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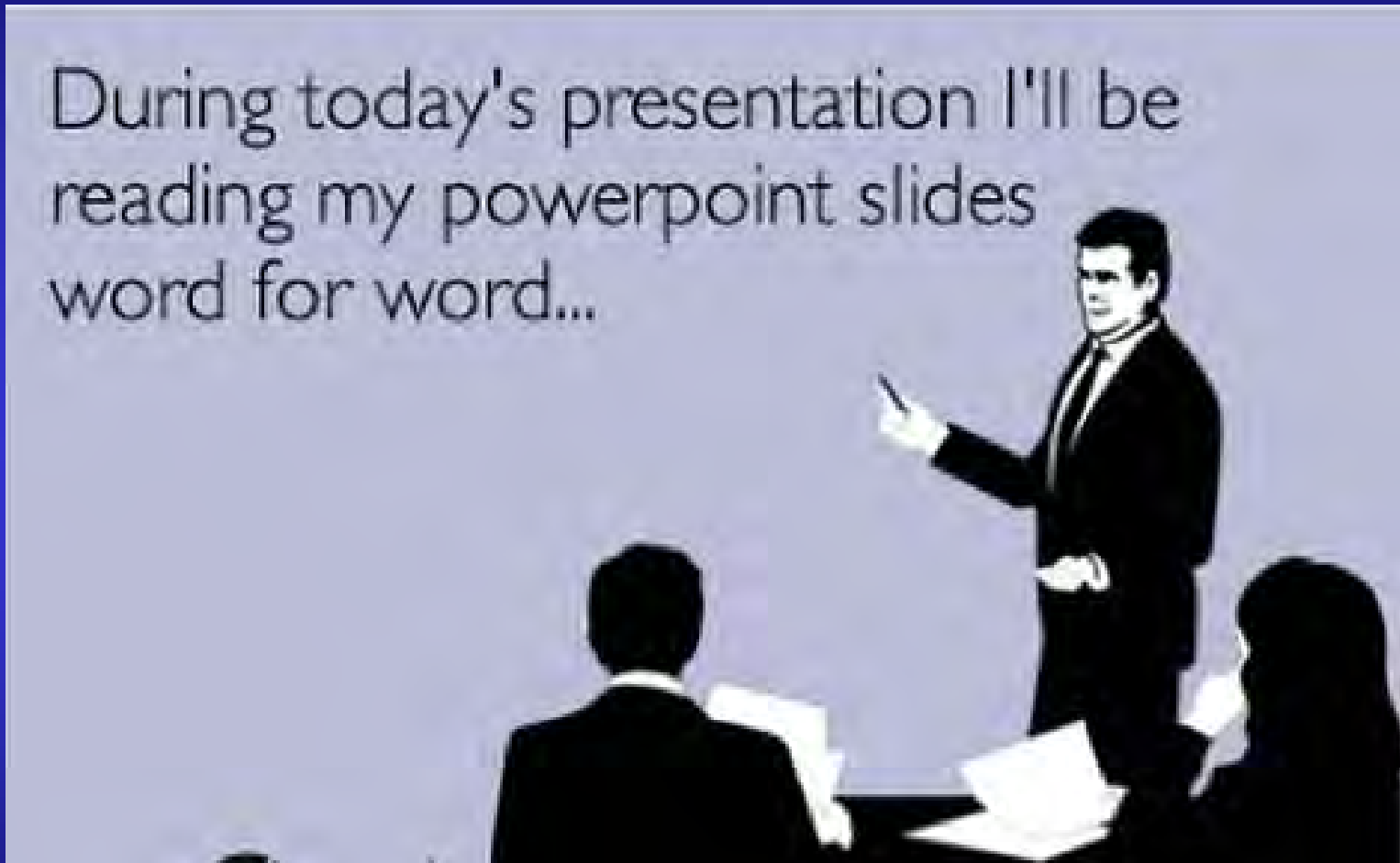


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During today's presentation I'll be reading my powerpoint slides word for word...

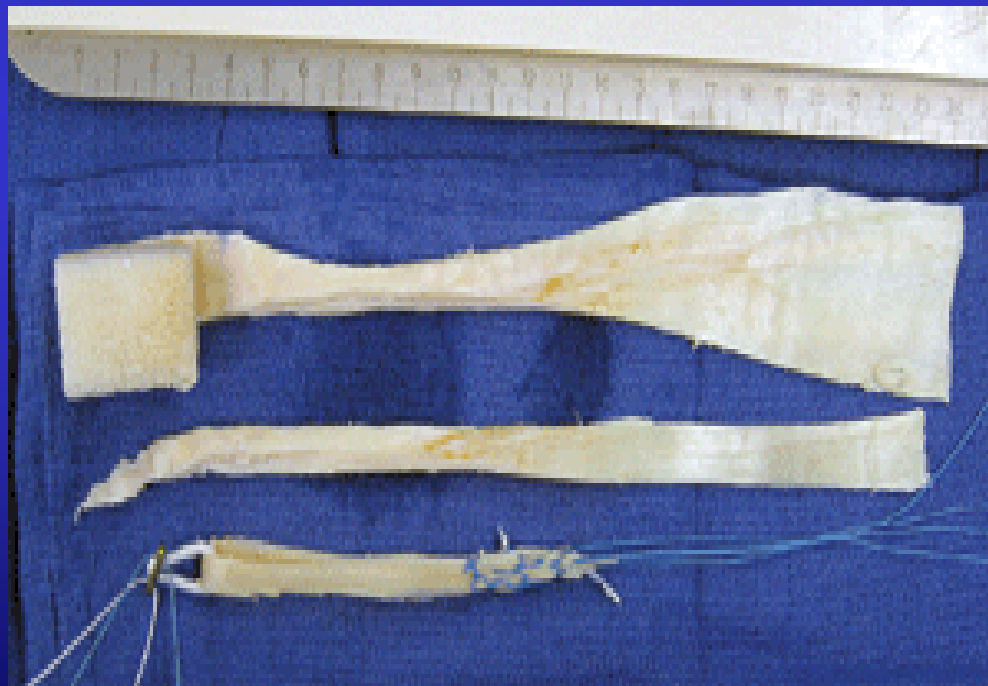


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Graft Choice in Knee Ligament Reconstruction



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Which graft should I use?

- The most important aspect of the operation is to place the tunnels in the correct position
- The choice of graft is really incidental



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History

- 1885 Robson sutured ACL/PCL
- 1900 Battle 1st report of ACL repair
- 1903 Silk sutures
- 1913 Free Fascia Lata Grafts
- 1917 Tethered Fascia Lata Graft
- 1938 Drill hole positions 1st noted



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History

- 1939 Macey ST single strand
- 1963 Jones BTB – attached distally
- 1975 Double strand single tunnel
- 1983 Mott double strand ST 2 tunnels
- 1996 Sher et al showed the strength of a 4 strand HT was greater than a 10mm BTB



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Graft Options

- Mid 1/3 BTB
- Quadrupled HT
- Allograft
- Quads Tendon
- Synthetics



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BTB

- Advantages

- Early bone healing
- Graft size and shape
- Ease of harvest
- Less anterior laxity
- Higher return to pre-injury sport
- Can be taken from the other knee

- Disadvantages

- Extension deficit
- Harvest site morbidity:
 - patellar tendonitis
 - anterior knee pain
 - patellofemoral joint tightness
 - late chondromalacia,
 - late patella fracture
 - late patellar tendon rupture
- Loss of ROM
- Nerve injury



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BTB- Relative contraindications

- History of patellar tendinopathy
- Osgood Schlatter's disease
- Needing to kneel
 - Bone grafting of the defects MAY reduce the incidence of kneeling pain



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Quadruple Hamstring Autograft

Advantages

- Strong and stiff
- SemiT/Gracilis = 11mm BTB
 - fails stretching out
- Less anterior knee / kneeling pain
- No flexion weakness
- Aggressive rehab OK
- Any graft fixation OK

Disadvantages

- Harvest can be difficult
 - Tendons can be cut short
- Longer healing time
 - (approx 10-12 weeks)
 - Must protect graft
- Bone tunnel enlargement
- Increased objective laxity
 - ? Clinical significance
- Injury to the saphenous nerve (uncommon complication)



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Synthetics

Advantages

- No harvest site morbidity
- No disease transmission
- Readily available
- Shorter operative time
- Faster immediate post-operative recovery
- Less post-operative pain

Disadvantages

- Expensive
- Higher rate of late graft failure
- Increased risk of late infection
- Potential to create arthritis
- CAN DESTROY THE KNEE



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Allograft

Advantages

- No harvest site morbidity
- Shorter operative time
- Available off the shelf
- Faster recovery
- Less post-operative pain
- Good for multi ligament injuries

Disadvantages

- Disease transmission
 - HIV 1 : 600,000
 - Bacterial 26 : 1,000,000.
- Weak graft
 - Irradiated or older patient
- Longer incorporation time
- Not universally available
- Expensive.
- High failure rate in young, active patients



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Allograft from family member

- Possible
- Expensive
 - Need 2 theatres
 - Harvest person can suffer complication
- Increased infection risk
- No long term results yet



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Quadriceps

Advantages

- Easy to harvest
- Large cross sectional size
- Can be taken without a bone block

Disadvantages

- Harvest site morbidity
- Bone block on only one end of graft



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What do I use and why?

- One Graft does NOT fit all
- Most patients get hamstring Autograft
- Half size reamers to get very tight fit
 - Much less tunnel widening



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Would I use a synthetic?

- Never in the joint!!
- OK for extra-articular work which is not covered in synovial fluid
 - No potential to destroy the knee



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Who gets an allograft?

- Multi ligament reconstructions
- Redo revisions
 - But usually add extra-articular augment
- Older patients



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Who gets BTB?

- Don't jump or kneel
- Younger patients
- Varus knees that are not bad enough for HTO
- Sloppy knees
- Hyperextension with ligament laxity



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Thank you



"I'm stumped.
We'll have to wait for
the autopsy."



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