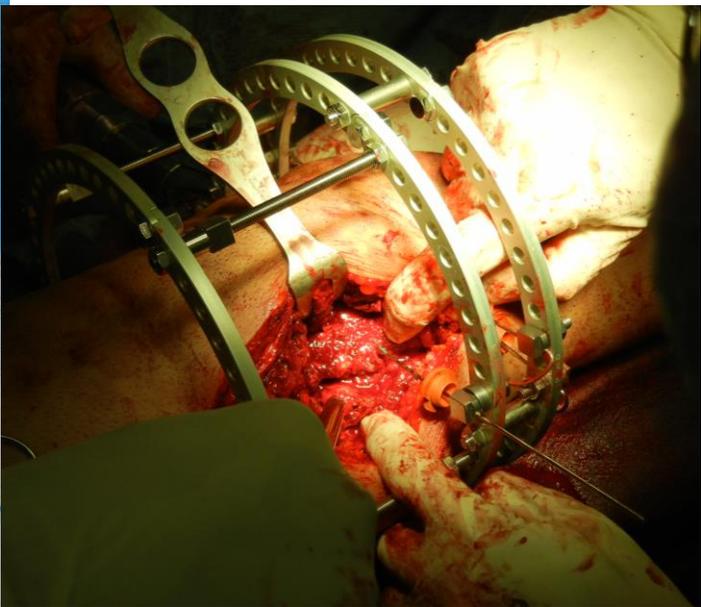


PERDITE DI SOSTANZA

POST - TRAUMATICHE









SN

Girino, Alberto Demetrio
 35005122
 10/05/1963
 49 YEAR
 M



Sx

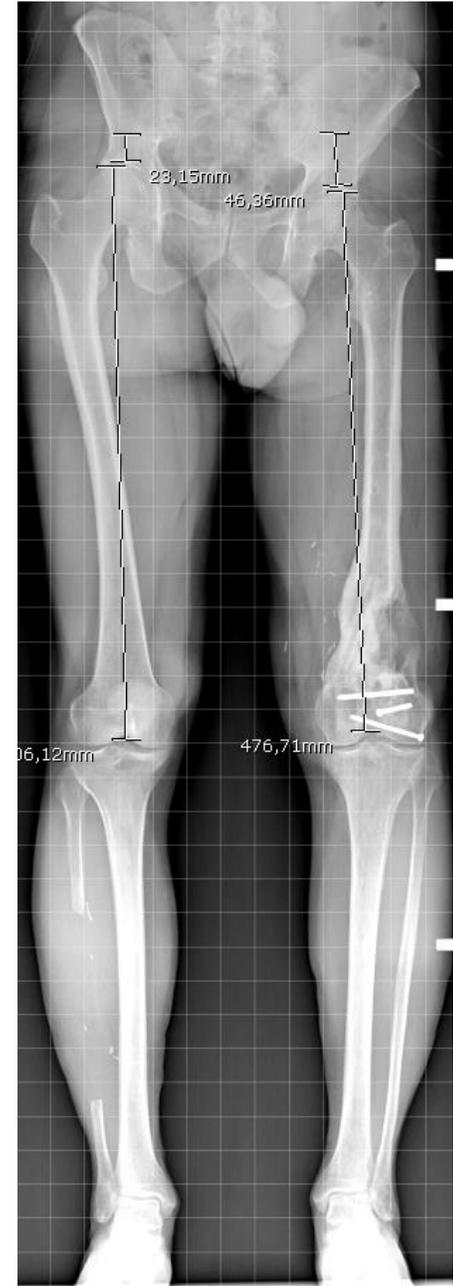
C.T.O. (TO)
 LOW_EXM, FEMORE
 FEMORE
 09/07/2012 11:37:17
 61246719

S: 149
 Z: 0.24
 C: 512
 W: 1024

IM: 1001



SN





PATIENTS AND METHODS

A RETROSPECTIVE COMPARATIVE COHORT STUDY

COHORT A

- **10 Patients**
- **10 Atrophic Nonunions**
- **Min. 1 Operation Failed**
- **Free Doi-bishop Flap**
- **Follow Up Until Union**

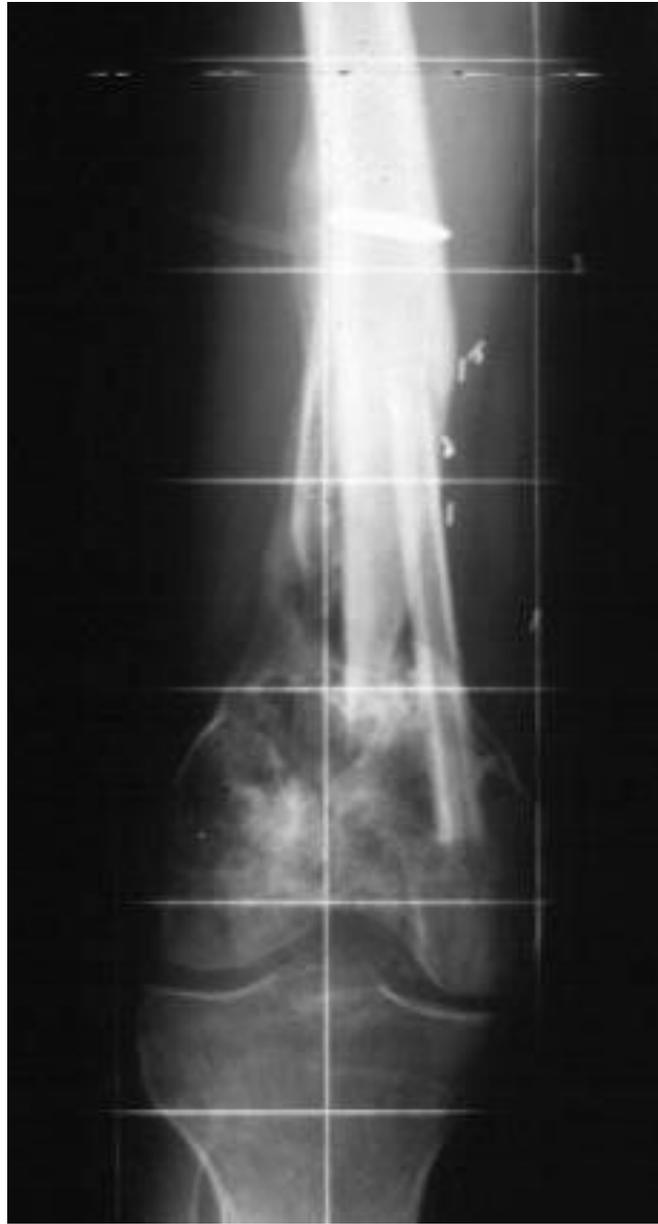
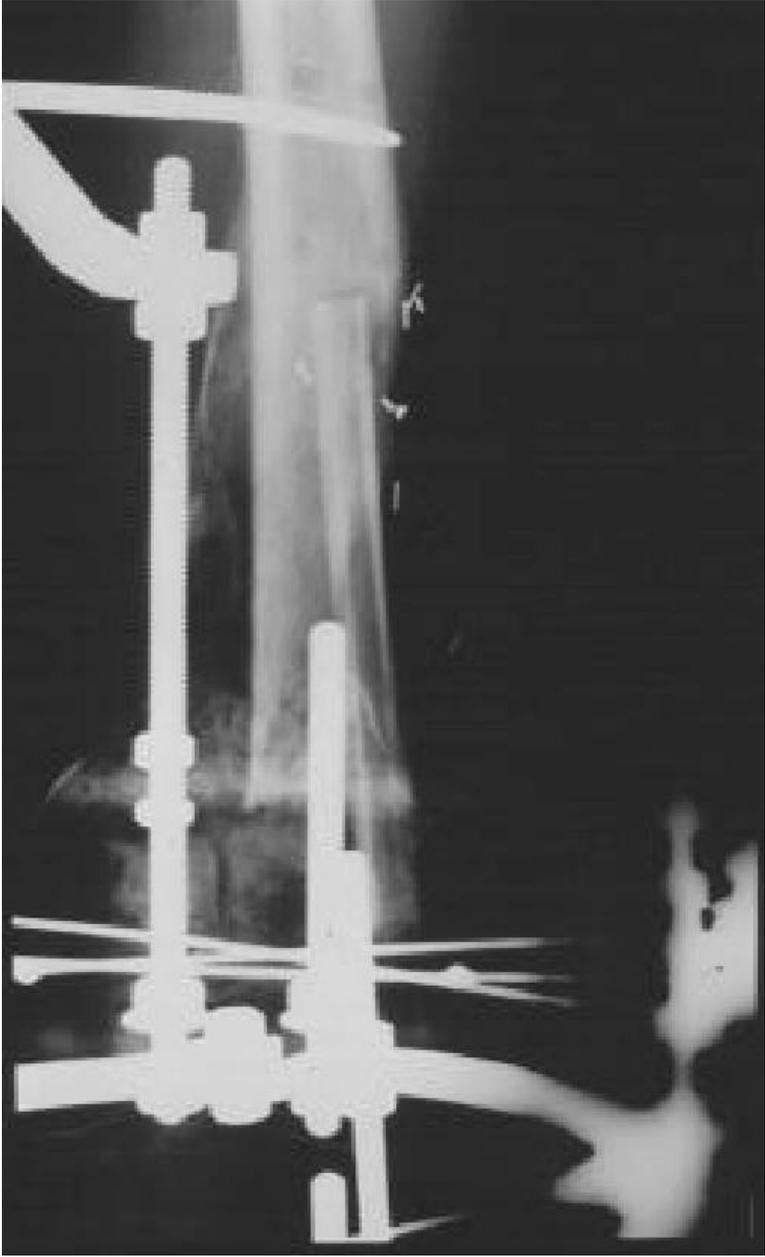
COHORT B

- **10 Patients**
- **10 Atrophic Nonunions**
- **Min. 1 Operation Failed**
- **Standard Cancellous Bone Graft**
- **Whatever Biologic or Pharmacologic Factor**
- **Follow Up Until Union**

RESULTS

- **Comparable Healing Rate (100% Vs 90%)**
- **Significative Shorter Healing Time (3,2 Vs 8,8 Months)**
- **Juxtacortical Bony Bridges as Early as 6 To 8 Weeks**
- **No Vascular or Septic Complications**
- **No Donor Site Morbidity**
- **Early Mobilization of Limbs**





Treatment of acute bone defects in severe lower limb Trauma

[B Battiston](#)¹, [D Santoro](#)², [R Lo Baido](#)², [F Pasquero](#)²

Affiliations + expand

PMID: 31708086 DOI: [10.1016/j.injury.2019.10.046](#)

Abstract

Purpose: To present our experience in the management of acute large bone defects treated with the use of vascularized fibular grafts supported by Ilizarov circular external frames.

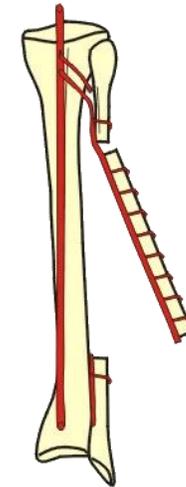
Patients and methods: During a period of 6 years (from 2007 to 2013) 8 patients with acute large bone defects (IVB according to Winquist modified classification) were treated at our institution with early bone reconstruction by means of microvascular fibular grafts. All patients were evaluated by the use of the following parameters: X-ray consolidation, discharge time, duration of treatment, malalignment of the lower limb and final leg length discrepancy, knee and ankle mobility (ROM), pain (VAS), number of eventual additive treatments (plastic surgery, etc.), walking independence (use of crutches), possibility to get back to work, subjective evaluation about the treatment and the result (SF-36, personal feelings about circular external fixator dressing) **RESULTS:** The mean treatment time, often connected to the mean consolidation time, was 61 weeks and the mean number of operations was 7.6. Six of the eight patients got back to their previous daily activities and work, without any further issues.

Discussion: based on our experience, Ilizarov and fibular vascular grafts are not alternatives, as often reported in literature. Their combined use, especially in lesions as those classified as Winquist IV B, can represent an effective tool in the surgeon's hands to solve the most difficult cases of acute bone loss caused by severe high-energy traumas.

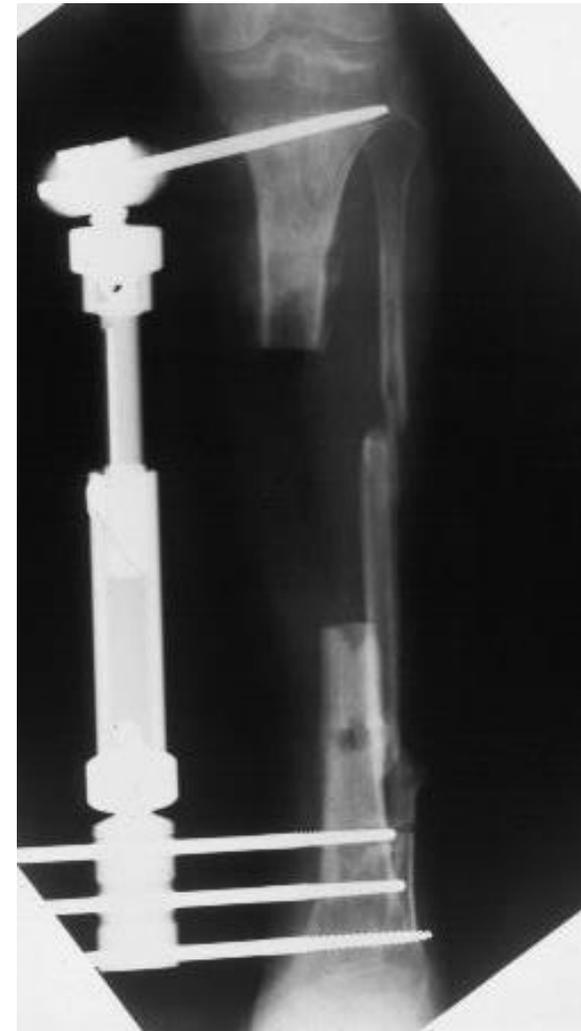
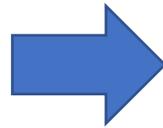
Keywords: Acute bone defects; Lower limb; Trauma.

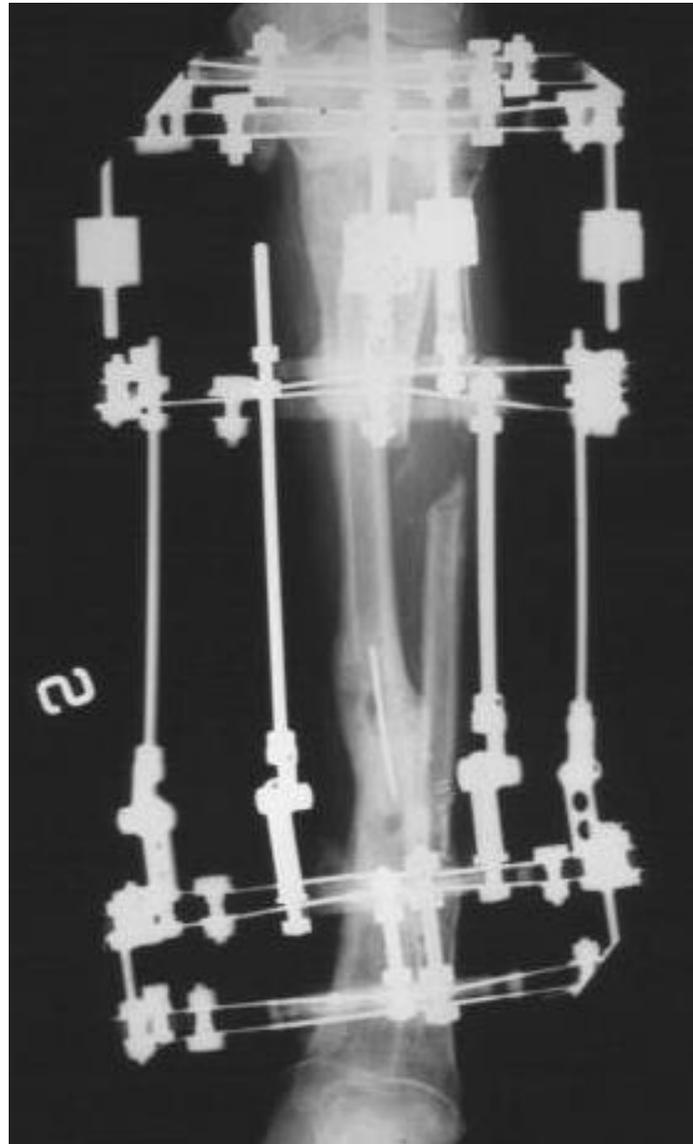
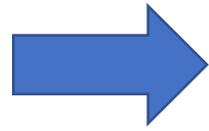
NECROSI ED

OSTEOMIELITI

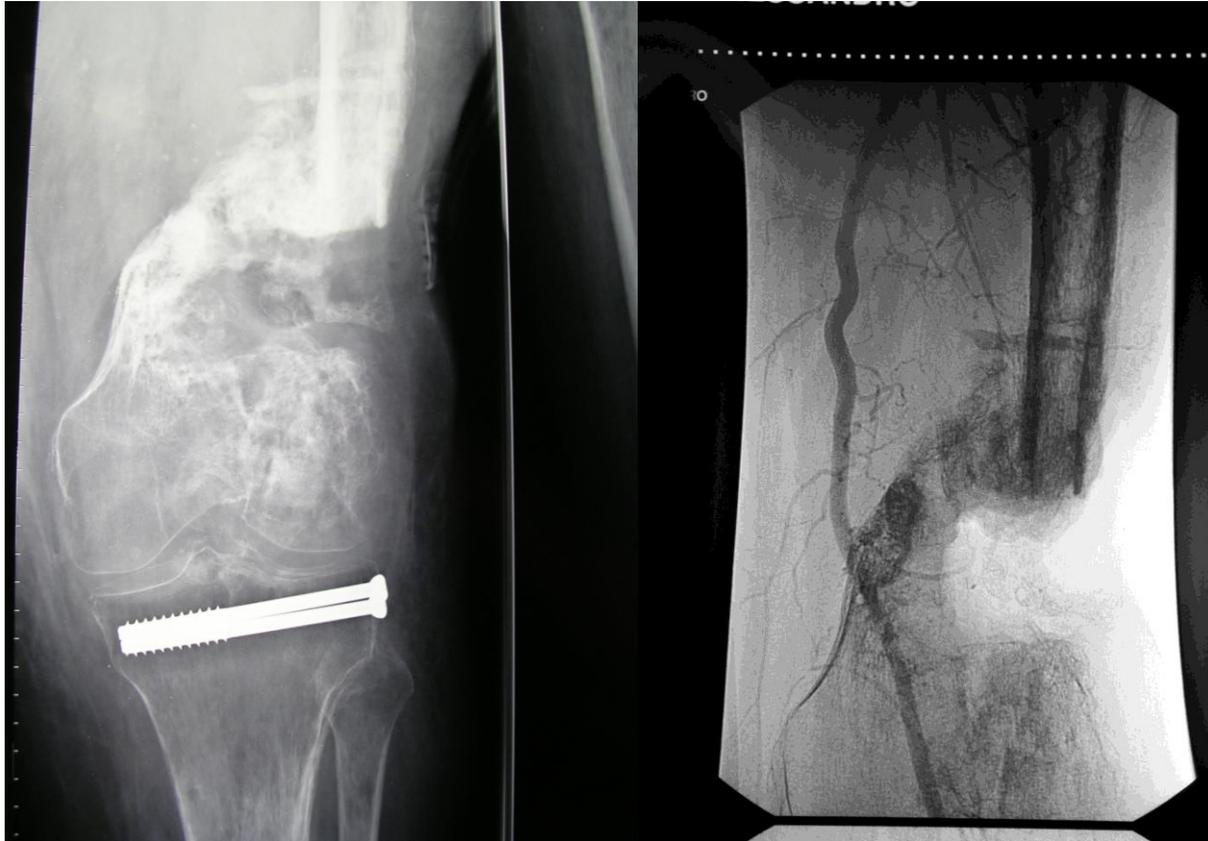


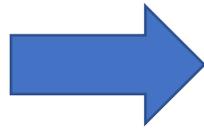
Osteomyelite infetta di tibia in frattura ampiamente esposta. già trattata con 2 interventi di fissazione esterna. Due tempi. 1) resezione e copertura con lembo. 2) innesto osseo di perone vascolarizzato





Osteomielite infetta di femore in p.d.s. già trattata con 3 interventi di fissazione esterna (damage control, innesto osseo, trasporto con Ilizarov) : 1 tempo





PAULUZZI ALESSANDRO
31SLM481347-
1
FEMORE
Acct# 954576
Pos. paziente: SUPINO
Visualizza pos.: AP

Az. Osp. S. Corona - Radiologia
KODAK CR900
2-feb-2006 11:29:20
Desc. studio: FEMORE SINISTRO(2PR)



Az. Osp. S. Corona
2-
Desc. studio: FEMORE



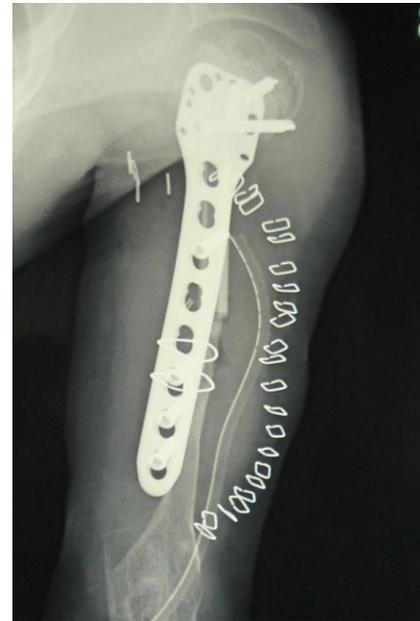
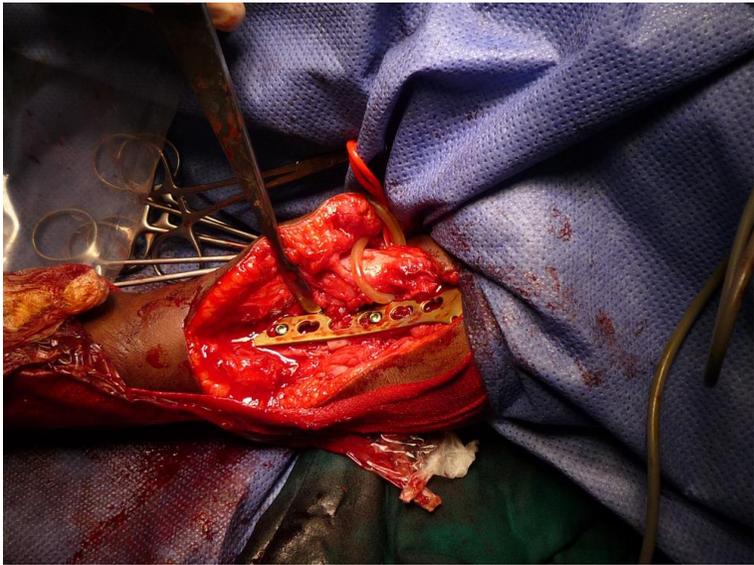
Az. Osp. S. Corona
2-fe
Desc. studio: FEMORE





Osteomielite acuta ematogena non trattata in età infantile in bambina di famiglia immigrata





DIALLO,AYSSATA
26/11/2003
SESSO:F
ETA':008Y

Azienda ULSS 6 Vicenza
Ospedale di Vicenza
PO_VICENZA
W 3080 - L 1847



ID PAT:1152472
ACC#121089521
SE:2
IM:1
ORA:10:50:11
DATA:13/01/2012

RX OMIERO SN -RX GOMITO SN
PROIEZIONE:T058 Omero SIN
1.3.12.2.1107.5.3.33.2040.11.201201131050110156

DIALLO,AYSSATA
26/11/2003
SESSO:F
ETA':008Y

Azienda ULSS 6 Vicenza
Ospedale di Vicenza
PO_VICENZA
W T626 : L 1141

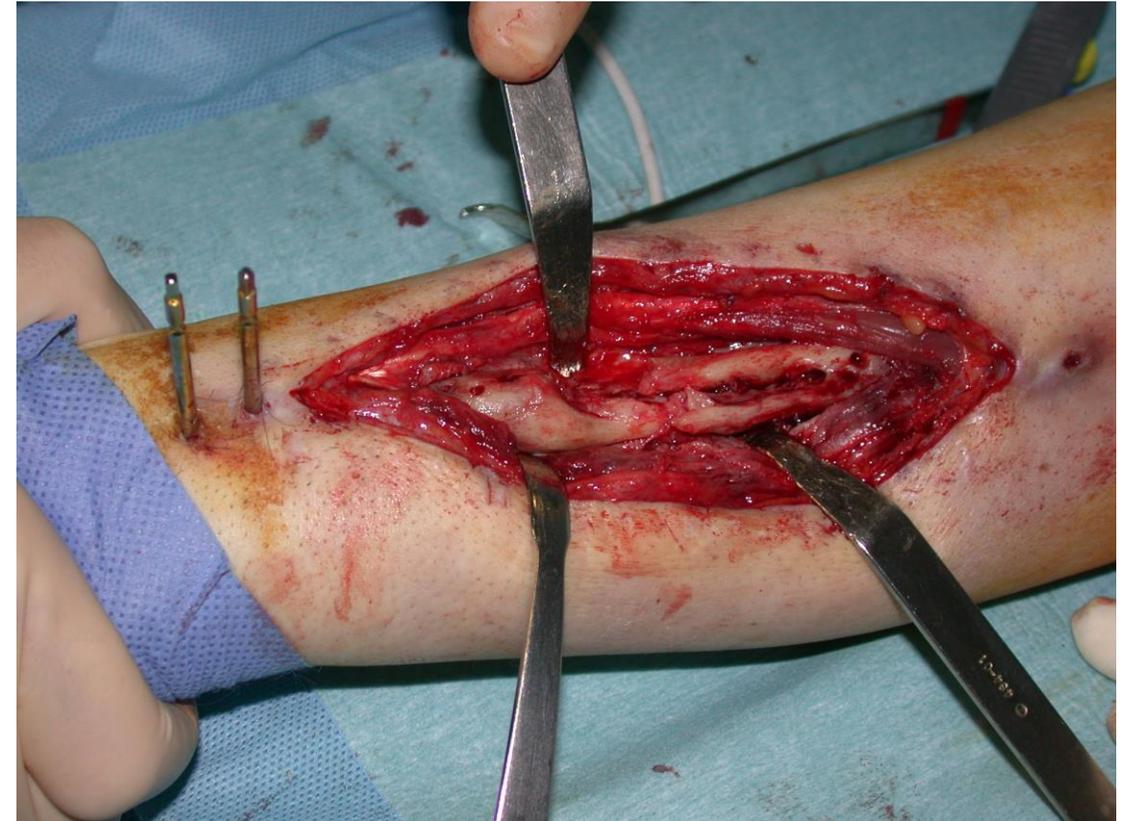


ID PAT:1152472
ACC#121089521
SE:3
IM:1
ORA:10:51:31
DATA:13/01/2012

RX OMIERO SN -RX GOMITO SN
PROIEZIONE:X060 Gomito SIN
1.3.12.2.1107.5.3.33.2040.11.201201131051310453

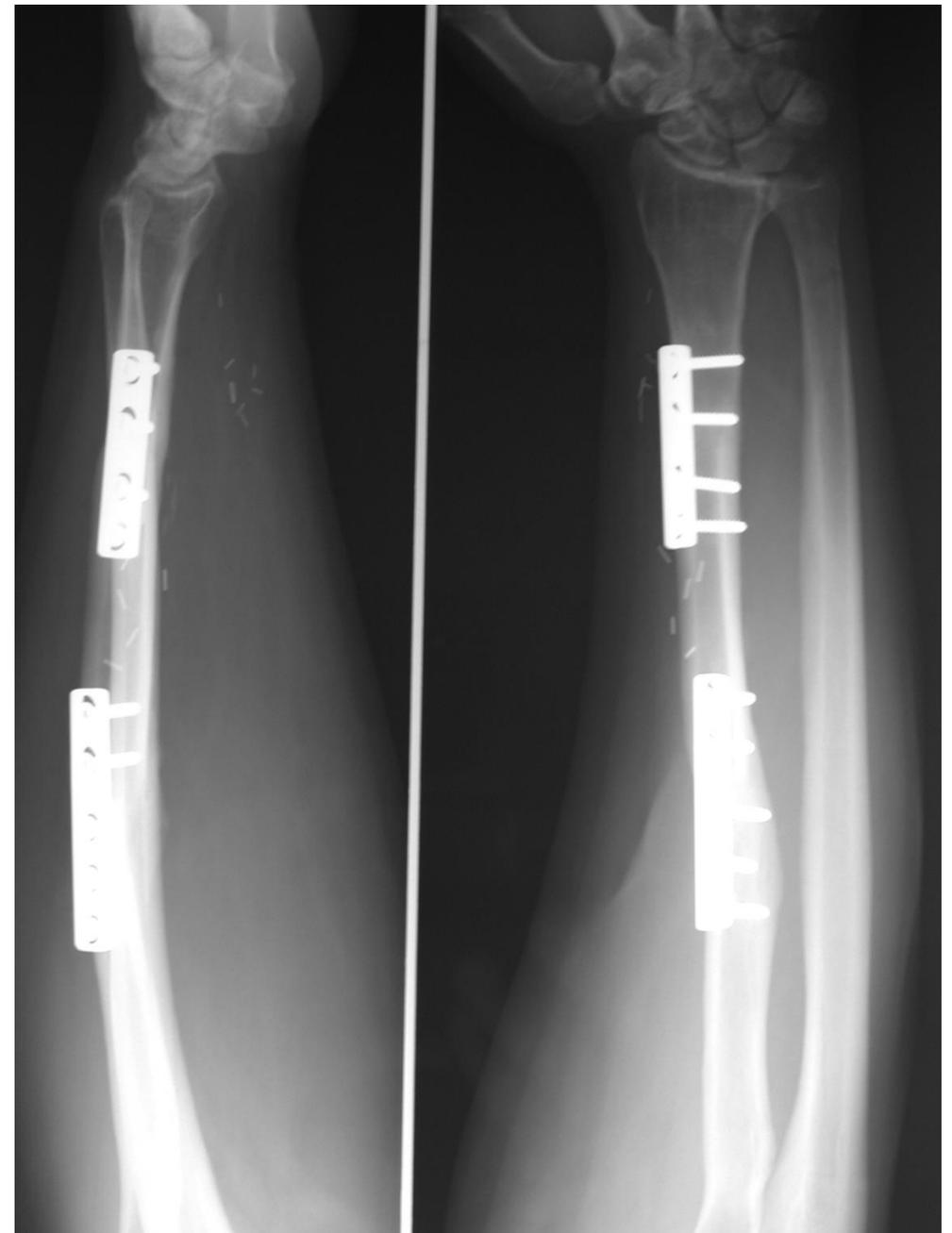


Osteomielite acuta in frattura ampiamente esposta di avambraccio (già operata due volte). 1 tempo





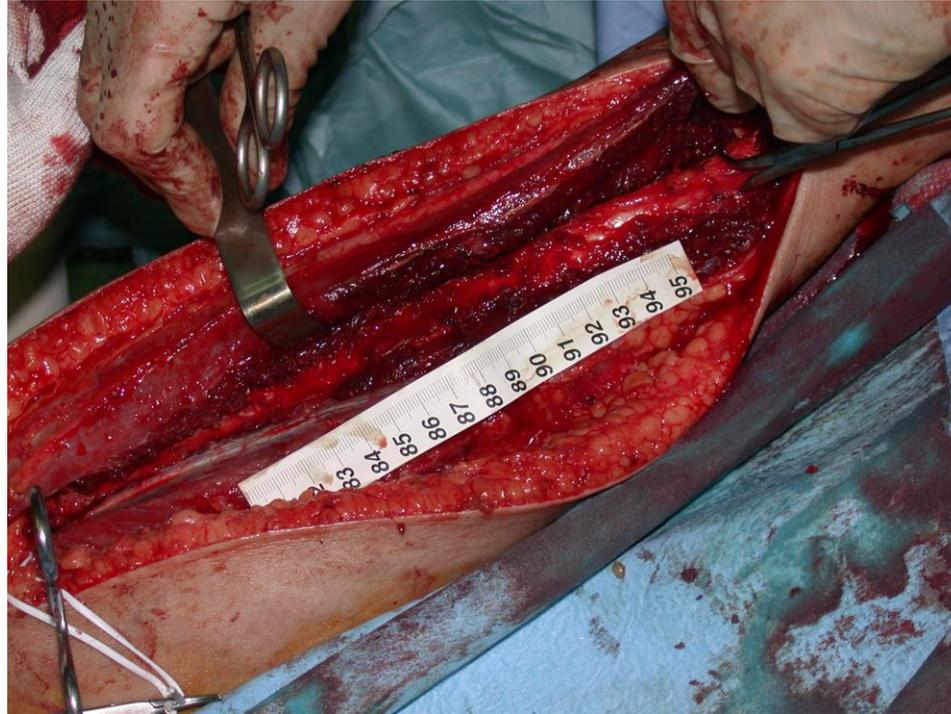
70 giorni



6 mesi



**LUNGHEZZA MEDIA DEL DIFETTO OSSEO : 8 cm
(RANGE 5 cm - 15 cm)**

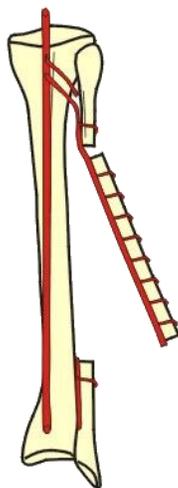


**DA 2 A 5 OPERAZIONI
PRIMA DEL TRASFERIMENTO DI PERONE VASCOLARE**

20% IN 1 TEMPO

80% IN 2 TEMPI

- 1) Resezione e sterilizzazione, eventualmente con lembo di copertura nel primo tempo**
- 2) Innesto osseo vascolarizzato nel secondo tempo**



RISULTATI

IN TUTTI I CASI L'INFEZIONE E' SCOMPARSA

F.U. min 2 aa.

ARTO SUPERIORE

CONSOLIDAZIONE
RADIOGRAFICA
MEDIA **4.1** MESI
(range 2.5-6 m)

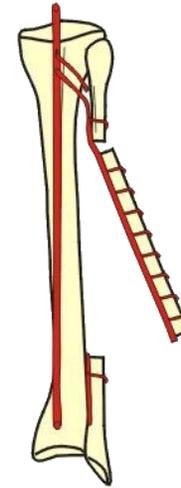
ARTO INFERIORE

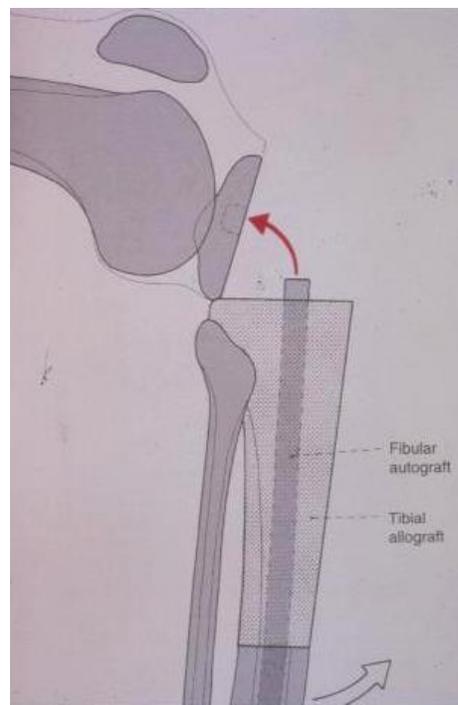
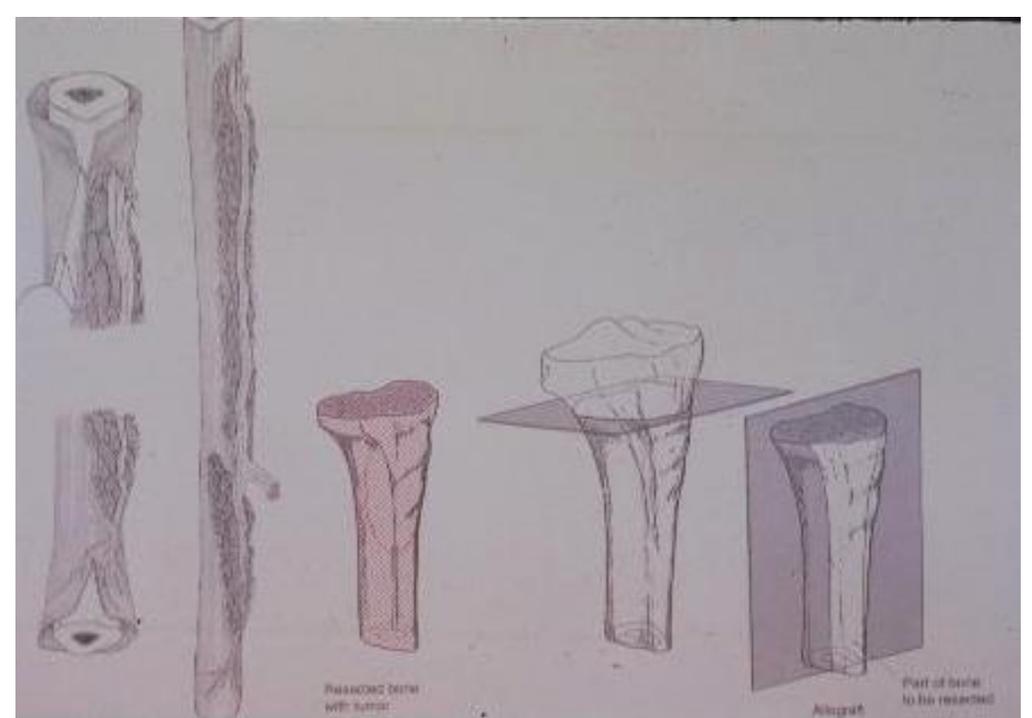
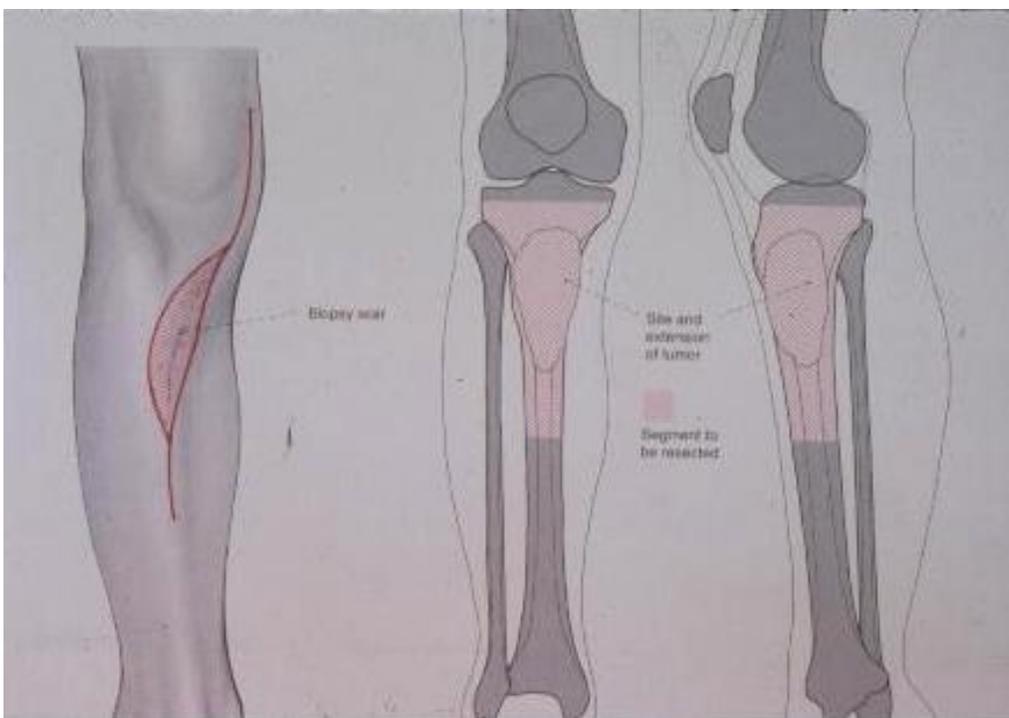
CONSOLIDAZIONE
RADIOGRAFICA
MEDIA **3.5** MESI
(range 2.5-6 m)

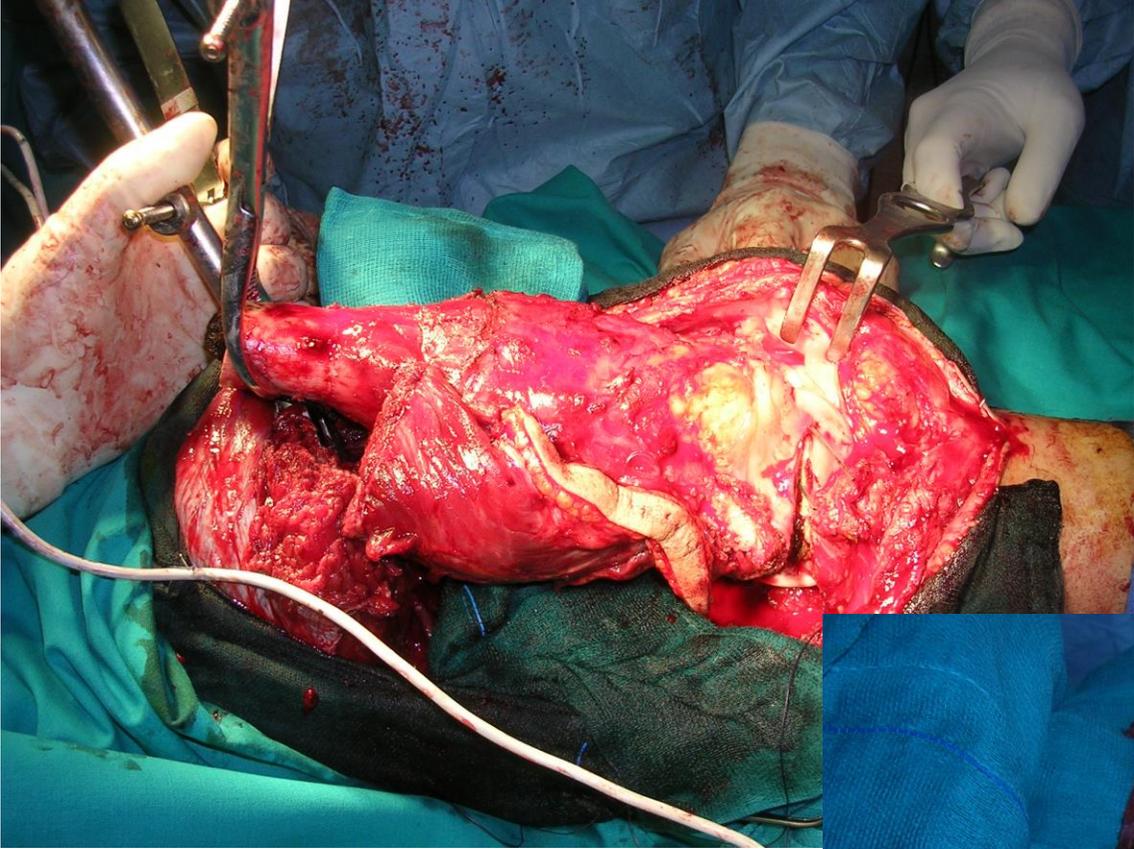
RICOSTRUZIONE

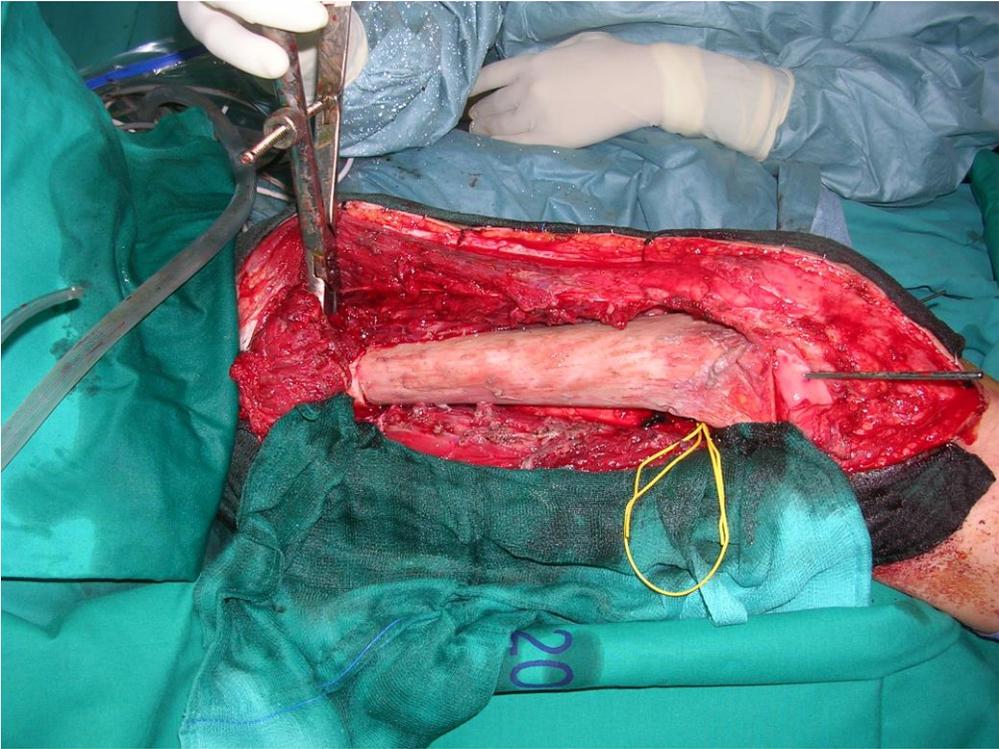
DOPO EXERESI

ONCOLOGICHE

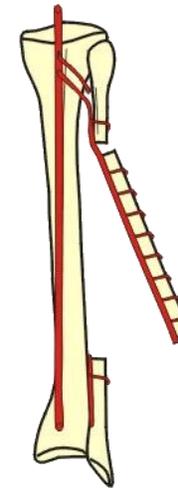




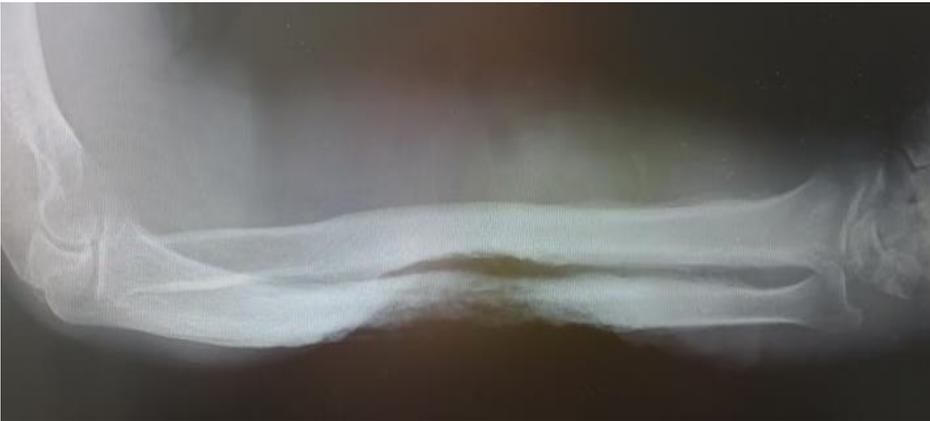


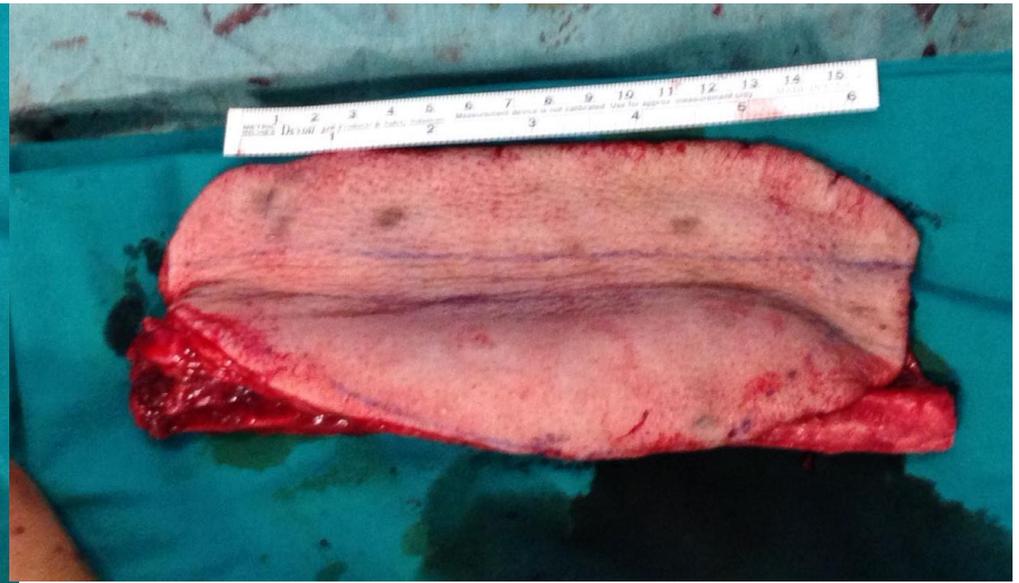


LEMBO COMPOSITO (OSTEO-CUTANEO)



UN TEMPO: osteocutaneo







AVAMBRACCIO SINISTRO

FU 5 aa
Settembre 2023



deficit completo di estensione del polso e delle dita mano destra e sinistra, buona flessione polsi e dita.

QuickDASH score 11.8 SIN

AVAMBRACCIO DESTRO

FU 5 aa
Settembre 2023



QuickDASH score 6.8 DX

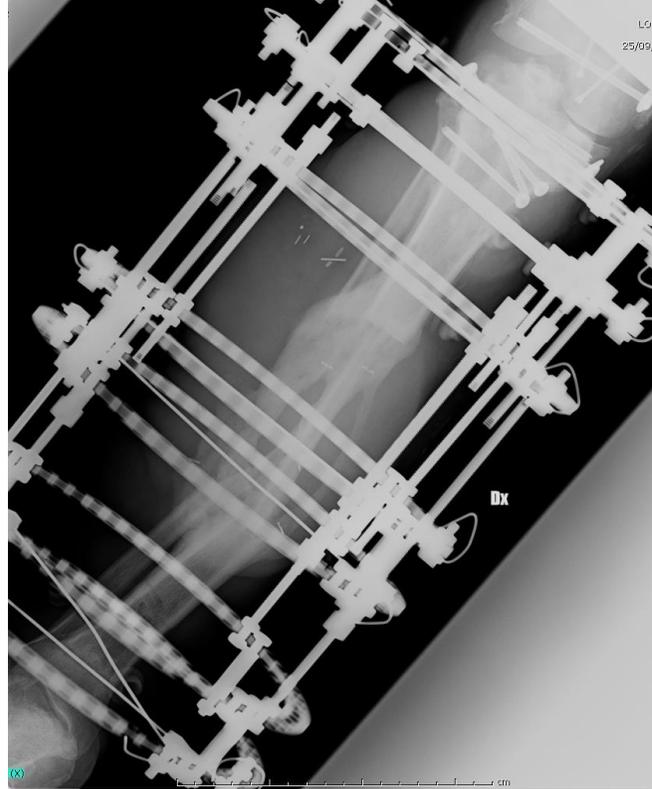
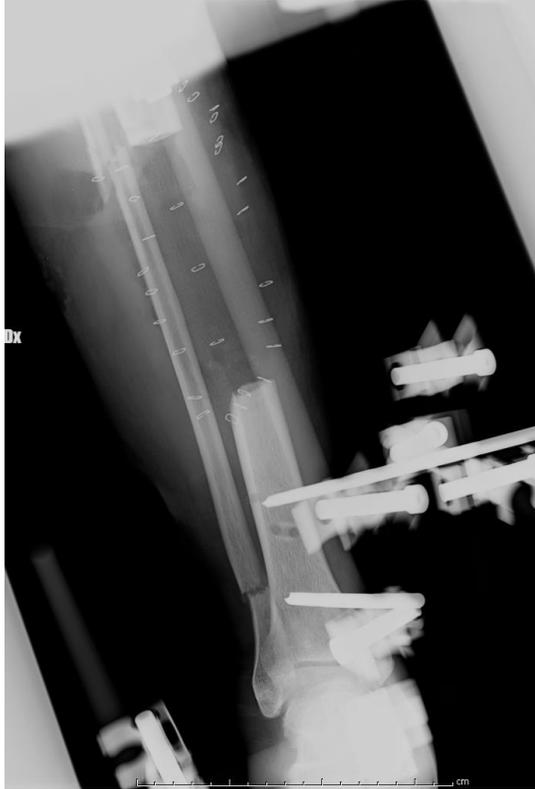


In programma intervento chirurgico di transfer flessori pro estensori valuta la effettiva necessità dell'intervento, dato che si è abituato a utilizzare nonostante tutto molto bene le mani e i polsi





COMPLICAZIONI







GRAZIE



Gruppo di Chirurgia della
Mano e dell'Arto Superiore
del C.T.O. di Torino

