

Functional outcome of ACL revision surgery A retrospective review



T.W. Patt

M.M. Hindriks

T.D.W. Alta

C.P. van der Hart

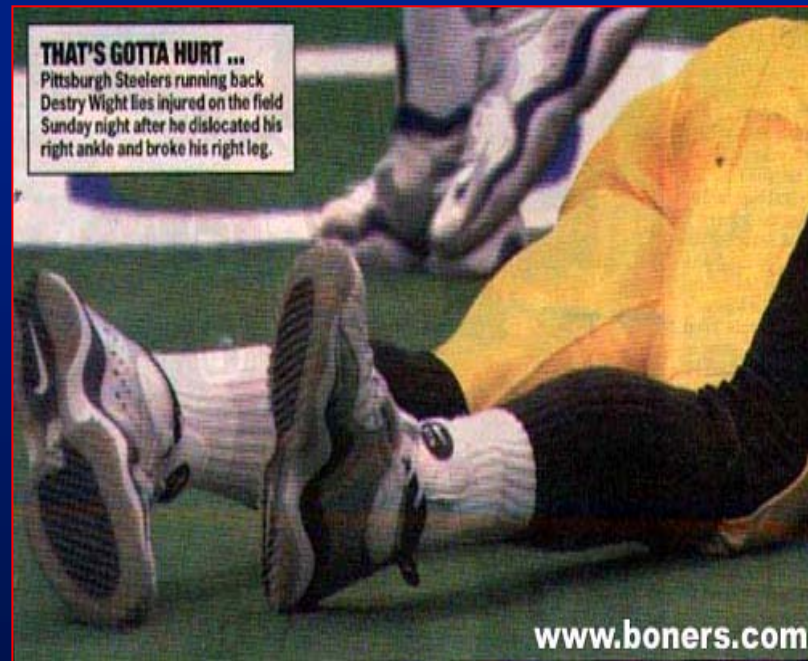
W.J. Willems

onze lieve vrouwe gasthuis



Increase of Primary ACL Surgery


- increased level of sports activities
- increase of high risk associated activities
- increased awareness
- tendency towards operative treatment



Failure Primary ACL Surgery

10-25 % fail

- arthritis and recurrent pain
- arthrofibrosis or loss of motion
- extensor mechanism dysfunction
- recurrent patholaxity

(Johnson DL, Fu FH. Anterior cruciate ligament reconstruction: why do failures occur? Instr Course Lect 1995; 44: 391-406) 

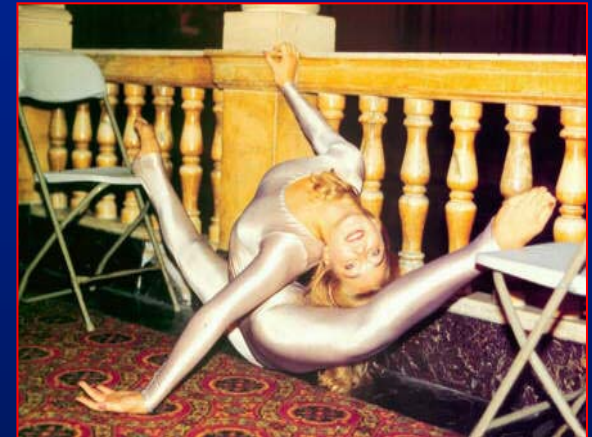
Causes of Failure

- traumatic re-injury
- returning to sports too soon after surgery
- inappropriate or overaggressive rehabilitation
- technical failures



Technical Failures

- error in tunnel positioning (impingement, break-out)
- inadequate fixation
- inappropriate tensioning
- wrong graft choice
- missed associated ligament injuries



Purpose of the Study

- evaluate results of revision ACL surgery
- mean 4 years (1.5 – 9)

Materials and Methods

- period 1994 - 2002
- patient population n=33
- referred from other hospital 55% (n=18)

Materials and Methods

demographic data

- n=33
- male 64% (n=21)
- female 36% (n=12)
- left knee 52% (n=17)
- right knee 48 % (n=16)

Follow - Up

- 61% (n=20)
- clinical examination
- Tegner score
- Lysholm score
- IKDC 2000 examination form
- VAS for patient satisfaction

Lost to Follow - Up

- 39% (n=13)
- missing address n=7
- refused n=4
- total knee arthroplasty n=1
- died n=1



Causes of Failure Primary Surgery (n=33)

- surgical error 70% (n=23)
- traumatic rupture 39% (n=13)
- Leeds Keio graft 12% (n=4)
- graft failure (elongation) 9% (n=3)

Surgical Error

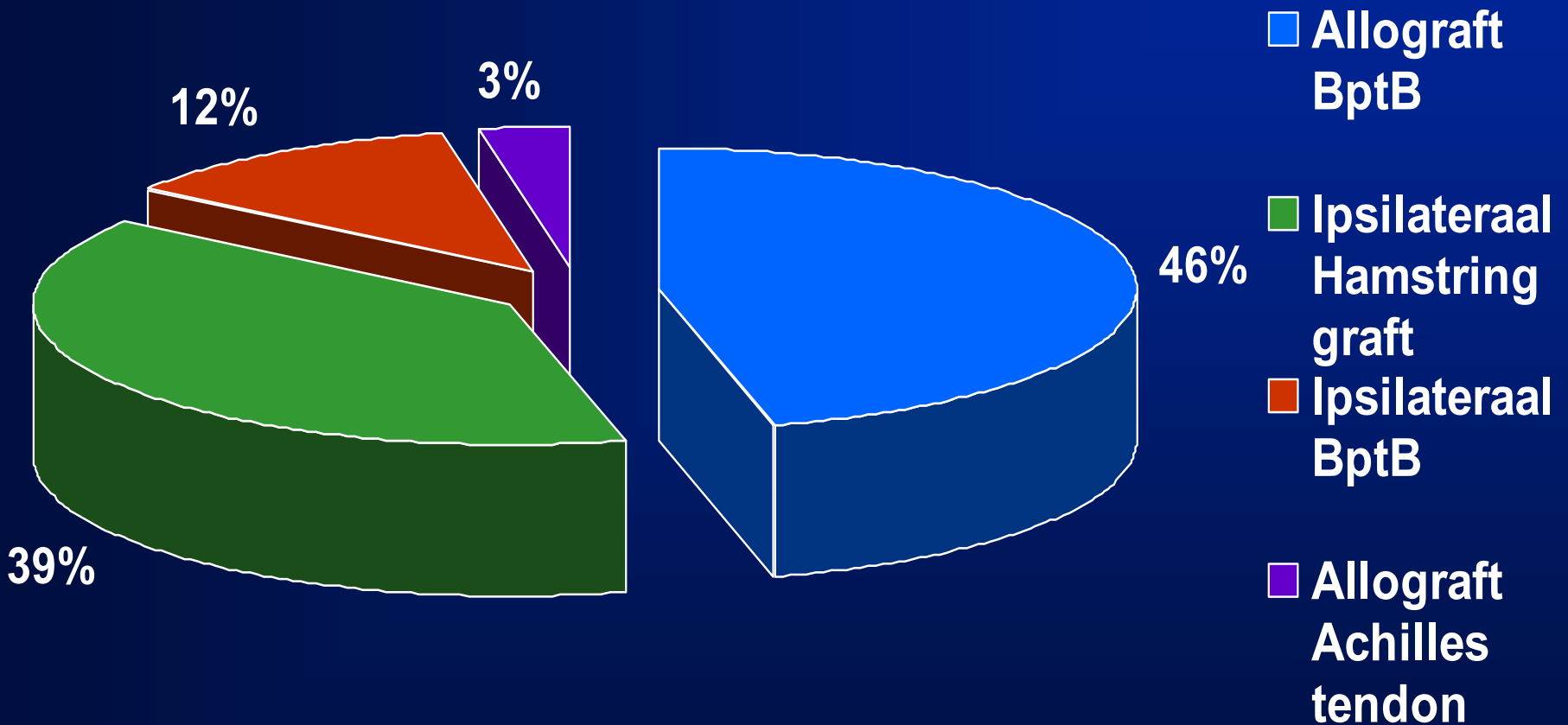
- tunnel malposition, most often too anterior



Follow-up (n=20)

- m/f 70% (n=14) 30% (n= 6)
- l/r 45% (n=9) 55% (n=11)
- age Ø 34 years (22-54)
- trau./surg. 3 years (0-14 yrs.)
- surg./fail. 1.5 years (0-6 yrs.)
- FU 4 years (1.5 – 9 yrs.)

Graft Choice in Revision Surgery (n=20)



Tegner Activity Score

- before primary trauma 7 (3–10)
- latest follow-up 5 (0–9)

Lysholm Score

- latest follow-up 76 (13-100)

IKDC knee examination form

effusion, passive motion deficit, ligament examination

- grade A (normal) 5% (n=1)
- grade B (nearly normal) 20% (n=4)
- grade C (abnormal) 50% (n=10)
- grade D (severely abnormal) 25% (n=5)

VAS Patient Satisfaction

- latest follow-up 8 (4-10)



Conclusions

- surgical error is the main cause of failure of a primary reconstruction
- subjective results given by patient satisfaction are better than the objective parameters obtained in this study; particularly the IKDC contributes to the bad score
- patients should be well informed about the less favourable outcome of a revision

