



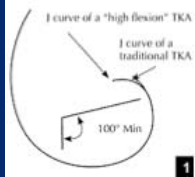
**EFOST**

## Complications of Hyperflex TKR



*François Kelberine & Olivier Touchard*  
Aix en Provence

✓ **More hype than hope?** Kelly J arthroplasty 2006

Ranawat Orthopedics 2006  
Gupta Orthopedics 2006  
Jones Orthopedics 2006

## Which type of Hyperflex

### Postero Stabilized vs Ultracongruent

- ✓ No difference Kim JBJS Am 2005  
Nutton JBJS Br 2008
- ✓ Difference pro UC Huang J Arthroplasty 2005
- ✓ Difference pro PS Pasley J Arthroplasty 2006  
Wajsfisz OTSR 2010

## Theoretical complications/HyperflexTKR

D'Lima J Orhop Res 2006  
Nagura J Orthop res 2004


- ✓ Increased Quad moment : Patella?
- ✓ Posterior loading forces increase between 90° & 150° of flexion
- ✓ Wear of PE
- ✓ Stress can be transferred to fixation (loosening)
- ✓ Instability



## Patella

An active knee flexion beyond 70° weight bearing requests a much larger quadriceps force.

In a patient with weak quadriceps force, there is a possibility that flexion is not achieved on weight bearing.




Kurosaka J arthroplasty 2002

- ✓ Few report in publications : do we look for clinically?
- ✓ Patellar crepitus 11 vs 2 in 142 cases

Hamilton J arthroplasty 2011


## Loosening

- ✓ Radiolucent lines Mac Calden J arthroplasty 2009  
Minoda J arthroplasty 2009
- ✓ Han, JBJS Br 2007
  - ✓ FU 2,5 y, 71 knees
  - ✓ 38% femoral radiolucent line with 2/3 revised
- ✓ Cho, KSSTA 2011
  - ✓ FU 3 to 6 y, 218 knees
  - ✓ 13,8% femoral radiolucent line 1/4 revised
  - ✓ 142° flexion (vs 128°)
  - ✓ Squat possible 77% vs 20% when normal X rays




### Loosening

- ✓ More frequent with kneeling and squatting ?  
But it is the initial purpose! Kim, J arthroplasty 2010





- ✓ Contact stress +++ at post cam (PS) @ 150° Nakayama, CORR 2005



### Posterior instability


- ✓ Literature < 0,1% in PS design
- ✓ Arnout, KSSTA 2011
  - ✓ 4 post dislocations / 1350 knees (0,3%)
  - ✓ Soft tissue balancing? Victor CORR 2006,
  - ✓ Excessive roll back? Jefcote JBJS 2007
- ✓ Cho, KSSTA 2011
  - ✓ 2 instabilities in hyperflex group / 218 knees

### Meta analysis

Luo, J Arthroplasty 2011

- ✓ 11 trials= 1204 knees
- ✓ 9 report complications
- ✓ No  $\neq$  in function and ROM (PS) / TKA
- ✓ Complications no specific



### Conclusion

Ratio benefice/risks ?  
Patient to be informed

Still to improve  
.....or to stop

