



Long-term results in children bone sarcoma patients
treated with distal femur megaprotheses

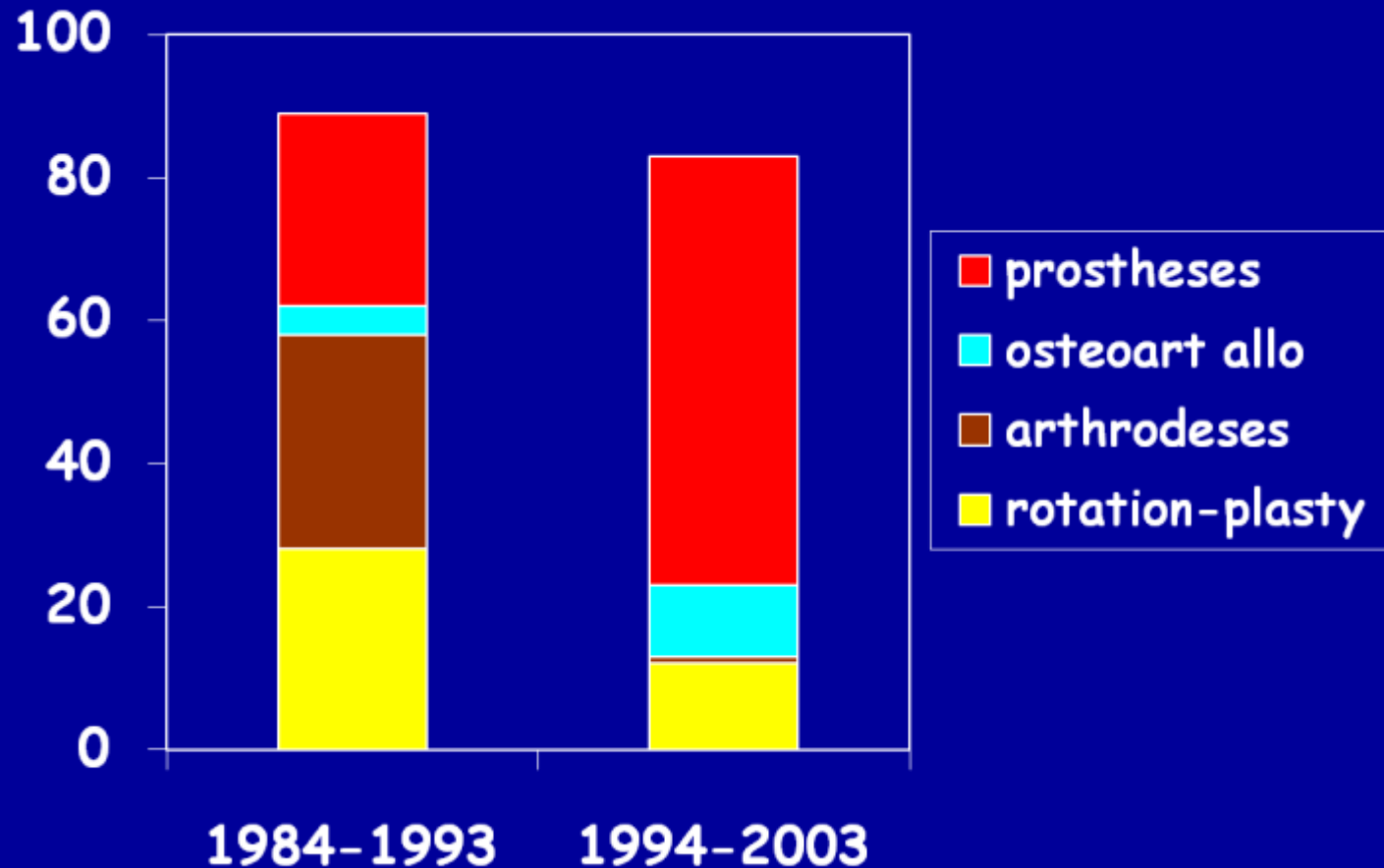
*Marco Manfrini,
Marco Colangeli, Eric Staals, Giuseppe Bianchi, Mario Mercuri*



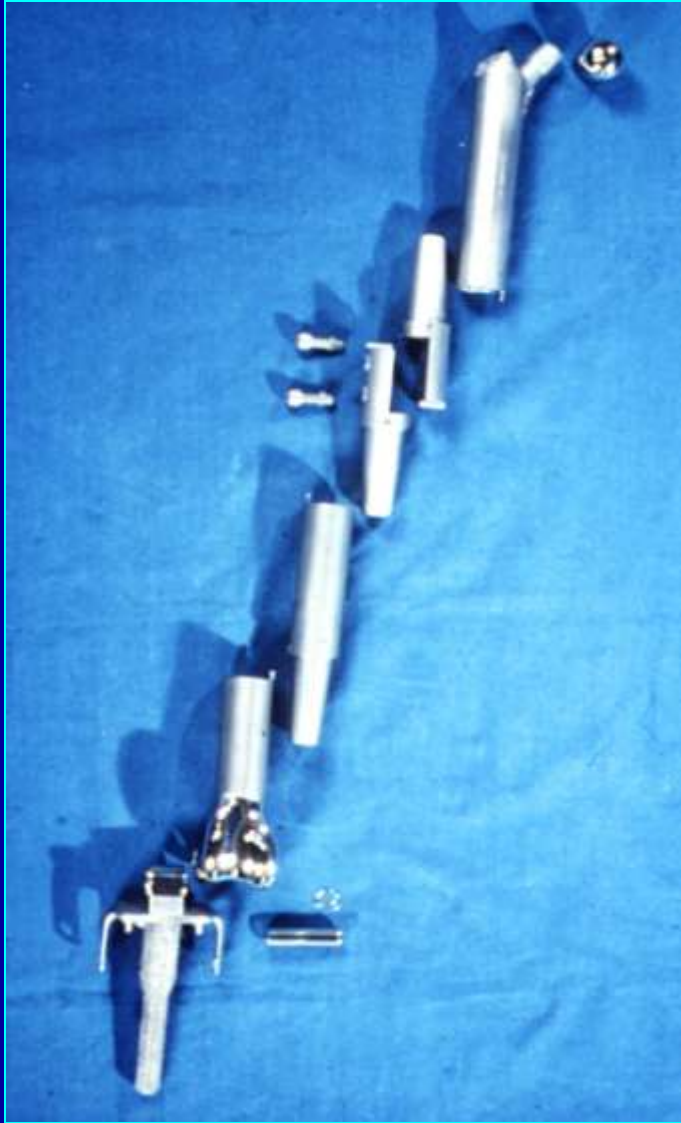
distal femur megaprotheses
in children bone sarcoma patients

1984.....

Knee Reconstruction for Distal Femur Bone Sarcomas in Children < age 15 1984-2003



Modular System (Vitallium) Fixed Hinge, Uncemented stems



KMFTR (1984-1988)

18 pts mean age 13 (SD \pm 1) range 11-14

Complications

Infection 5 28%
(2 primary 11%)

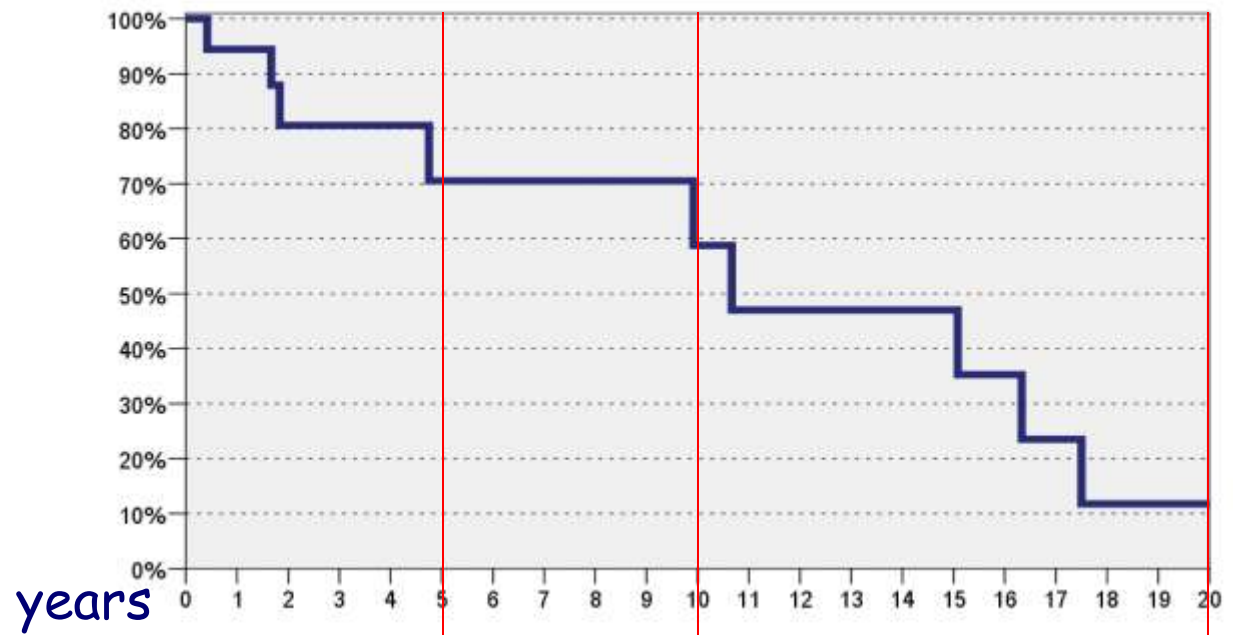
Stem Fracture 6 33%



Distal femur KMFTR in children (18 cases)



Kaplan Maier survival analysis



KMFTR Megaprotheses in Children (1984-1988)
Distal Femur (18 pts- long survivors 9 pts)

**3/18 patients (17%-33%) progressed
to total femur implants**

13 y/o



17 y/o



HMRS (1989-2005)

65 pts mean age 12 (SD \pm 2) range 8-14

Complications

Infection 11 17%

(8 primary 12%)

Stem Fracture 2 3%

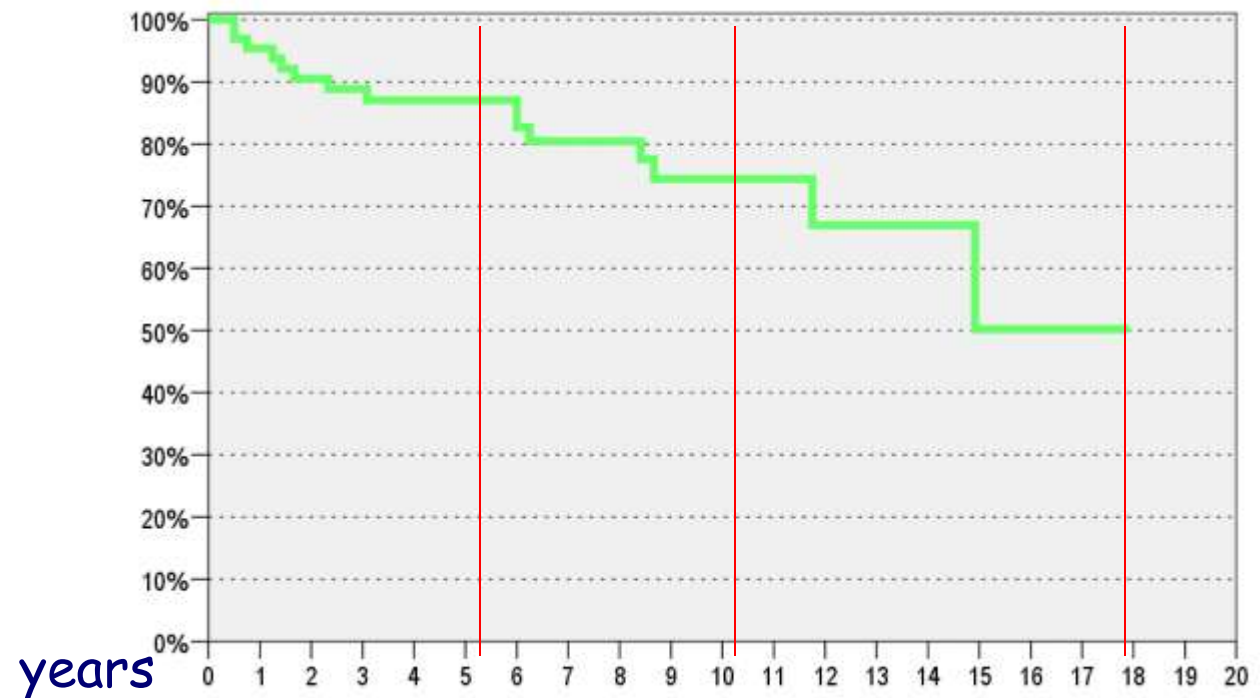
Stem Loosening 3 5%



Distal femur HMRS in children (65 cases)



Kaplan Maier survival analysis



HMRS Megaprotheses in Children (1989-2005)
Distal Femur (65 pts- long survivors 43 pts)

12/65 patients (18%- 28%) revised the implant
(including the femoral stem) with
progressive loss of bone stock

9 y/o



12 y/o



Distal Femur Megaprostheses in Children

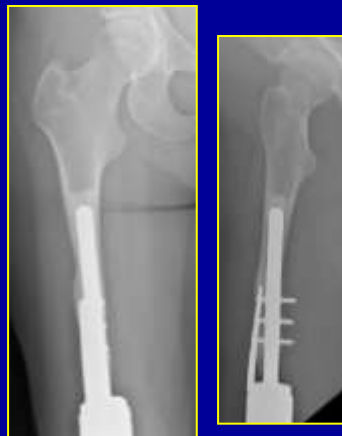
HMRS Kaplan Maier survival analysis



Female, 10 y/o, OS
2001-2009



Female, 8 y/o, OS
1997-2008



Female, 8 y/o, OS
1999-2008

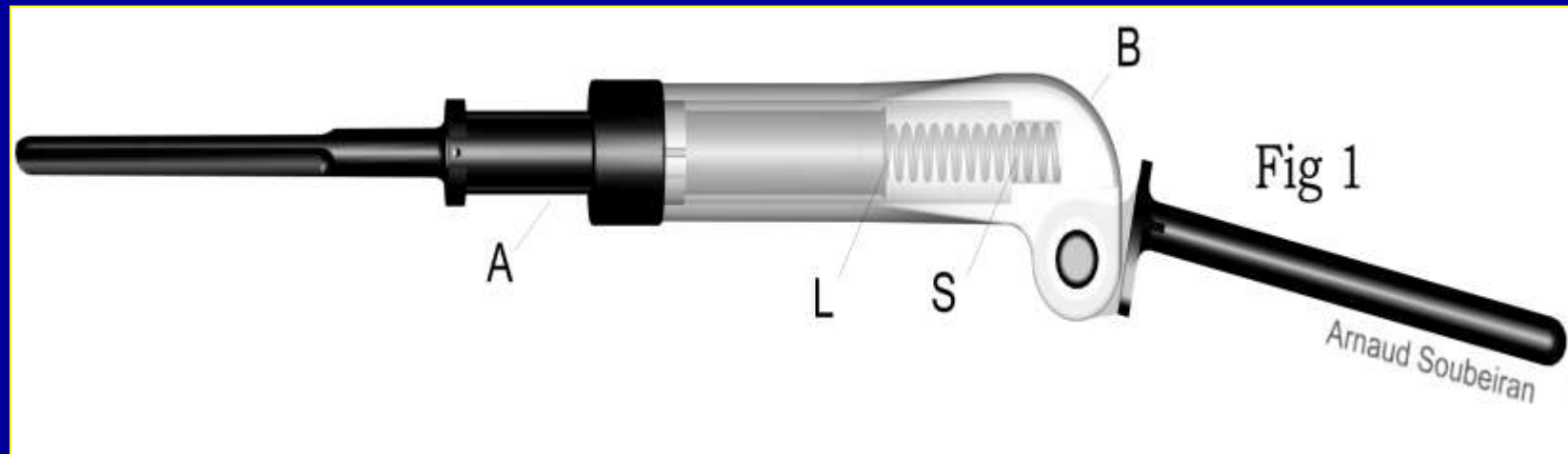


PHENIX Prosthesis

Custom Made Expandable Megaprosthesis
(cemented femoral stem, non invasive lengthening)

2002 -2007

15 pts mean age 8, (SD \pm 1.5) range 7-11



Magnetic



PHENIX (2002-2007)

15 pts mean age 8, (SD \pm 1.5) range 7-11

Complications

Infection 2 14%
 (1 primary 7%)

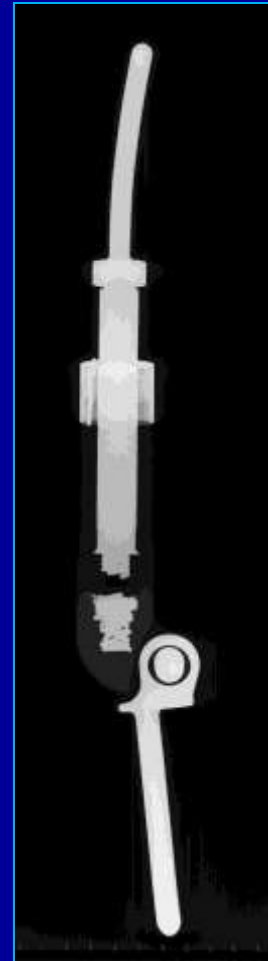
Fracture 5 (33%)



2002



2006



Results

PHENIX Prosthesis (15 cases)

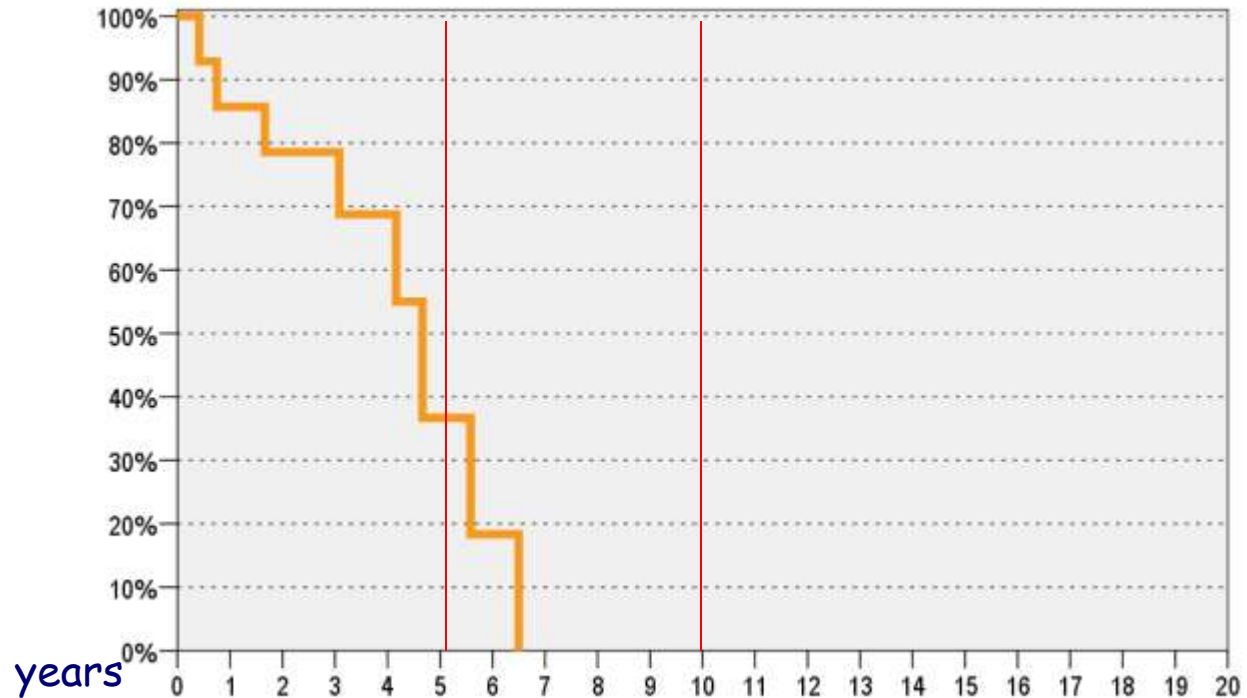
Revision of the implant 5 mechanical failures, 1 infection	6 (40%)
Dead of Disease	5
Scheduled for revision	2
Scheduled for lenthening procedure	2



Distal Femur Phenix in children (15 cases)



Phenix Kaplan Maier survival analysis



2003



Age 9

2005



Age 11

2006



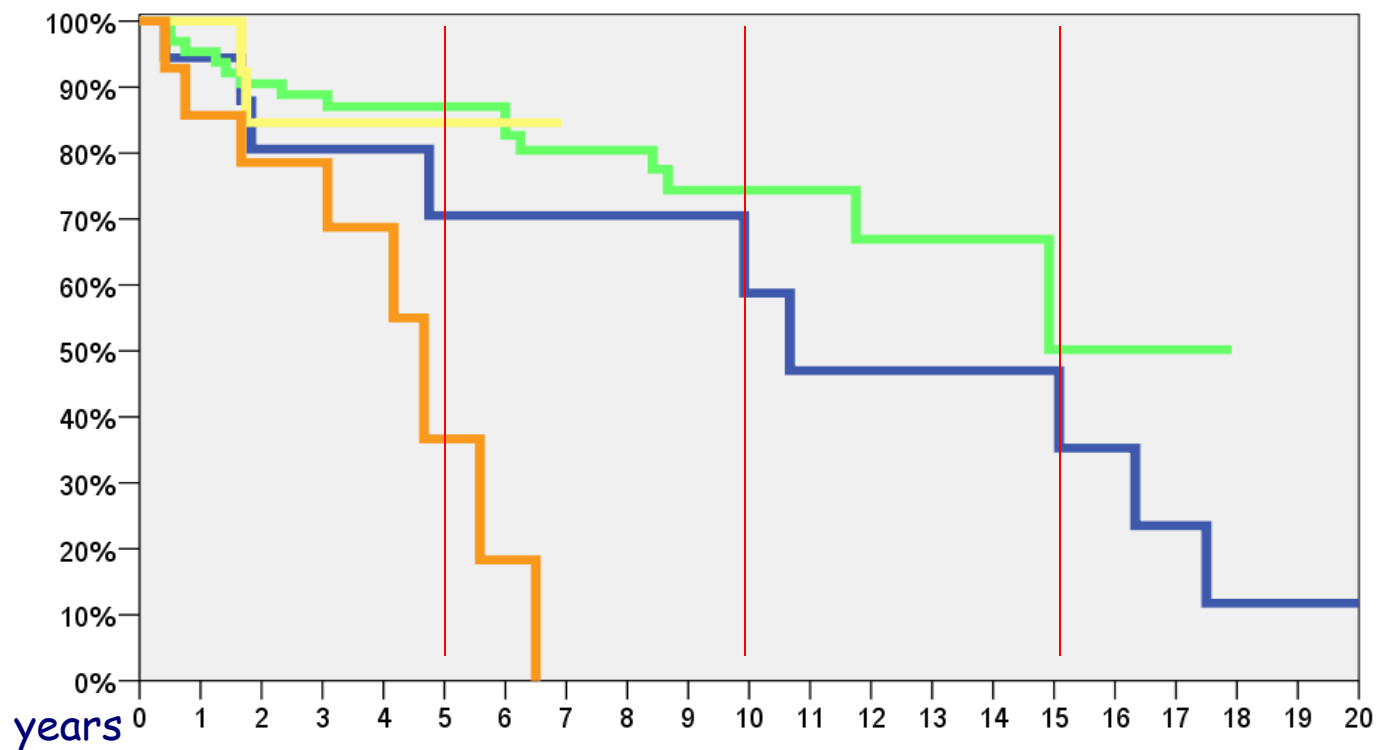
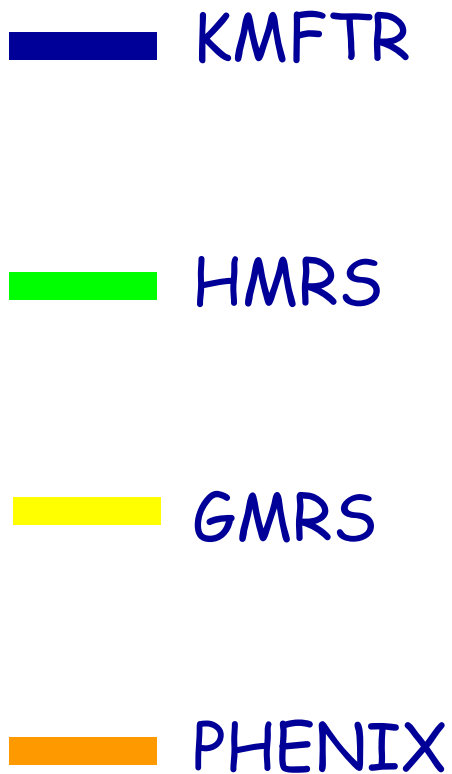
Age 12

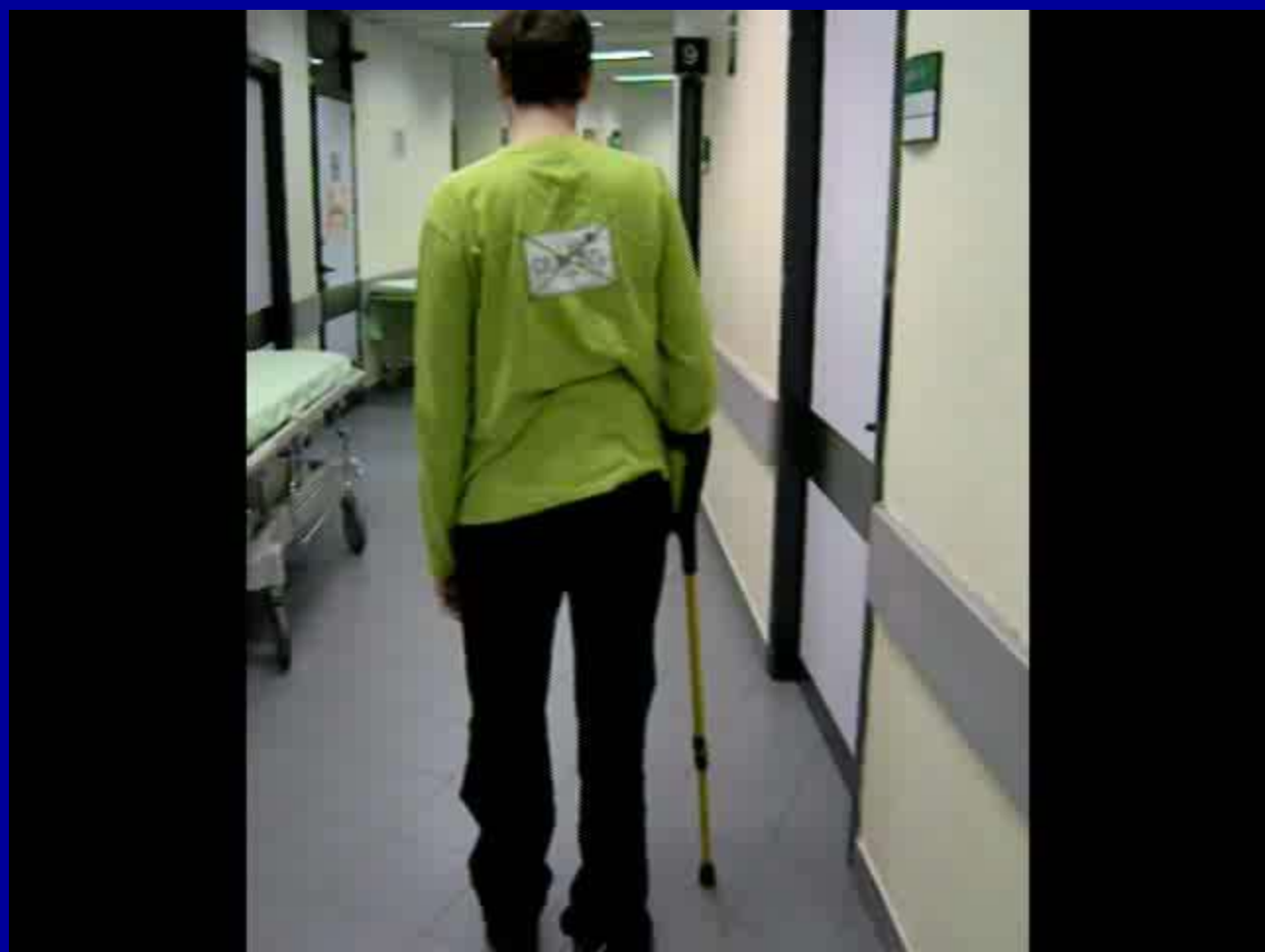
2008



Age 15

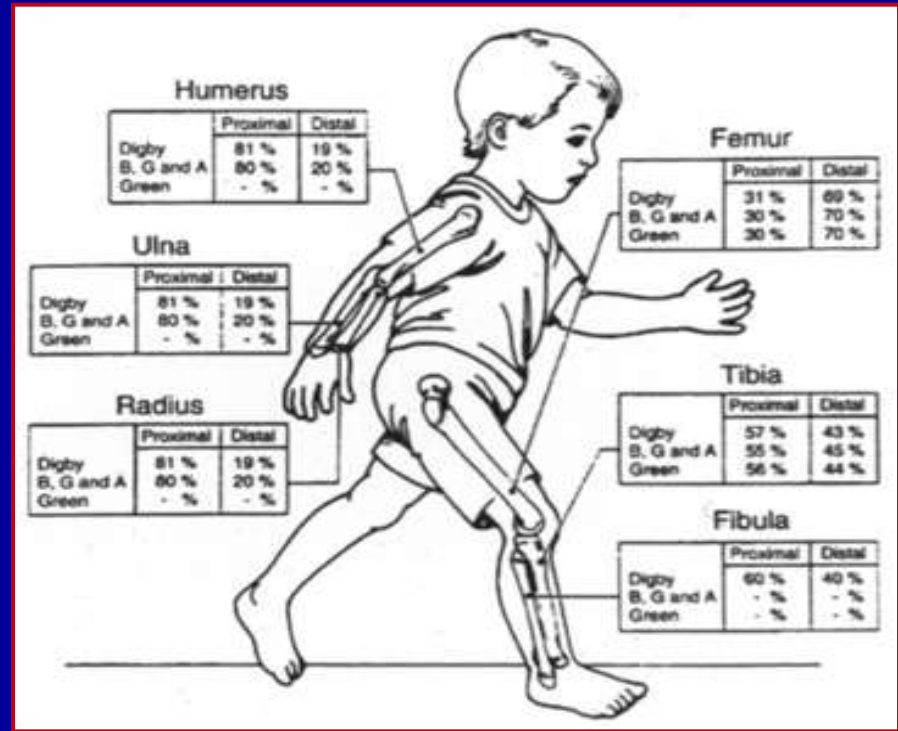
All Megaprotheses Kaplan Maier survival analysis











Thank You