



**3<sup>rd</sup> Advanced Course on  
Knee Surgery**  
January 17<sup>th</sup> - 22<sup>nd</sup> 2010

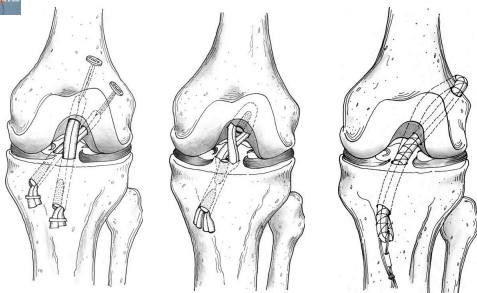
**Graft selection in DB**





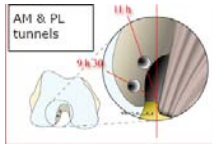
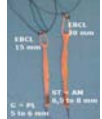
**ICONE**  
Burt Klos MD PHD  
ICONE Orthopaedics - Sports Trauma



Hamstring small graft sizes 5-6-7 length usually 12 cm  
Can be tripled




**Double bundle tunnels**

**DB /Transtibial**



- PL
- AM
- PTB
- Ham

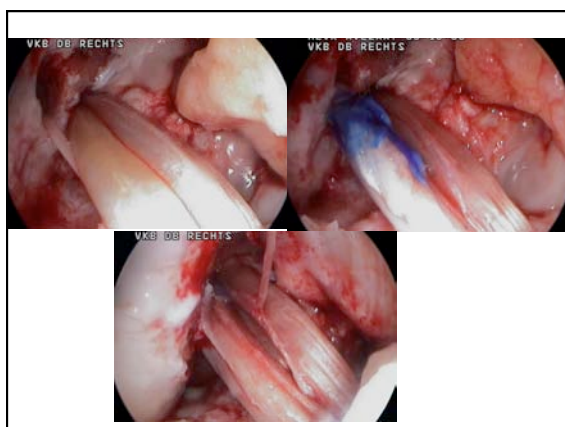


- Courtesy J Eichhorn De

**DB AM portal**

- Different angles of insertion .
- Different angles of pull through
- A flexible graft is easier



### Khan Amis RSA follow up hamstring vs PTB CORR 2006

### Alternative grafts

- Allograft
- PTB split one side / two sides
- Artificial ??
- Xenograft ?? ( ACL Study group K Stone, arthroscopy 2007 )

patents - Windows Internet Explorer

http://www.patentlog.com/patents.html

Hand: Beveien, Beid, Favoriten, Extra, help, Strg, F12

patents

#### Intellectual Property

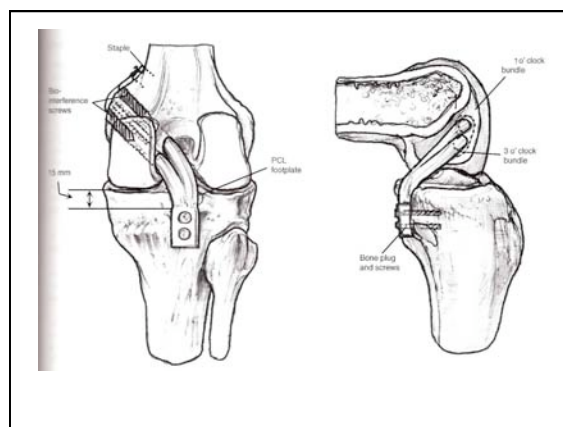
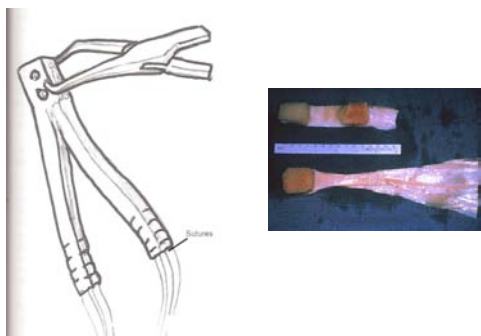
1	5,805,040	Meniscal Transgrafts	Kavin R. Stone
2	5,804,810	Meniscal Transgrafts	Kavin R. Stone
3	6,046,170	Meniscal Transgrafts	Kavin R. Stone, Uri Gali
4	6,003,204	Meniscal Transgrafts	Kavin R. Stone
5	6,902,110	Anterior Cruciate Ligament Transgrafts	Kavin R. Stone
6	6,170,208	Anterior Cruciate Ligament Transgrafts	Kavin R. Stone
7	6,270,440	Anterior Cruciate Ligament Transgrafts	Kavin R. Stone, Uri Gali
8	6,402,700	Anterior Cruciate Ligament Transgrafts	Kavin R. Stone
9	6,182,816	Articular Cartilage Transgrafts	Kavin R. Stone
10	5,844,700	Articular Cartilage Transgrafts	Kavin R. Stone
11	6,249,620	Articular Cartilage Transgrafts	Kavin R. Stone, Uri Gali
12	6,022,027	Articular Cartilage Transgrafts	Kavin R. Stone
13	5,813,800	Substantially Native Meniscal Cartilage Transgrafts	Kavin R. Stone
14	6,170,807	Soft Tissue Transgrafts	Kavin R. Stone, Uri Gali
15	6,072,041	Bone Transgrafts	Kavin R. Stone
16	6,267,700	Proteoglycan Reduced Soft Tissue Transgrafts	Kavin R. Stone
17	6,490,260	Proteoglycan Reduced Soft Tissue Transgrafts	Kavin R. Stone
18	6,231,600	Adhesive and Chondrocyte-Trapped Soft and Bone Tissue Transgrafts	Kavin R. Stone
19	6,363,710	Transgraft Heart Valves	Kavin R. Stone
20	7,284,107	Substantially Non-immunogenic Heartlike Collagen	Kavin R. Stone
21	10,000,044	Anterior Cruciate Ligament Transgrafts	Kavin R. Stone
22	10,000,045	Soft Tissue Transgrafts	Kavin R. Stone
23	10,000,060	Bone Transgrafts	Kavin R. Stone
24	10,014,030	Transgraft Heart Valves	Kavin R. Stone
25	10,100,070	Stentlike Transgraft Tissue	Kavin R. Stone, Thomas J. Turley
26	10,147,000	Substantially Native Transgrafts	Kavin R. Stone
27	10,130,010	Transgraft Bone Grafts for Orthopedic Applications	Kavin R. Stone, Thomas J. Turley
28	10,147,000	Substantially Native Transgrafts	Kavin R. Stone

### PTB alternative DB femur

### Pujol , Beaufils , KSSTA ,2010

PL bundle fixed outside  
in full extension

### Allograft //PCL grafts



### Conclusion

- Graft DB more likely hamstring but other options are open !