TKA for fracture in elderly patient

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Knee Surgery
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IML
Institut du Mouvement et de l'appareil Locomoteur

Aix*Marseille université

Prosthesis for fracture

Garden IV

Distal humeral fractures

Couresy of P Bonnevialle

Shoulder fractures

Frequency

Osteoporos Int (2009) 20:43–46
DOI 10.1007/s00198-008-0625-z

ORIGINAL ARTICLE

Declining incidence of low-trauma knee fractures in elderly women: nationwide statistics in Finland between 1970 and 2006

P. Kannus · S. Niemi · J. Parkkari · H. Sievänen · M. Palvanen

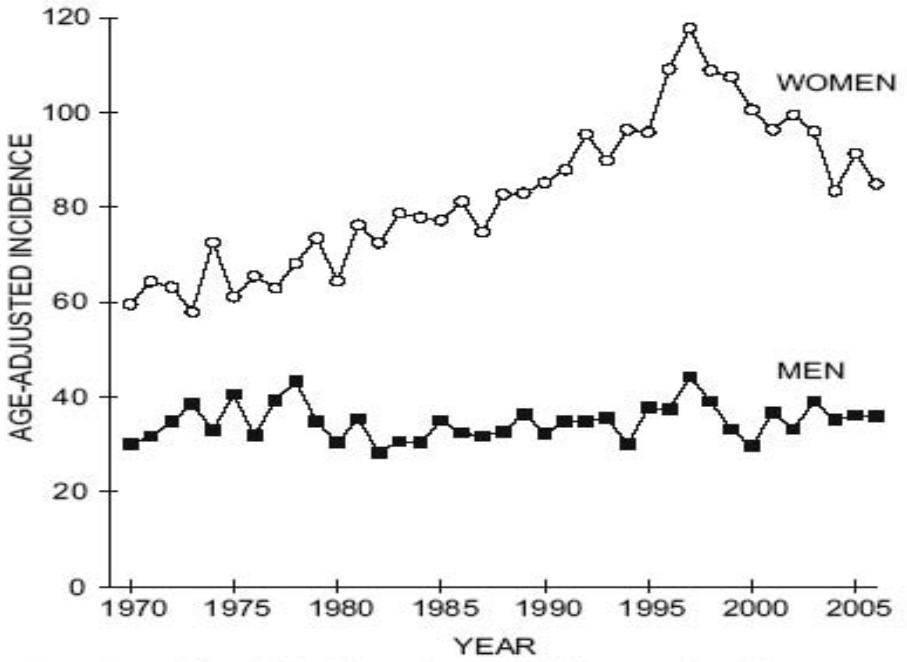


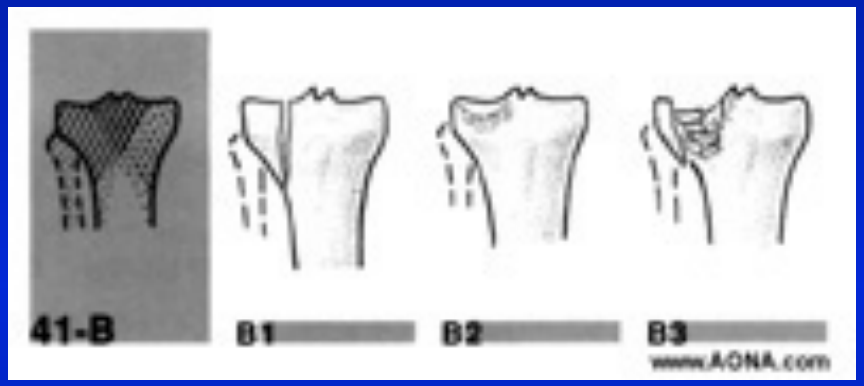
Fig. 1 Age-adjusted incidence (per 100,000 persons) of low-trauma knee fractures in Finland in women and men 60 years of age or older between 1970 and 2006

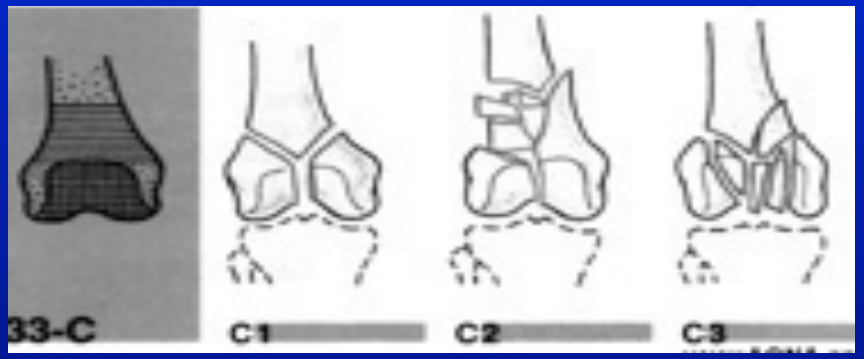
In France

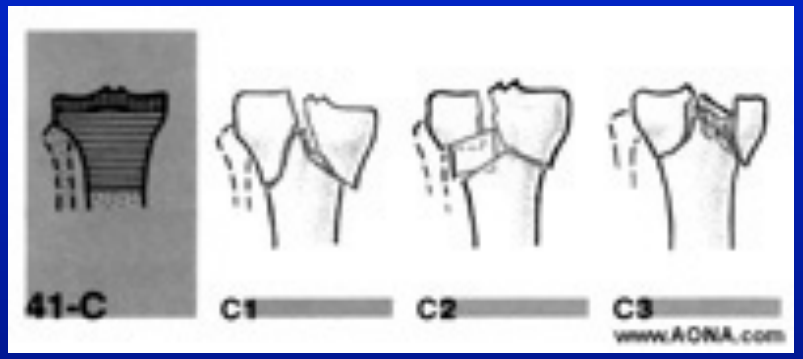
1% of ER admission

Types of fracture

- B and C







Problem = Paradox

- Internal fixation stability…
- Walk or died ……

Internal fixation

What do we have

	Locking plates	External Fixation	Retrograde nailing
Tibia	+++	+	-
Femur	+++	+	±

Internal fixation

- **Advantages**
  - Conservative treatment
  - …… of a bad quality bone
  - …….of an arthritic joint

Internal fixation

- **Drawbacks:** **up to 72% of bad results**
(Nourrissat G et al.)

- Limited weight-bearing 45 days
- Imperfect reduction and fixation
- ORIF loosening
- Complication
- Function
- Complex rehabilitation
- **Post-traumatic arthritis**

ORIF

What can we expect after TKA for post-traumatic arthritis ?

Orthopaedics & Traumatology: Surgery & Research (2011) 97, 28–33

Available online at ScienceDirect www.sciencedirect.com

Elsevier Masson France EM|consulte www.em-consulte.com

ORIGINAL ARTICLE

Total knee replacement in post-traumatic arthritic knees with limitation of flexion

P. Massin[a,*], M. Bonnin[b], S. Paratte[c], R. Vargas[b], P. Piriou[d], G. Deschamps[e], The French Hip Knee Society (SFHG) 56, rue Boissonade, 75014 Paris, France

Limited gain

Total knee replacement following intra-articular malunion.

Parratte S, Boyer P, Piriou P, Argenson JN, Deschamps G, Massin P; SFHG (French Hip and Knee Society).

Orthop Traumatol Surg Res. 2011 Oct;97(6 Suppl):S118-23. Epub 2011 Aug 26.

PMID: 21872547 [PubMed - in process]

Related citations

TKA first

L. Rosen et E. Strauss

- 24 femorales F (type C A)
  - Age m= 76 years (68-85)
  - Known arthritis: 5
- Rotating hinge modular
  - Operative time m=3,3h
  - Transfusion = 2,5
- No complication

TKA first

Revue de chirurgie orthopédique
2006, 92, 242-247

MÉMOIRE

Arthroplastie totale de genou pour fracture récente grave de l'épiphyse tibiale proximale chez le sujet âgé

Total knee arthroplasty for recent severe fracture of the proximal tibial epiphysis in the elderly subject

G. Nourissat *, E. Hoffman **, C. Hémon *, L. Rillardon **, P. Guigui **, A. Sautet *

* Service de Chirurgie Orthopédique, Hôpital Saint-Antoine, 184, rue du Faubourg-Saint-Antoine, 75571 Paris Cedex 12.
** Service de Chirurgie Orthopédique, Hôpital Beaujon, 100, boulevard du Général-Leclerc, 92118 Clichy Cedex.

- Complex epiphysal fractures
- Older than 75 years-old
- Walking before fracture

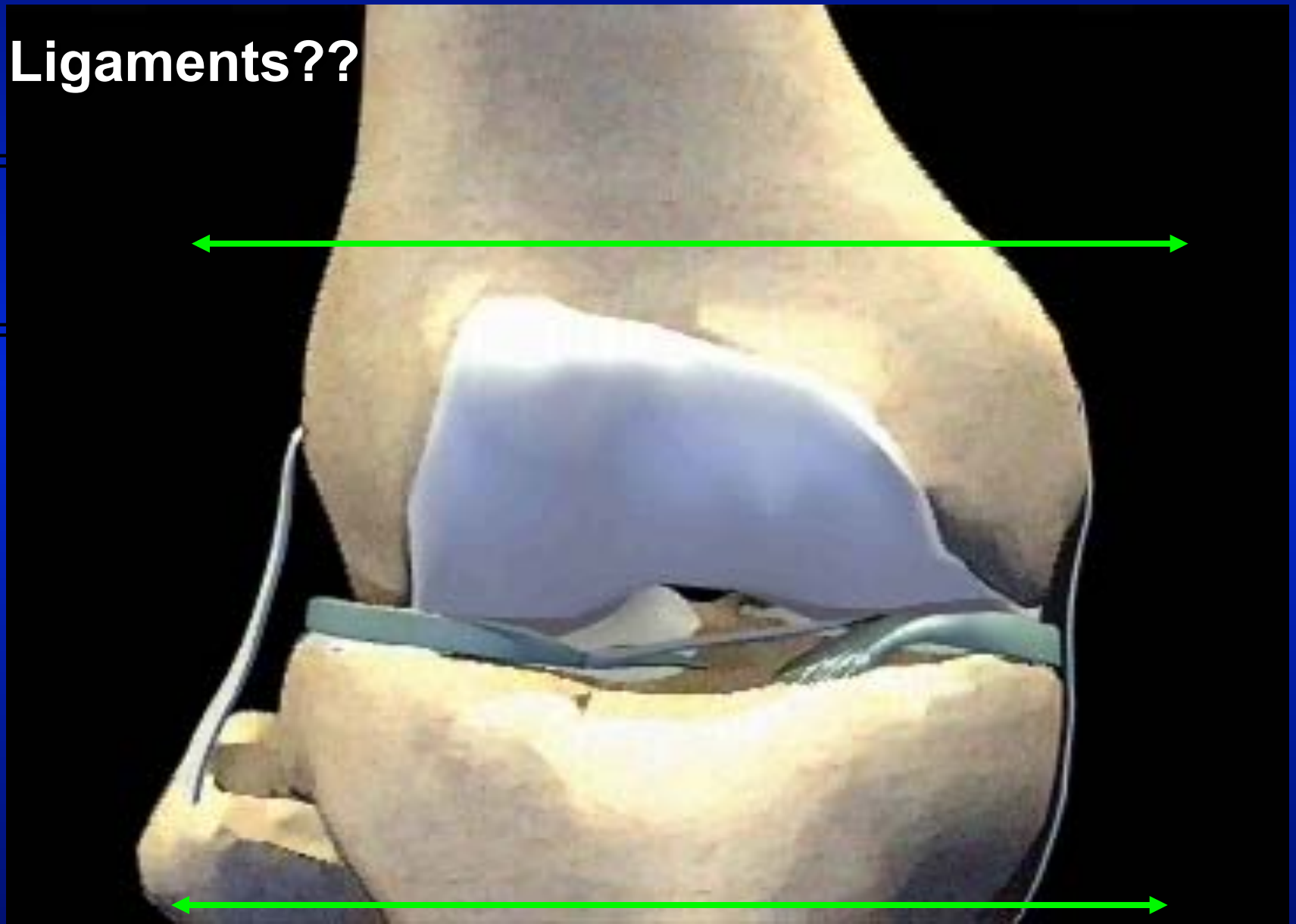
Goals and justification

- Early full weigth-bearing
- Limited prone complications
- Better function

Surgical technique

1. Implants choice and constrain
2. Approach
3. Height of the joint line
4. Femoral rotation
5. Bones cuts
6. Implant size
7. Bone loss filling
8. Complementary internal fixation

1.Implant choice



1. Choix des implants

Can we preserve the collateral ligaments?

No=> Rotating hinge
Yes=> PS +/- reconstruction

2. Approach

- Nothing special
- Tourniquet or not
- Approaches
  - Medial: para-patellar or subvastus
  - Lateral possible
  - ATT not required

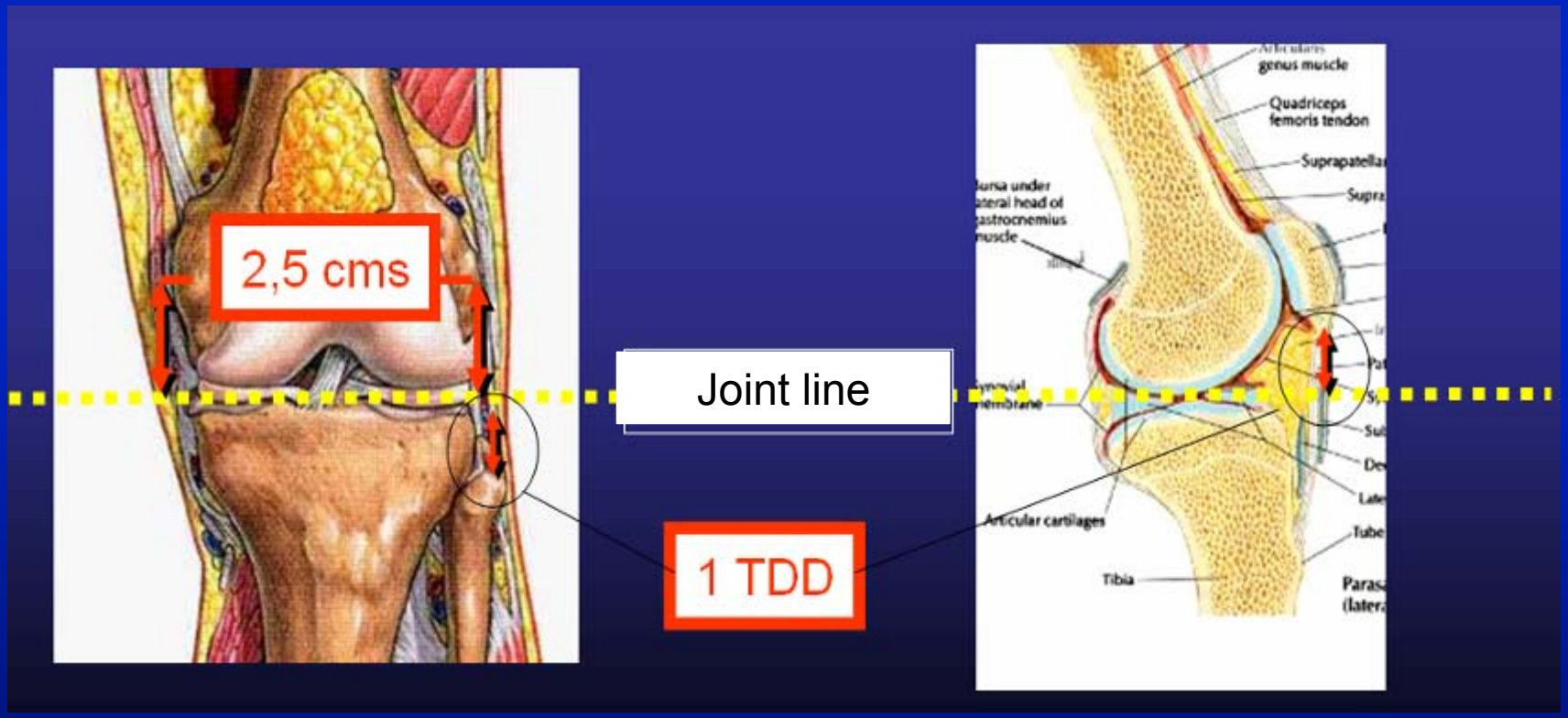
  => Sometimes already done!

2. Hauteur de l'interligne

Principal=> temporary reduction

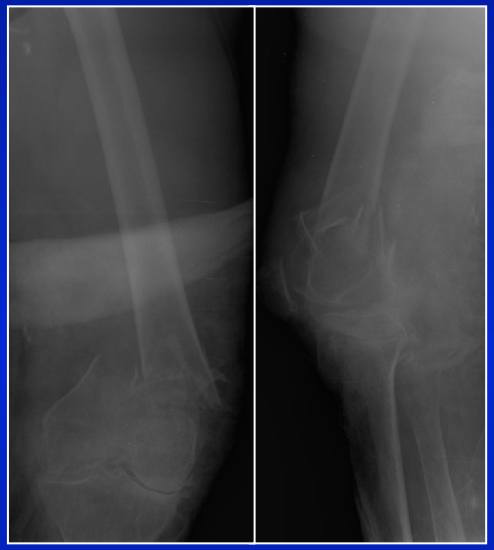
2. Height of the joint line

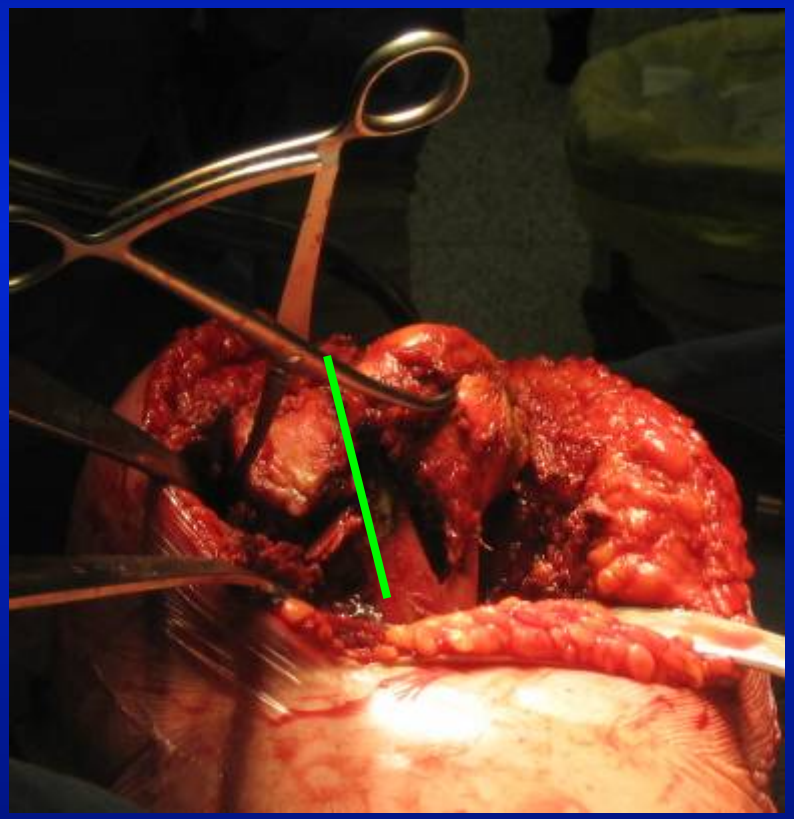
If no landmark =>revision principals



2. Femoral Rotation

Principal=> temporary reduction



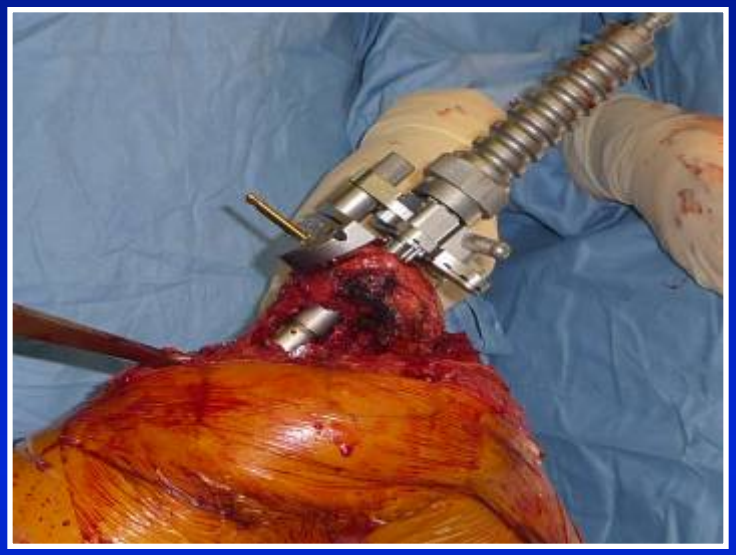


2. Bone cut

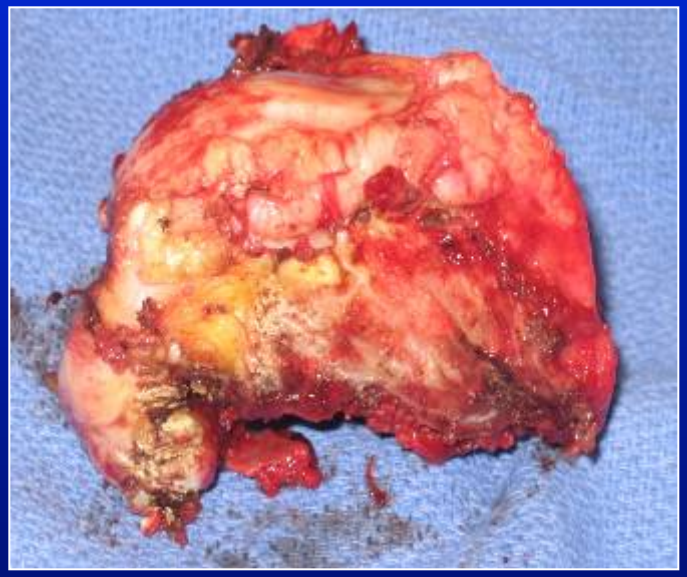
Courtesy of
P Bonevialle

2. Bone cut

5. Coupes osseuses



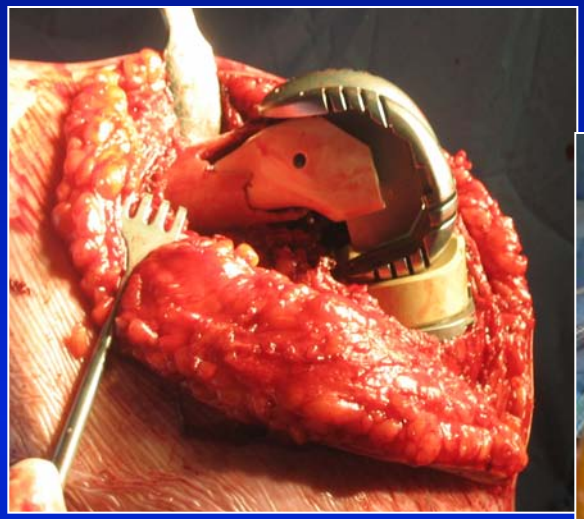
Bone preservation



2. Sizing

Like for a bipolar hip
On the table

7. Bone loss management

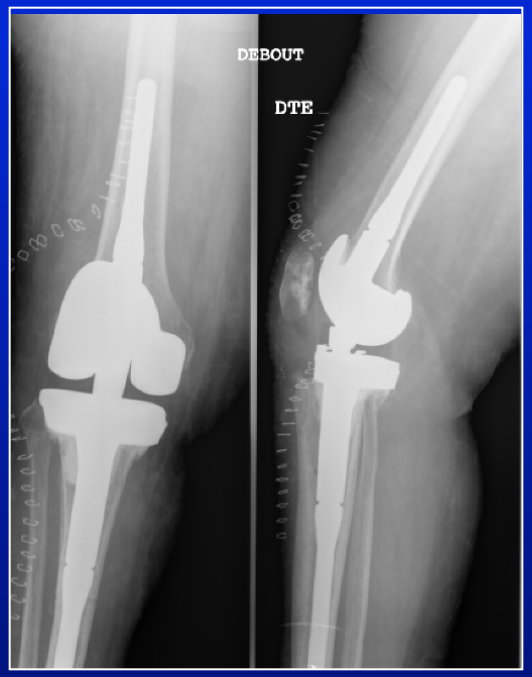


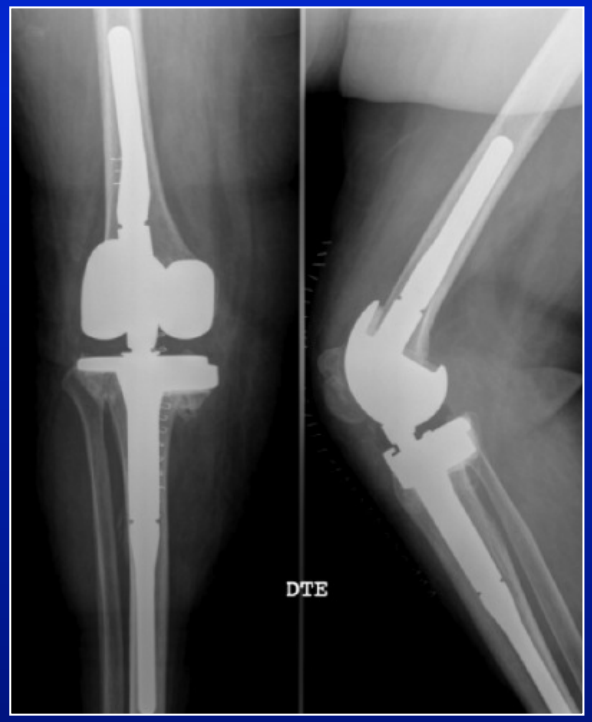
TM Cones

Augments
Autograft
Both

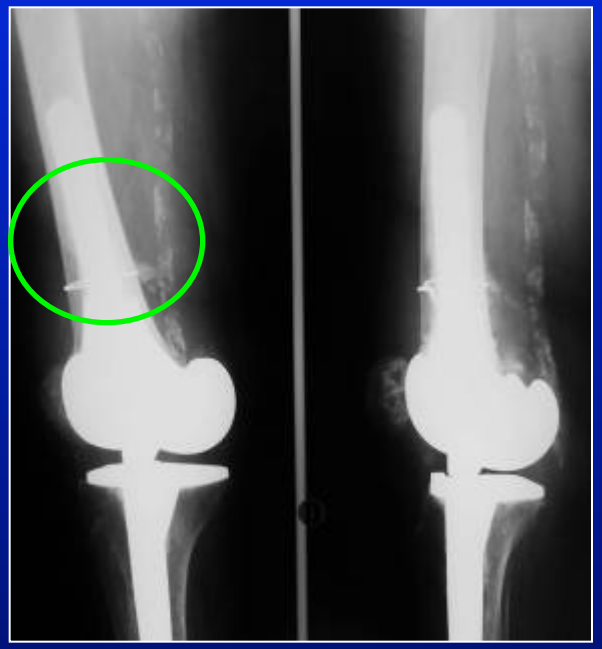
7. Bone loss management tibia

Augments
Autograft
Both



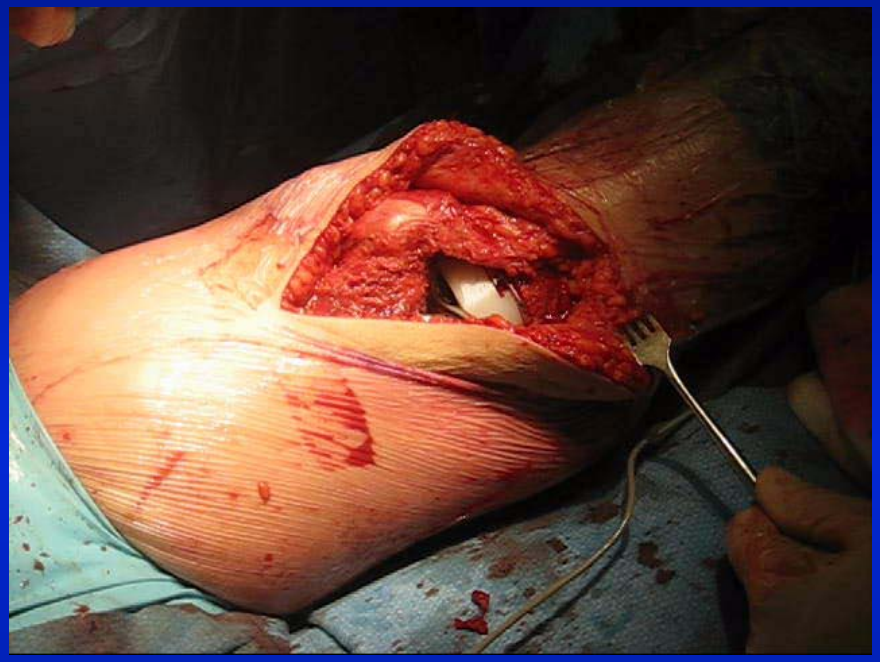


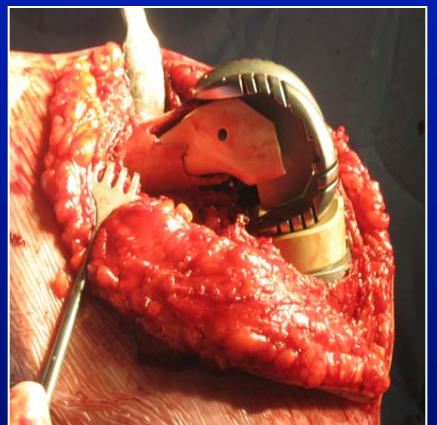
8. Complementary fixation



Simple lucky wire
Limited stability

Stability Patellar tracking => Immediate weight-bearing





Results

Orthopaedics & Traumatology: Surgery & Research (2011) xxx, xxx–xxx

ELSEVIER MASSON

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OTSR Orthopaedics & Traumatology Surgery & Research

ORIGINAL ARTICLE

Primary total knee arthroplasty in the management of epiphyseal fracture around the knee☆

S. Parratte[a,*], P. Bonnevialle[b], G. Pietu[c], D. Saragaglia[d], B. Cherrier[e], J.M. Lafosse[f]

SFHG

GETRAUM

Series n= 26 (1)

Centers

- Grenoble (D. Saragaglia) : 7
- Montauban (S. Soquet) : 1
- Nantes (G. Pietu) : 4
- Nimes (D. Bertin) : 1
- Marseille (S. Parratte) : 5
- Paris (B. Cherrier) : 3
- Toulouse Purpan (P. Bonnevialle) : 4
- Toulouse Rangueil (J M Laffosse) : 1

Series

- Women :21 Men : 5
- Mean Age 80.5 years (74-98)
- Mean Parker score : 7,7 (14 patients à 9)
- Mean ASA score : 2,2 (3 patients à 1)
- Way of Life :
  - Alone at home : 16
  - Required help : 4
  - Elferly facility : 4

Results
Complications

General:

- death 1
- TVP (1 PE) 3
- Stroke 1

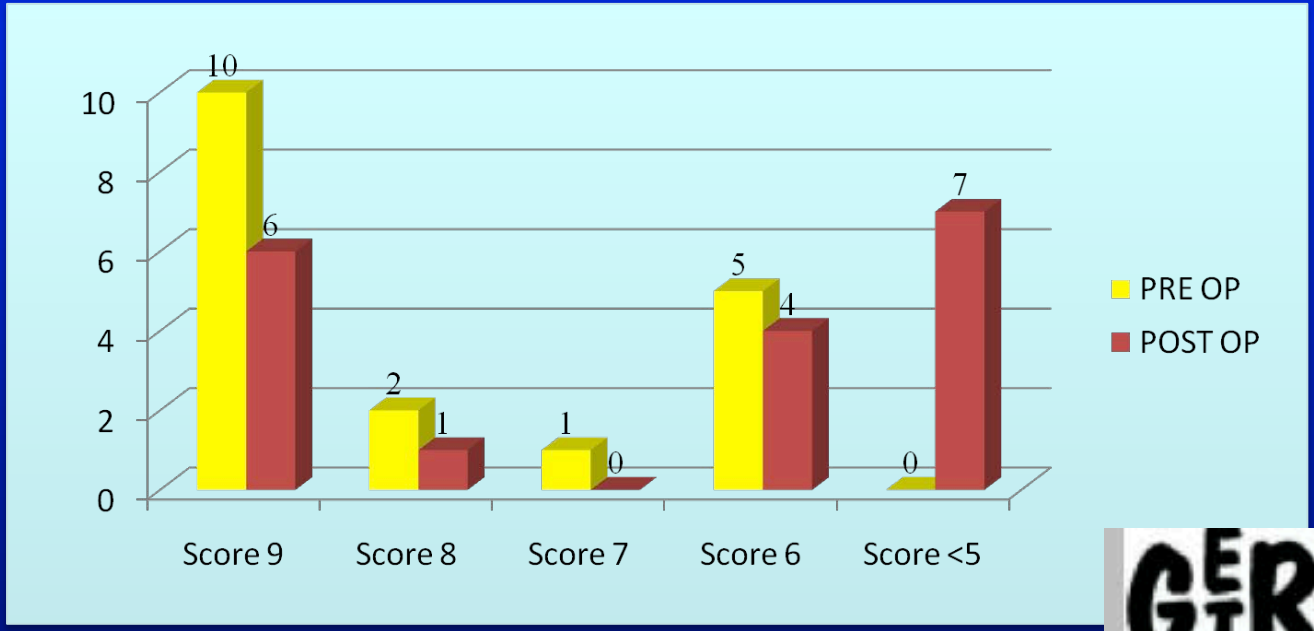
Local :

Cutaneous PB 1

ATT avulsion 1

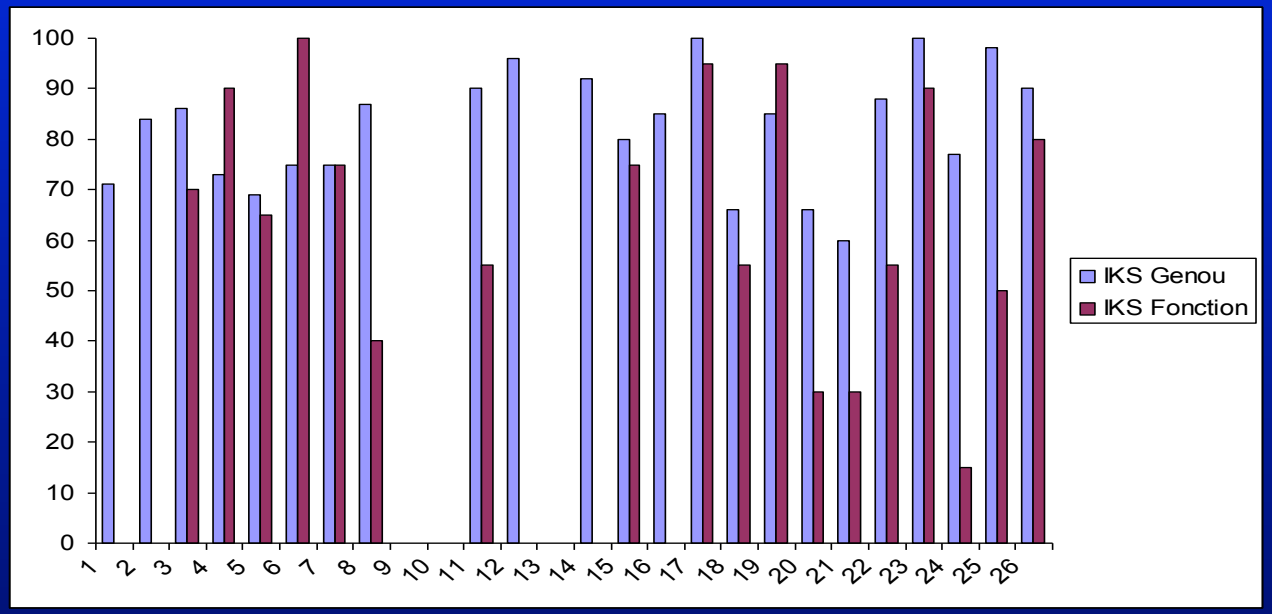
Results

- Parker Score (n=23) :
  - Final m = 6,3
  - Lost m = 1,7



Results

- Active mobility(n=16)
  - Flexion m=99° (75-140°)
  - Extension m= -2,7°



Results of the literature

- G. Wolfgang Clin. Orthop 1982, 171, 80 n=1 distal femur
- K. Bell J.B.J.S Br 1992, 74, 400 13 DF
- K. Rolston J.B.J.S Am 1995, 77, 924 4 DF
- N. Yoshino J. Arthroplasty 2001, 16, 741 3 DF
- T. Nau J. Arthroplasty 2003, 18, 968 3 DF /3 PT

- A. Rosen Clin Orthop 2004, 425, 101 24 DF
- G. Nourissat Rev Chir Orthop 2006, 92, 242 4 PT

Discussion

It’s working if elderly patient

- Parker >5
- No major obesity
- No dementia

=> Patient participation

Discussion
Sometimes not possible

- Women 79-years old

No stem

Change of the modulus of elasticity !

Discussion
Sometimes not possible

- Women 88 years-old

Conclusion

- Interresting solution
- Not easy=> be prepared
- Patient participation
- Keep as much bone as possible