3rd Advanced Course on
Knee Surgery

January 17th - 22nd 2010

Revision DB

ICONE

Problems in bone loss
Problems in positioning
Problems in technique

Th Branch ACL STudy Group

Volume of Bone Loss (mm³)

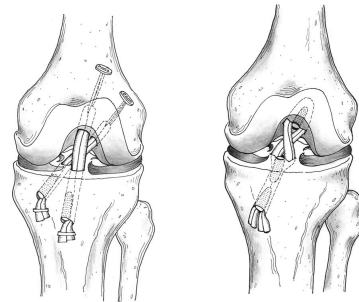| Tunnel Diameter (mm)	Tunnel Length (mm)		
	30	35	40
6	848,23	989,60	1130,97
7	1154,54	1346,96	1539,38
8	1507,96	1759,29	2010,62
9	1908,52	2226,60	2544,69
10	2356,19	2748,89	3141,59
11	2851,00	3326,16	3801,33

Th Branch ACL Study Group

Relative Bone Loss (%)
(Assume tunnel length to be 40 mm)

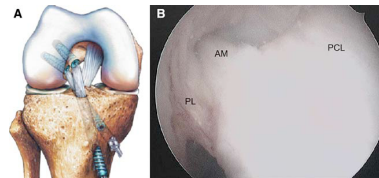| Double Bundle Tunnel Size (Both Tunnels) (mm)	Single Bundle Tunnel Size (mm)			
	9	10	11	12
6	113%	139%	168%	200%
7	83%	102%	123%	147%
8	63%	78%	95%	113%
9	50%	62%	75%	89%

DB tunnels

DB tunnels

Jarvela Finland

Bone tunnel enlargement

DB advantages to be proved

- 1. control of Pivot Shift
- 2. improve in rotational correction
- 3. decreased revision rates
- 4. improved patients reports
- 5. radiological evidence decreased OA

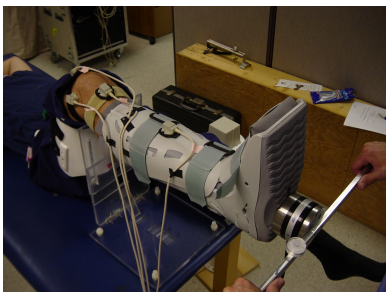## DB disadvantages to be solved

- 1. DB technique
- 2. Prove for improvement ?
- 3. Kinematic behaviour / interaction both bundles
- 4. Revision problems ?
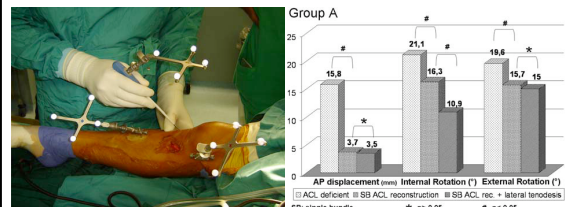- 5. Implant costs

Pivot Shift

- Mechanical Pivot Shift Musahl 2010
- Navigated Pivot Shift   Colombet 2007
- Manual Pivot Shift (IKDC) 1993

Rotational correction
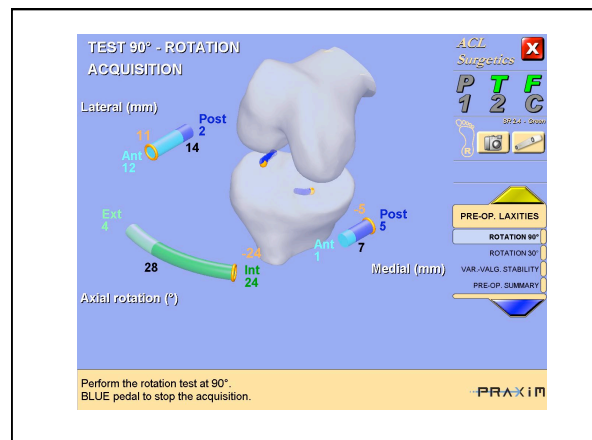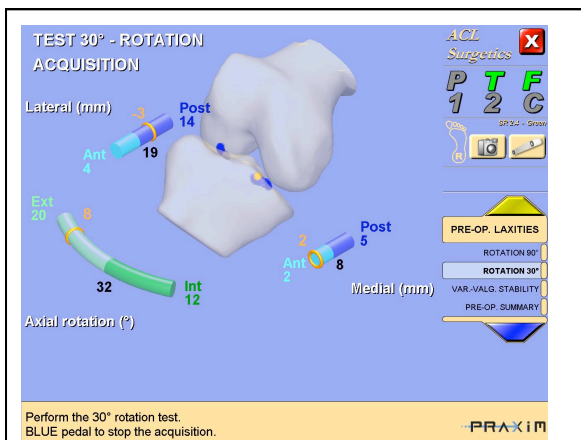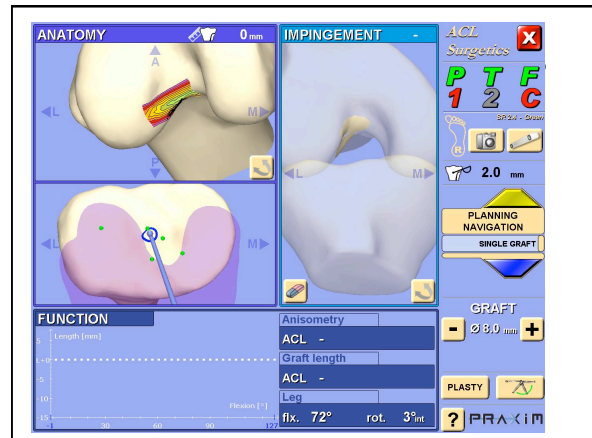## Zantop boot

Ferreti Rome

Kinematics

- How are we going to measure in daily practice ?
  - Dynamic MRI ? GB
  - Skinmarkers ? Greece
  - Dynamic Fluoroscopy ? Tashman / Banks
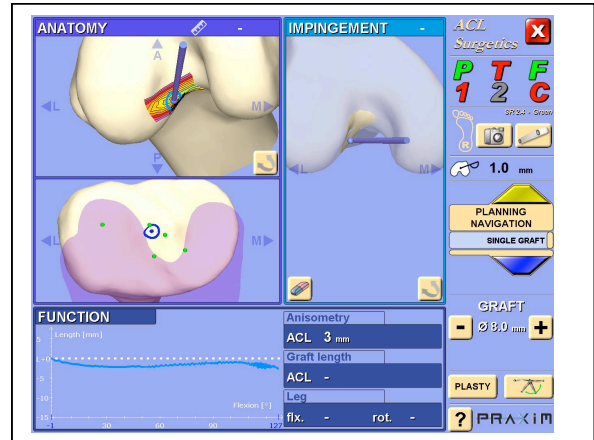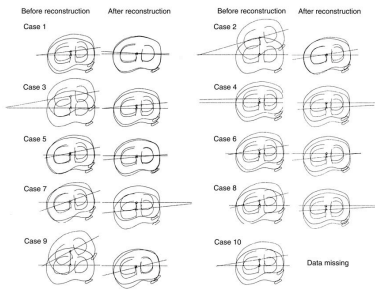
Hofbauer KSSTA 2010

- Rotational and translational laxity after computer-navigated
- single- and double-bundle anterior cruciate ligament
- reconstruction
- M. Hofbauer • P. Valentin • R. Kdolsky •
- R. C. Ostermann • A. Graf • M. Figl •
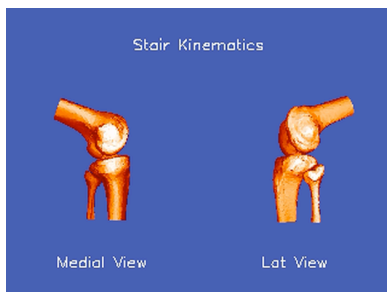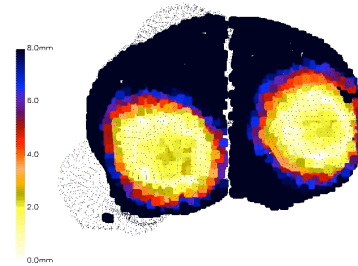- S. Aldrian

Hofbauer Vienna 2010

- Results   28 DB 27 SB
- IR postoperative DB > SB   p= 0.029
- AP translation   NS
- Pivot shift at two years 1 + DB > SB   p = 0.020

Rotational correction Amis 2002

Morooka / Banks UFL

Conclusion

- Difficult to objectively measure and explain improvements
- Current results are not optimal
- Measurement tools NEEDED