3rd Biennial Arthroplasty Disaster International Conference
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Joseph Benevenia, MD
Professor & Chair
Dept. of Orthopaedics

RUTGERS
New Jersey Medical School

Expandables:

Where are they now?

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Disclosures:

- *Musculoskeletal Transplant Foundation †*
- *Merete, Implant Cast, ONKOS* † †*
- *CreOsso✓*
- *Musculoskeletal Tumor Society (EC)#*

* *Paid Consultant*
† *Research & Travel Funding*
✓ *Ownership, stock*
\# *Board of Directors*

Expandables

Objective:

Present the mid to long term results of expandable prostheses at one institution to better select and inform patients.

Managing Expectations:

Can you inform the patient & family sufficiently to deal with the complications?

Repiphysis

23 *Patients (25endo)*

21 Osteosarcoma
2 Ewing's Sarcoma

Adult Endoprosthetic Re-implantations

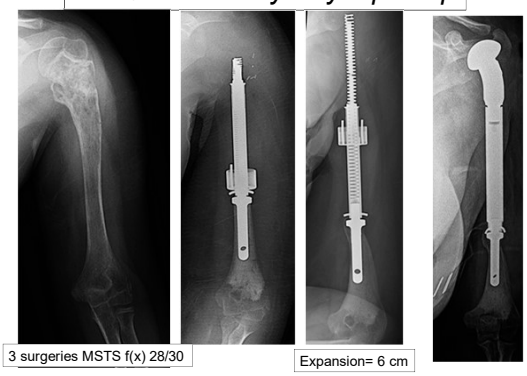
9 Adult Prostheses @ 15 y

7 active expansions

7 D.O.D.

1 Awaiting Adult Prosthesis

GK ♂ *Os 23y 14yrs postop*



3 surgeries MSTS f(x) 28/30

Expansion= 6 cm

HD ♂ *Os 25y 15yrs postop*

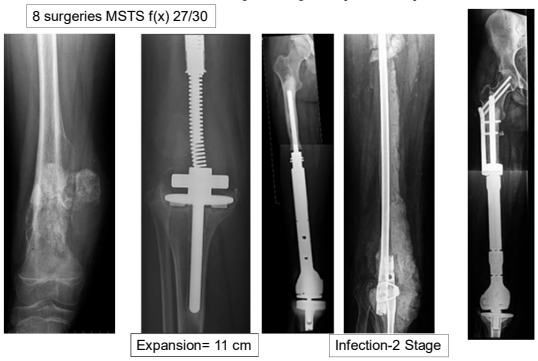
3 surgeries MSTS f(x) 26/30

Expansion= 2 cm

ASL

OO ♂ *Os 25y 15yrs postop*

8 surgeries MSTS f(x) 27/30

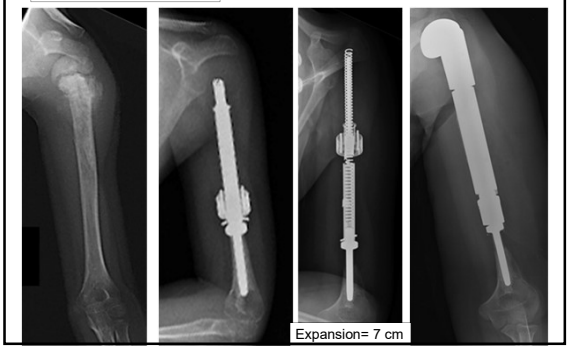


Expansion= 11 cm

Infection-2 Stage

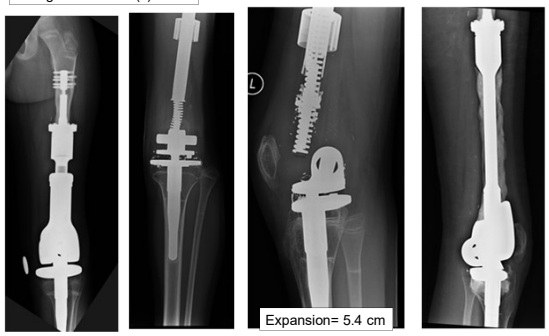
AE ♂ *Os 17y 10yrs postop*

2 surgeries MSTS f(x) 24/30



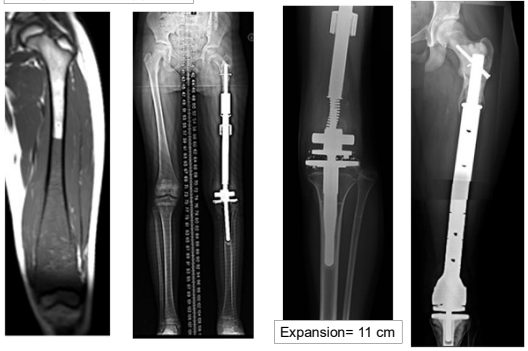
MS ♂ *Os 19y 9yrs postop*

5 surgeries MSTS f(x) 24/30



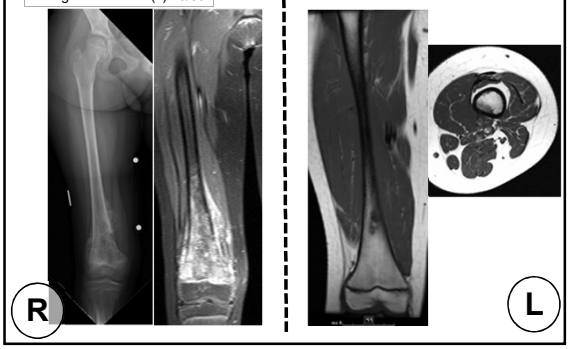
WM ♂ *Os 19y 9yrs postop*

4 surgeries MSTS f(x) 26/30

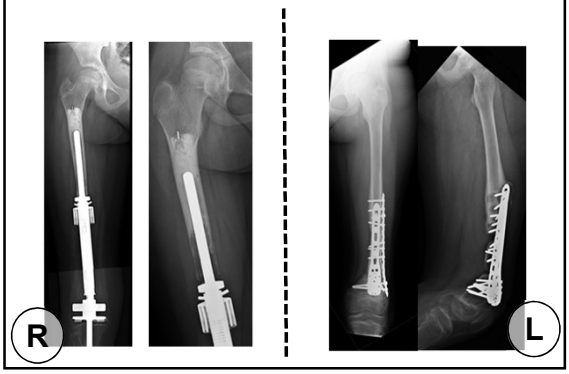


RY ♂ *Os 17y 7yrs postop*

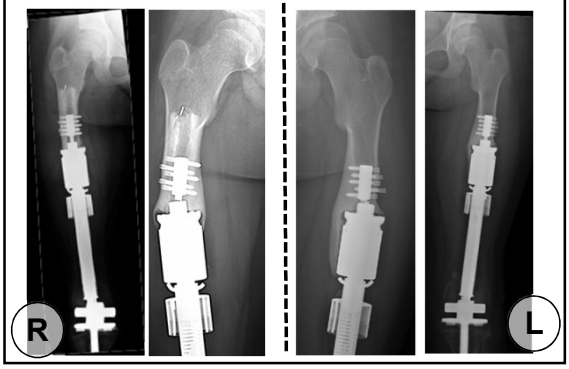
4 surgeries MSTS f(x) 26/30



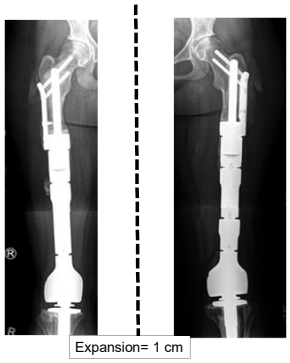
RY ♂ *Os 17y 7yrs postop*



RY ♂ *Os 17y 7yrs postop*



RY ♂ *Os 17y 7yrs postop*



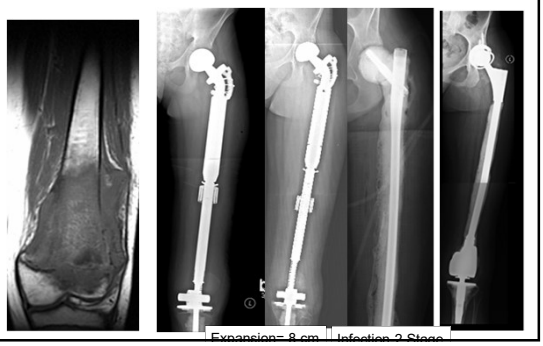
R

L

Expansion= 1 cm

CM ♂ *Os 25y 14 yrs postop*

8 surgeries MSTS f(x) 30/30



Expansion= 8 cm | Infection 2 Stage

Expandables

9 Adult Prostheses @ 15 y

# of expansions = 6
(2-14)

Total expansion = 5.4 cm
(0-11 cm)

Ave. Total expansion = 7 cm

ISOLS-MSTS F(x) Scores

87% range (66-100%)

100% Limb Retention

Complications

Published Studies

Prosthesis	# pts	Soft-Tissue Failure (Type 1)	Aseptic Loosening (Type 2)	Structural Failure (Type 3)	Infectious Comp. (Type 4)	Tumor Prog. (Type 5)	# Comp.
LEAP	49	3	2	6	2	0	13(27%)
Lewis 1986, Kenan 1991, Eckardt 1993							
Repiphysis	86	6	10 (12%)	18 (21%)	4 (5%)	2	40 (47%)
Wilkins 2001, Neel 2001, Neel 2003, Gitelis 2003, Beebe 2010, Benevenia 2015							
Stanmore	89	5	1	14 (16%)	12 (13%)	0	32 (36%)
Hwang 2012, Picardo 2012							

Complications

Type 3 Failure

Published Studies

Prosthesis	# pts	Soft-Tissue Failure (Type 1)	Aseptic Loosening (Type 2)	Structural Failure (Type 3)	Infectious Comp. (Type 4)	Tumor Prog. (Type 5)	# Comp.
LEAP	49	3	2	6	2	0	13(27%)
Lewis 1986, Kenan 1991, Eckardt 1993							
Repiphysis	86	6	10 (12%)	18 (21%)	4 (5%)	2	38 (44%)
Wilkins 2001, Neel 2001, Neel 2003, Gitelis 2003, Beebe 2010, Benevenia 2015							
ADULT CONVERSION	9	0	3	2	3	0	8
Stanmore	89	5	1	14 (16%)	12 (13%)	0	32 (36%)
Hwang 2012, Picardo 2012							

Expandables: Summary

Patient Selection: Who should be considered?

Patients with an expectation of "normal" body image.

Informed Consent: What do we say to patients?

Every method has complications.
Be clear about the shortcomings of each method.

Managing Expectations & Complications:

Be knowledgeable about the prosthesis.
Know how to "recover" from a bad situation.

Expandable Prostheses:

The RUTGERS experience

Thank You !

Joseph Benevenia, MD
Professor & Chair
Department of Orthopaedics
Newark, NJ