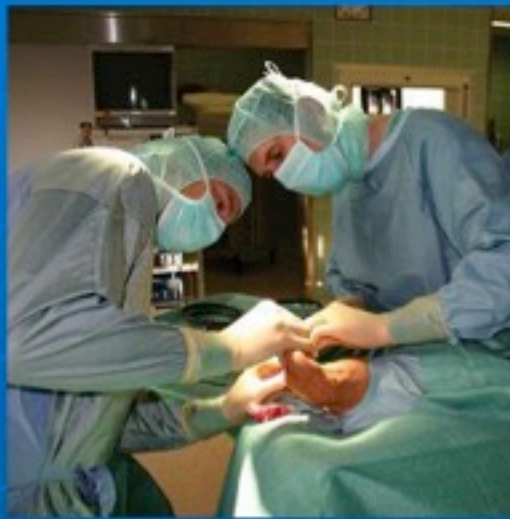


# ***Surgical treatment of hallux valgus by metatarsal osteotomy. About 85 feet.***

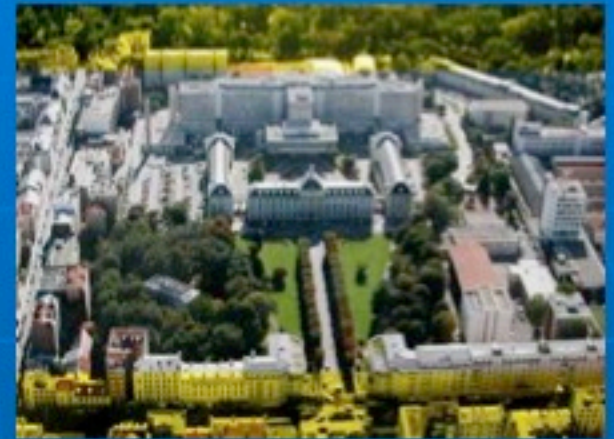


***J.P. Marchaland, A. Duhoux, X. Bajard, D. Ollat, L. Mathieu,  
G. Versier.***

**HIA Bégin. Saint Mandé. France**



# Introduction



- Retrospective study
- 69 patients et 85 feet between 2004 2005
- Follow- up: 21 months
- Aim: assess the results and indications of the techniques

# Material and methods: patients



- 58 ♀ et 11 ♂
- Middle age: 52 years (16 to 90)
- Physical activities: 56 %
- M1M2:  $15,34^{\circ} \pm 3,75$  (10- 25°)
- M1P1:  $33^{\circ} \pm 9$  (20- 62°)
- DMAA:  $11,13^{\circ} \pm 10,2$  (0- 26°)
- DM2AA :  $5,15 \pm 7,9$  (-24- 25°)
- PPAA :  $4,51 \pm 2,8$  (0- 8°)

## Sesamoid bones:



- Egyptian foot
- Normal foot
- Greek foot



Stage1: 5,1% Stage2: 36,7 % Stage3: 58,2 %

# Material and methods: surgery



- **1<sup>er</sup> time: lateral release: 100%**
- **2<sup>nd</sup> time: bunionectomy: 100%**
- **3<sup>rd</sup> time: M1 osteotomy**
  - **scarf: 34%**
  - **chevron: 54%**
  - **basal osteotomy: 11%**
- **4<sup>th</sup> time : P1 osteotomy**
  - **none: 19%**
  - **varisation: 20%**
  - **shortening: 41%**
  - **derotation: 19%**
- **5<sup>ème</sup> temps: medial capsular shift: 100 %**
- **6<sup>ème</sup> temps: other toes: 30%**
- **Weight bearing on the fore foot 40 days +/- 8**

# Results: complications

## Complications: 15%

Hematoma	Scar disorders	Sepsis	Important pain	Algodystrophy	Strengthening	Nevroma
7,6%	7,6%	1 case	5%	3,8%	16,5%	2 cases

- **Re- operation : 10% (correlation with bad subjective results)**
  - **4 removals of the screws**
  - **1 scarf on a scarf failure**
  - **1 basal osteotomy on a scarf failure**
- **3 iatrogenic hallux varus**

# Functional and clinical results:

## Satisfaction:

### 81% satisfied

- Significant improvement: cosmetic, shoes discomfort, pain ( $p < 0,00001$ )
- Physical activity vs satisfaction ( $p < 0,05$ )

### 19% Unsatisfied- Very unsatisfied

- Shoes discomfort vs bad results ( $p < 0,00001$ )
- Metatarsalgias (12,7 %) vs bad results ( $p < 0,00001$ )

Groulier Score: 58,7 +/- 12,9 (17 - 70)

Non satisfied patients = bad objective ( $p < 0,001$ )



■ Satisfied

■ Unsatisfied

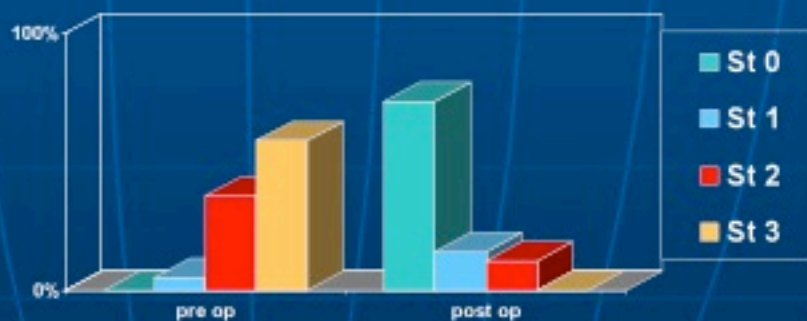
■ Very unsatisfied

# Radiological results:

$p < 0,05$



- **M1P1:  $12,6^\circ \pm 6,2^\circ$  (0 - 34)**  
**Improvement:  $20,3^\circ \pm 2,8^\circ$**
- **Metatarsus varus:  $8,9^\circ \pm 2,5^\circ$  (5 - 16)**  
**Improvement:  $6,2^\circ \pm 1,3^\circ$**
- **DMAA :  $7,2^\circ \pm 3,3^\circ$  (2- 20)**
- **DM2AA:  $1,1 \pm 3^\circ$  (-4- 12)**
- **PPAA :  $0,59^\circ \pm 2,2^\circ$  (-4 - 10)**
- **Sesamoid bones:**



# Analytic results:

- └ **Big distortions (HV et MV) = No more bad results**
- └ **Shoes discomfort, metatarsalgias, stiffness = bad subjective results ( $p < 0,004$ ): **Functional surgery****
- └ **Others distortions on the fore foot (pre operative pains) = bad subjective results ( $p < 0,005$ )**
  - **Bad correction of the DM2AA =**
    - recurrence of the HV ( $p < 0,03$ )
    - bad subjective and objective result ( $p < 0,0001$ )
  - **DM2AA : same correction scarf vs. chevron**
- **Bad correction of the P2AA =**
  - bad objective result
  - recurrence of the HV ( $p < 0,04$ )





# Discussion

- **Groulier scoring system: good objective evaluation**
- **Groulier: Functional and X-Rays data**
- **Anatomic correction (DM2AA): Main factor for the patient, the surgeon to prevent the disorders on the fore foot**
- **Efficiency of the 3 techniques despite of the metatarsus varus**
- **The quality of the correction depends on the practice of the surgeon not on the technique**
- **The surgery must be performed before the distortions of the fore foot**

# Conclusion



- **Study comparable to the literature**
- **Final results depend on**
  - **the global distortion of the fore foot at the pre operative time.**
  - **the anatomic correction and the DM2AA**
- **Functional but not esthetic surgery !**

***Aim: have a good anatomical result...***

