

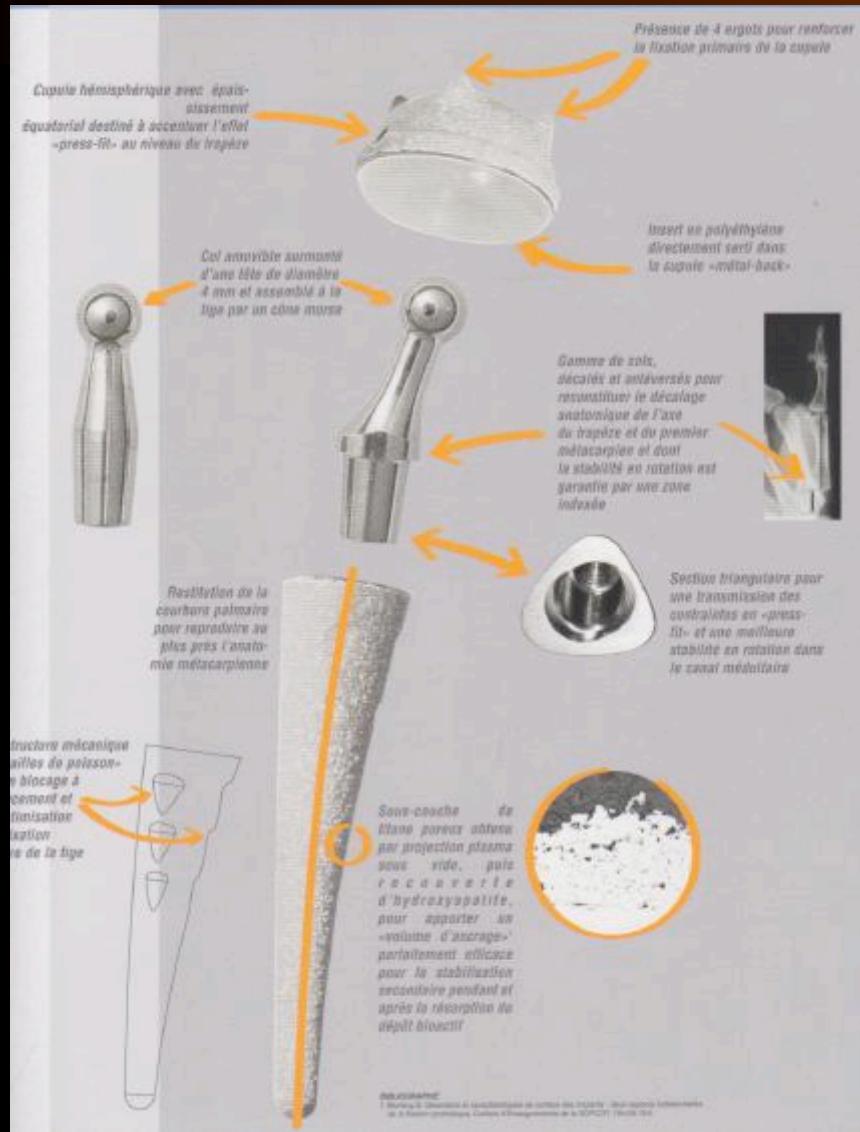
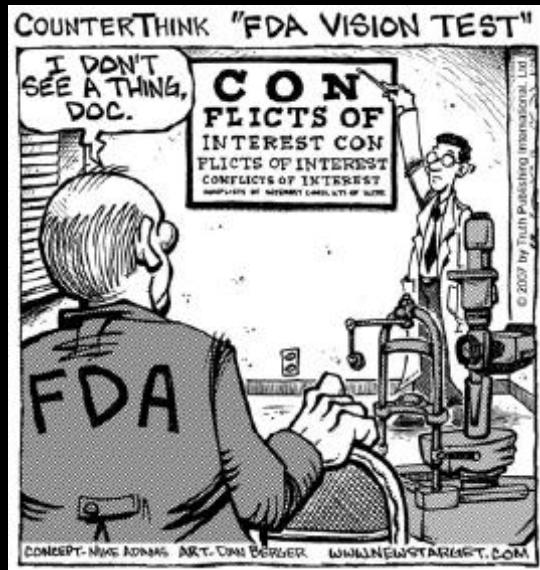


MAÏA® (Lépine) CMC 1 Prosthesis

Didier FONTÈS (Sports Clinic of Paris - France)



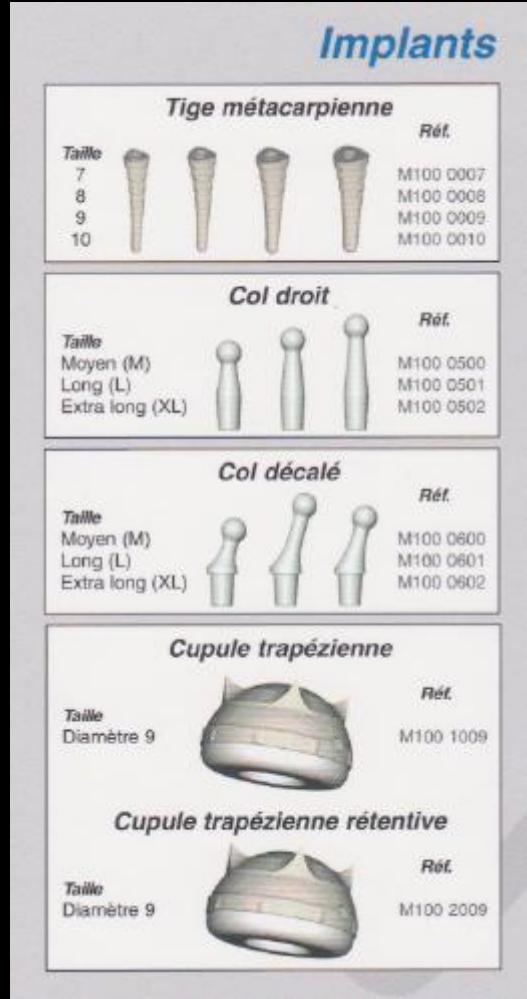
The design of the Prosthesis



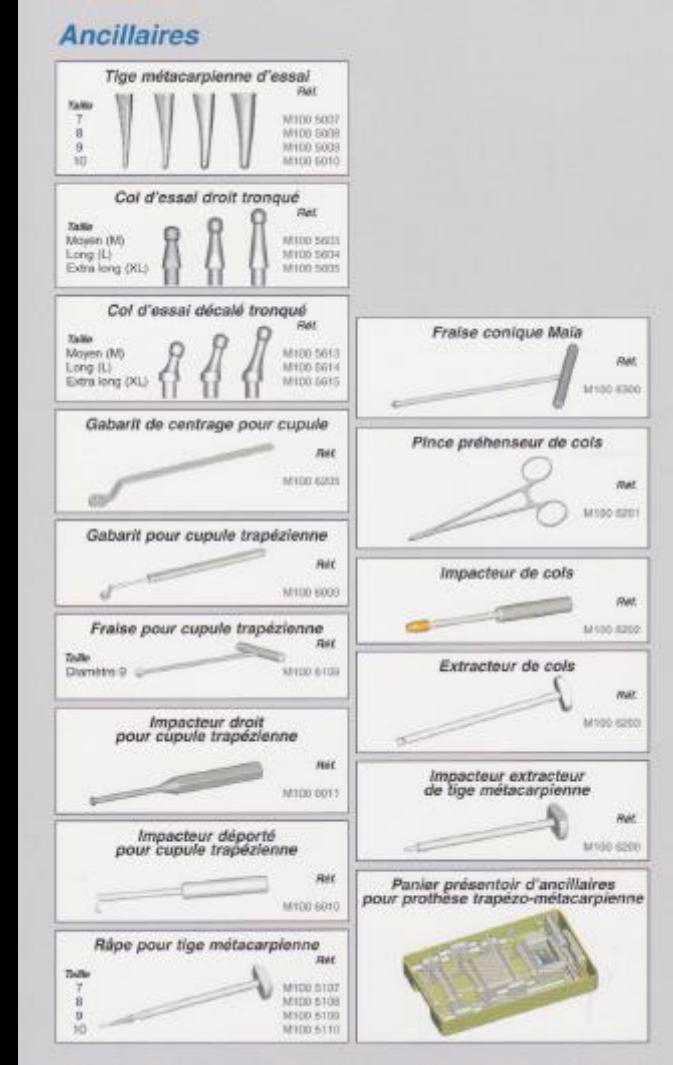
The MAÏA® Prosthesis (Groupe Lépine)



The implants

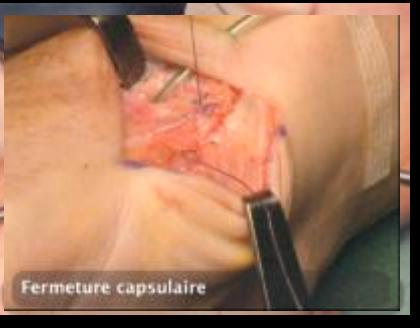
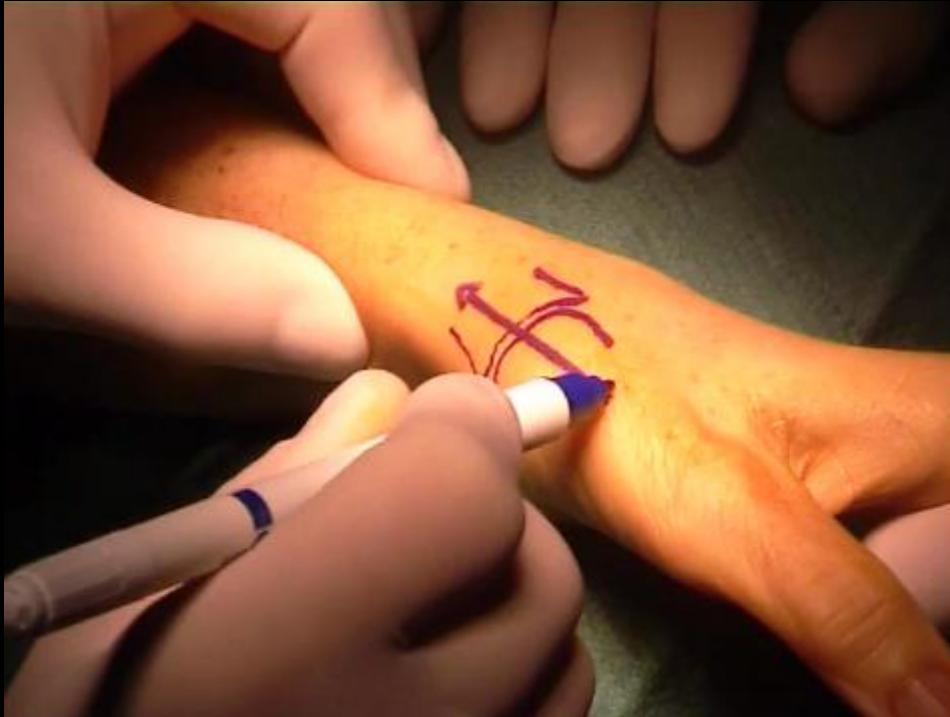


The technical material

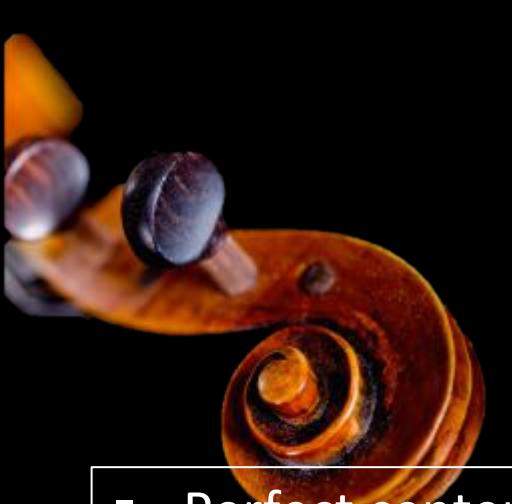




The Surgical Procedure for MAÏA Prosthesis implatation



Exposure, preparation and impaction of the definitive stem, reduction



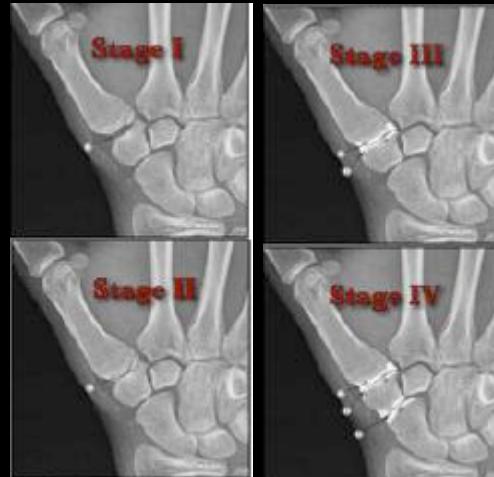
Important tips and tricks during implantation of the Maïa® prosthesis

- Perfect centering of the cup (+/- Rx control)
- Preserve trapezium walls during milling
- Polyethylene cup must overtake Tz surface after impaction
- Right tension with 2 mm axial piston during try
- APL tendon dorsalization during capsular closing



Our personal indications and contra-indications

- Eaton I-II-III class or Badia class II-III, resistant to codified medical tt
- No STT symptomatic arthritis
- Trapezium height > 5 mm
- No dominant hand of heavy laborers
- No work compensation nor previous prosthesis
- Z deformity is not a CI



Eaton Classification



Table 1. Badia Arthroscopic Classification of Basal Joint Arthritis	
Stage	Arthroscopic Changes
1	<ul style="list-style-type: none">• Intact articular cartilage• Disruption of the dorsoradial ligament and diffuse synovial hypertrophy• Inconsistent attenuation of the AOL
2	<ul style="list-style-type: none">• Frank eburnation of the articular cartilage on the ulnar third of the base of 1st metacarpal and central third of the distal surface of the trapezium• Disruption of the dorsoradial ligament plus more intense synovial hypertrophy• Constant attenuation of the AOL
3	<ul style="list-style-type: none">• Widespread, full-thickness cartilage loss with or without a peripheral rim on both articular surfaces• Less severe synovitis• Frayed volar ligaments with laxity





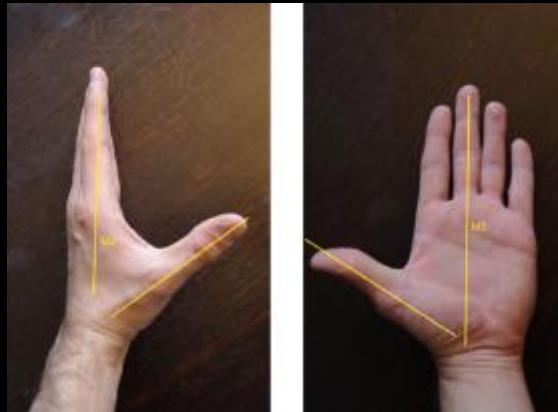
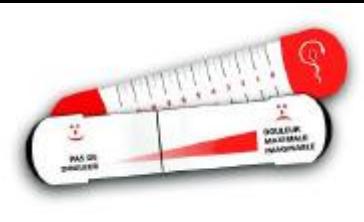
Series - References

1. Analyse du confort post-opératoire et des résultats fonctionnels précoce dans le traitement de la rhizarthrose. Etude prospective et comparative trapézectomie-interposition vs prothèse MAIA - *Thèse de Médecine 2010: Thomas Jager (dir. De Thèse Gilles Dautel)*
2. La prothèse trapézométacarpienne Maïa dans la rhizarthrose – Revue de 100 prothèses à plus de 3 ans – *J. Teissier (Chir de la Main 2011)*
3. Intérêt et mise au point d'un essai de résistance en fatigue mécanique du col d'une prothèse trapézo-métacarpienne. Application à la prothèse Maïa – *T. Aslanian (Chir de la Main 2011)*

Post-operative Assessment



Clinical assessment



Post-operative Assessment

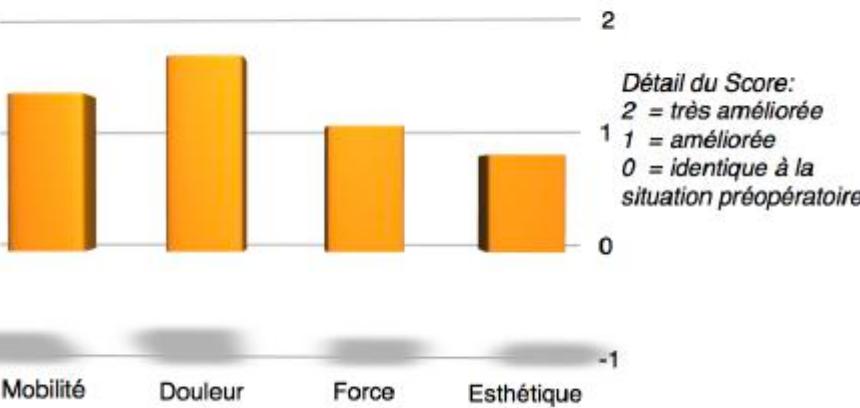
Radiological assessment



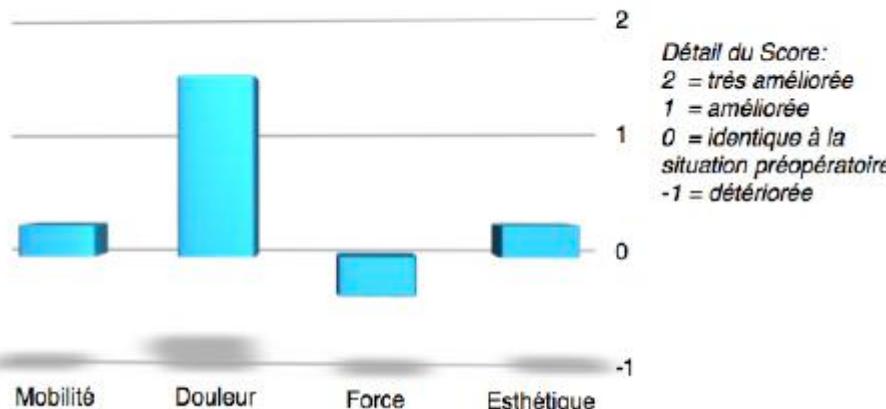
Clinical Results at short follow-up (6 months versus Tzectomy)



Graphique 4: Groupe Maia : Score de Satisfaction Spécifique (moyennes).



Graphique 2: Groupe TPZ : Score de Satisfaction Spécifique (moyennes).



9a MOBILITES	Maia 6mois	Tpz 6mois	Différentiel moyen	statistiques
Antépulsion M1-M2	36,8 +/- 6,6	35 +/- 9,2	3,8	p= 0,1
Gain antépulsion M1-M2	4,2 +/- 9,4	-0,2 +/- 13,7	4,4	p= 0,2
Abduction M1-M3	41,1 +/- 7,6	33,9 +/- 8,8	7,1	p= 0,005
Gain abduction M1-M3	4,5 +/- 10,6	-6,1 +/- 10,4	10,5	p= 0,003
Kapandji opposition	9,5 +/- 0,7	8,9 +/- 1,4	0,5	p= 0,06
Gain opposition	0,9 +/- 1,9	-0,6 +/- 1,3	1,5	p= 0,009
Kapandji retropulsion	2,6 +/- 0,9	1,6 +/- 0,6	0,9	p= 0,0005
Gain rétropulsion	0,8 +/- 1,3	-0,4 +/- 1	1,2	p= 0,003

9b FORCE	Maia 6mois	Tpz 6mois	Différentiel moyen	statistiques
Grip (KgF)	21,2 +/- 8,1	16,6 +/- 6,7	4,6	p= 0,06
Gain Grip	6,0 +/- 8,7	2,8 +/- 9,1	3,2	p= 0,3
Key pinch (KgF)	3,9 +/- 1,4	2,6 +/- 0,9	1,3	p= 0,002
Gain Key	1,0 +/- 1,5	-0,7 +/- 1,4	1,8	p= 0,0005
Tip pinch (KgF)	2,9 +/- 1,1	2,3 +/- 1,0	0,6	p= 0,07
Gain Tip	0,8 +/- 1,1	0,01 +/- 1,2	0,8	p= 0,03



Radiological Results at short follow-up (6 months versus Tzectomy)



- M1 lengthening +3,4mm
- Sublux reduction 1 cm
- Good centering in 80% cases
- Osseous integration in 64%
(no cup protrusion, good angular stability, no peri prosthetic bright space)
- 2% mobilization (1 necessity of a Tzectomy)



Good clinical function

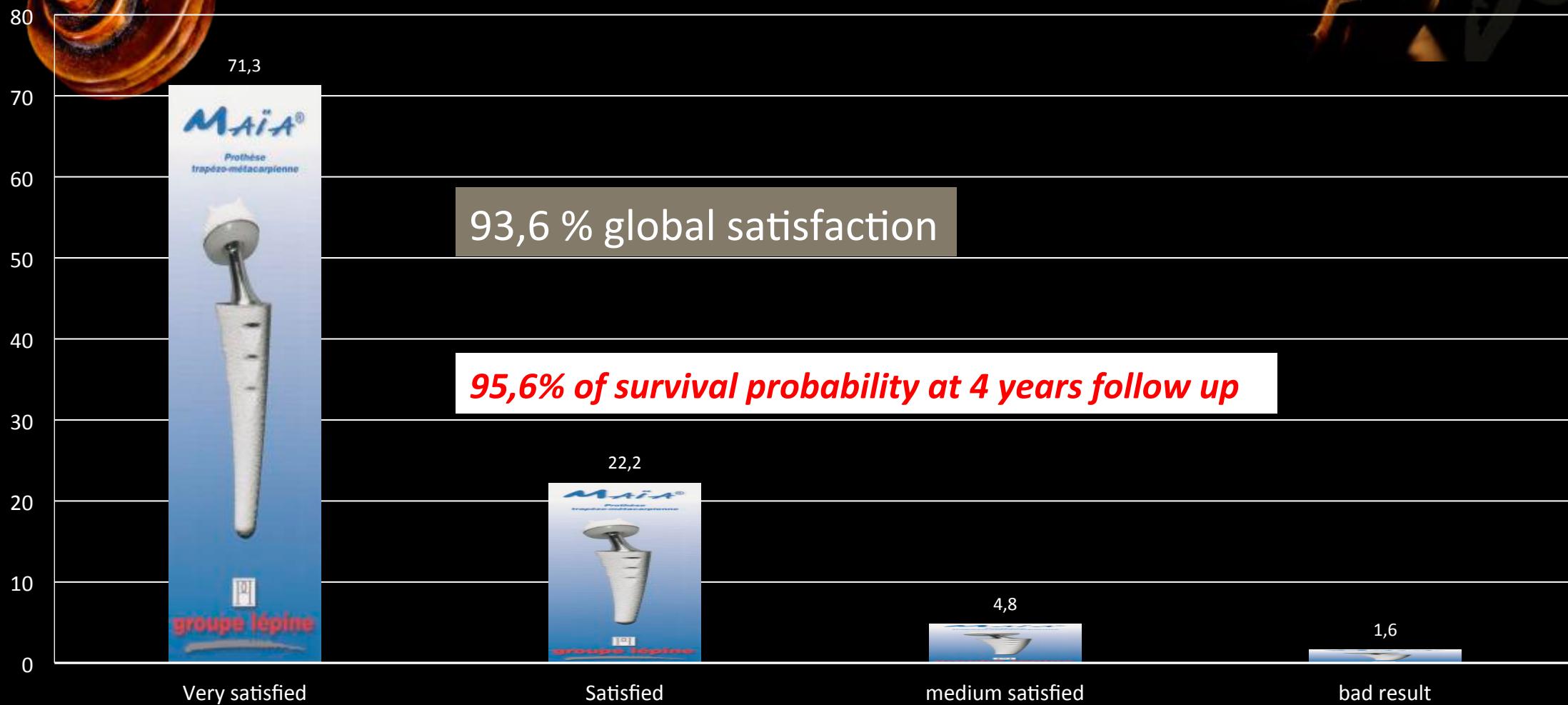


Bad clinical function => Tzectomy

Results at follow up > 4 years (J. Tessier – 100 prostheses)



Subjective Satisfaction





Results at follow up > 4 years (J. Tessier – 100 prostheses)

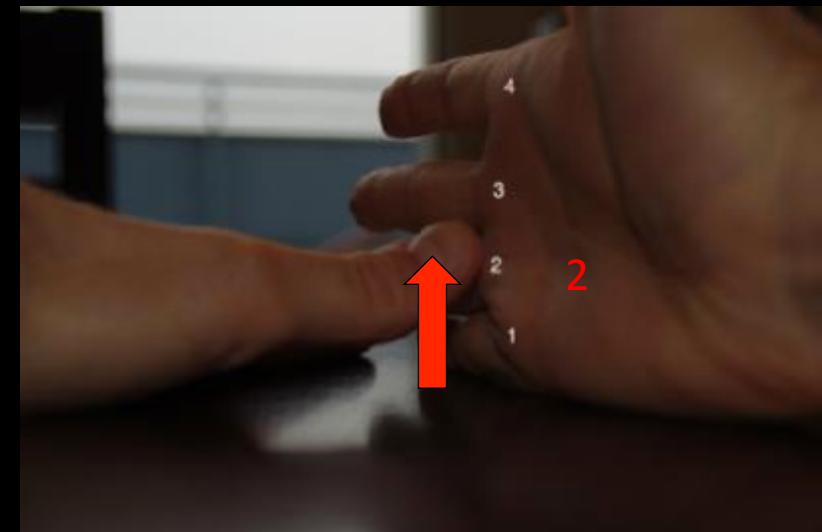
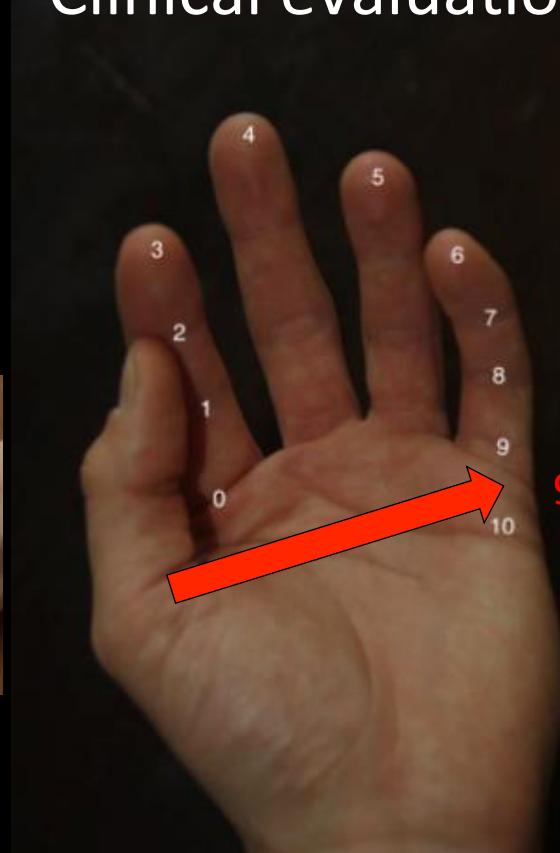


Clinical evaluation

Males : 9,4 Kg / 9,3 Kg



Females: 5,3 Kg / 5,5 Kg





Results at follow up > 4 years (J. Tessier – 100 prostheses)



Radiological evaluation

- Cup osteolysis seam 17,4%
- Around M1 stem 8,2%
(no clinical consequence)
- Peri prosthetic ossifications
(frequent but not symptomatic / arc of motion)
- Cup protrusion 3,2%
- Cup mobilization 4,7%



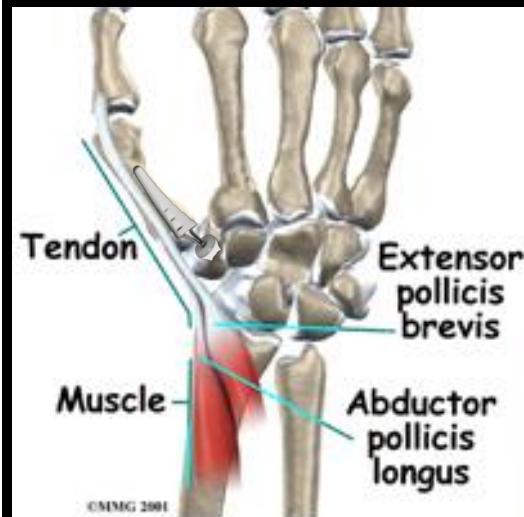
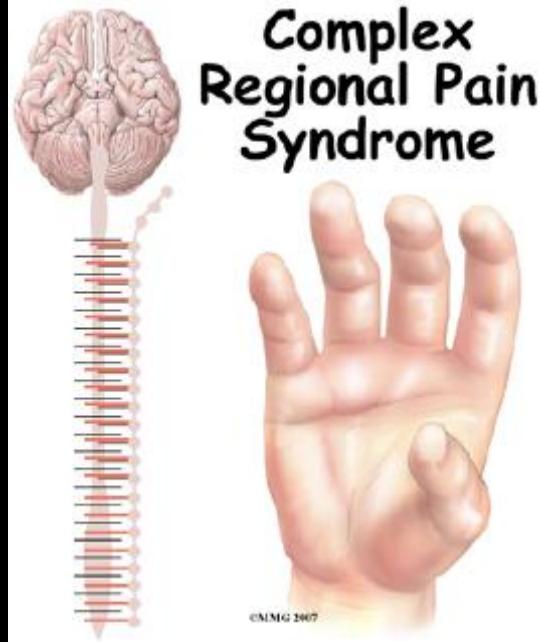


Results at follow up > 4 years (J. Tessier – 100 prosthesis)



Complications

- 3 removal of the prosthesis
- 1 dislocation (close reduction)
- 4 Sudeck dystrophy syndromes
- 2 de Quervain tenosynovitis
- 1 cup unsealing
- 1 traumatic Tz fracture





Advantages of MAÏA® PROSTHESIS

Our Preferred treatment of Eaton class II-III CMC 1 Arthritis



- Large indications (small Trapezium)
- Large panel of configurations
- Quick pain free function recovery
- Rare dislocations (retentive cups)
- Z deformity and 1st column length can be corrected
- In case of failure, Trapezeectomy = simple alternative