

A Centile Chart of Functional Recovery Following ACL Reconstruction

- A Useful Incentive For Patients?

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Aim

Present a concept of improving recovery following ACL Reconstruction

A centile chart of recovery according to the Single Leg Hop Test

Single Leg Hop Test (SLHT)



Best of 3 hops on each leg
Controlled Landing



$$\frac{\text{Operated leg}}{\text{Normal leg}} \times 100\%$$

Single Leg Hop Test

- Combination of 3 vital knee functions
 - Muscle power
 - Proprioception
Balance control
 - Confidence



Patients

- Prospective Data collection
- Primary autograft ACL reconstruction
- Patella tendon graft or
Four-strand hamstring graft
- Single surgeon
- Evaluated at 6, 9, 12 & 24 months post op

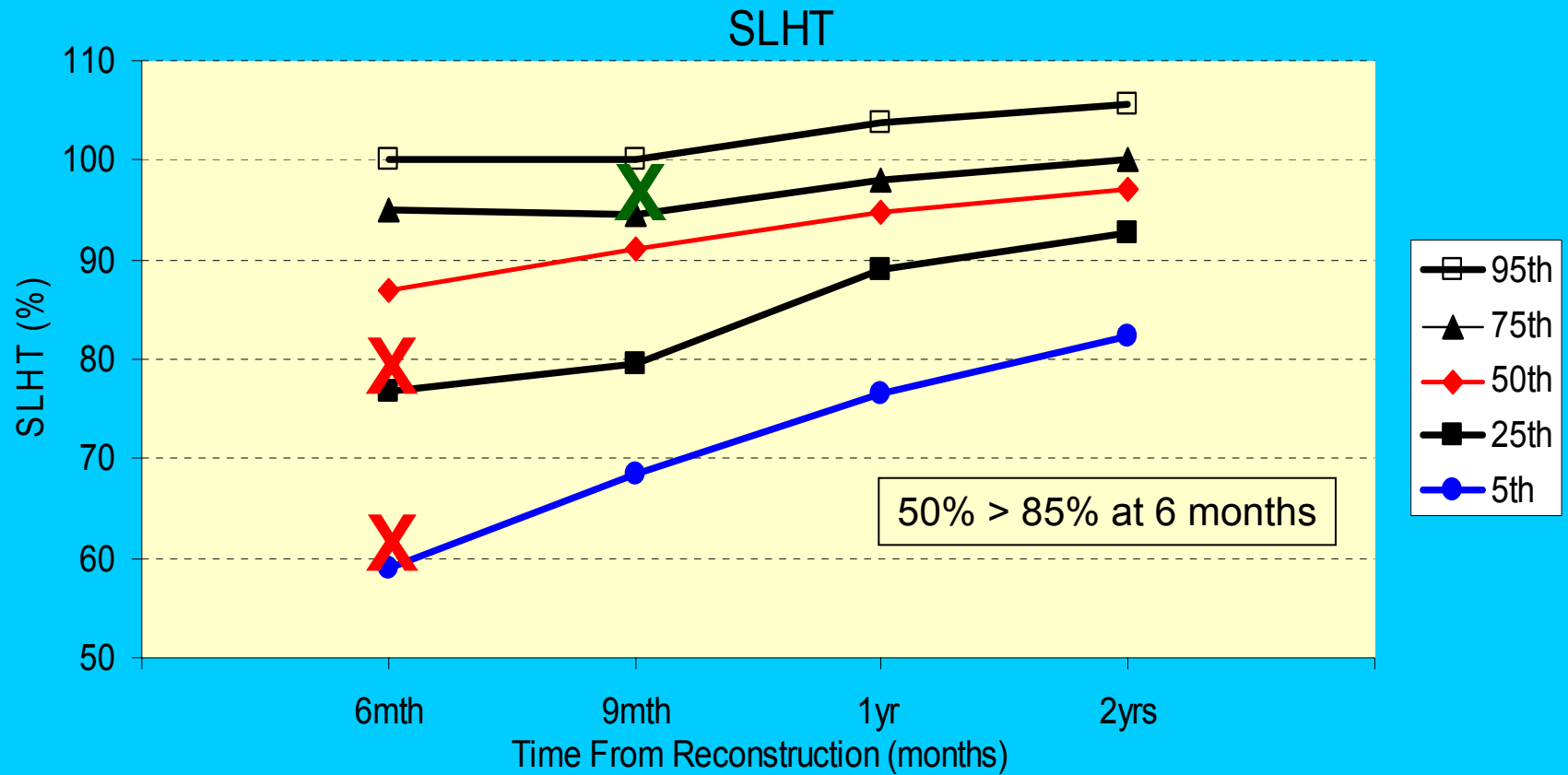
Results

- 136 patients
- Mean age 29 years (range 16-48)
- 122 M : 14 F
- 62 left : 74 right
- 100 Patella tendon grafts (interference screws)
- 36 Four-strand hamstring grafts (endobutton and staples)
- IKDC A or B:
 - 1 year 93%
 - 2 years 90%
- Kt 1000 man max difference
 - 1 year 1.7mm
 - 2 years 1.4mm

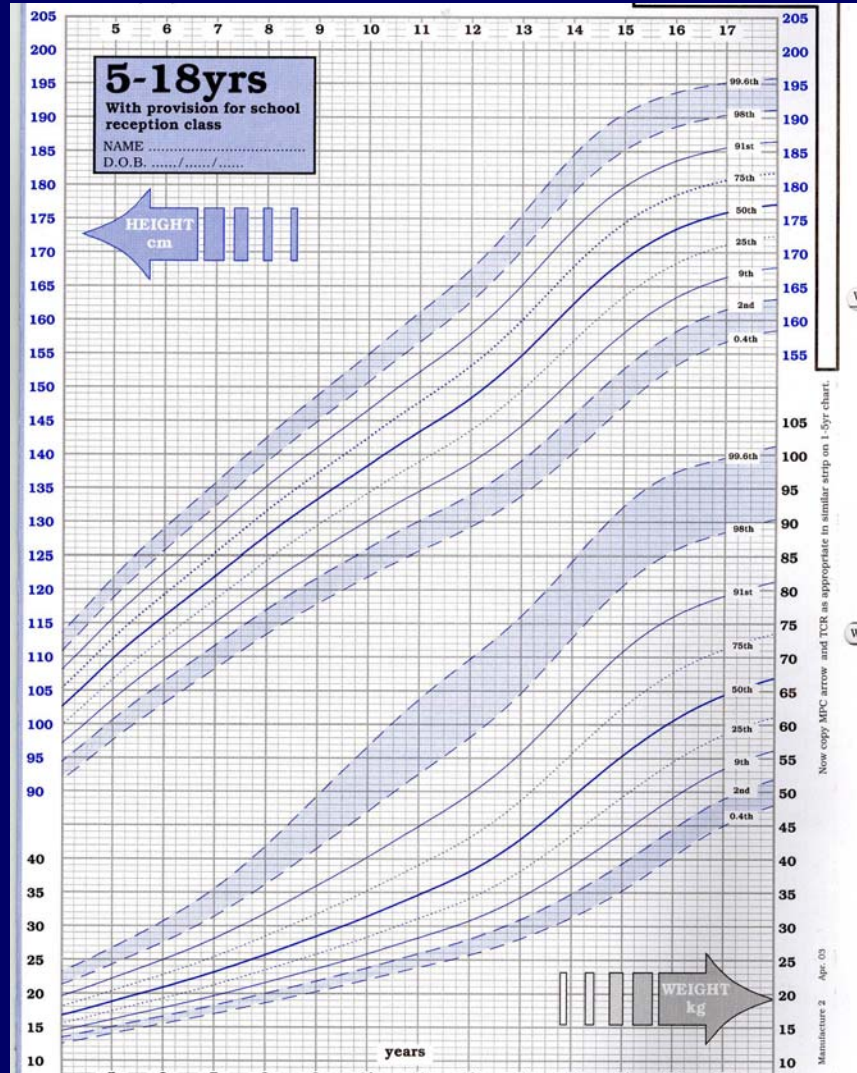
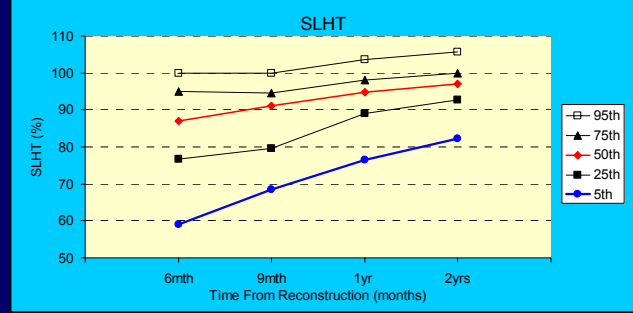
Centile Chart

- Hop test: 6, 9, 12, 24 months
- Establish centiles:
 - 5th, 25th, 50th, 75th, and 95th
- Chart shown to patients in clinic

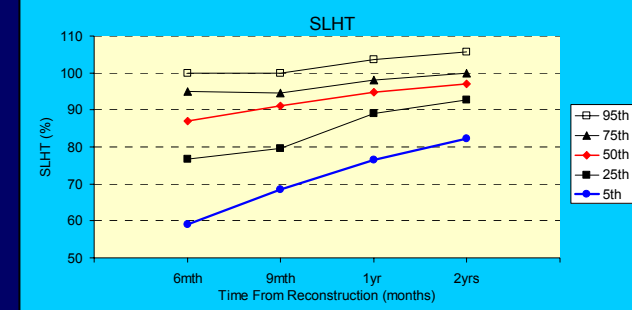
Centile Chart



Is this valid?

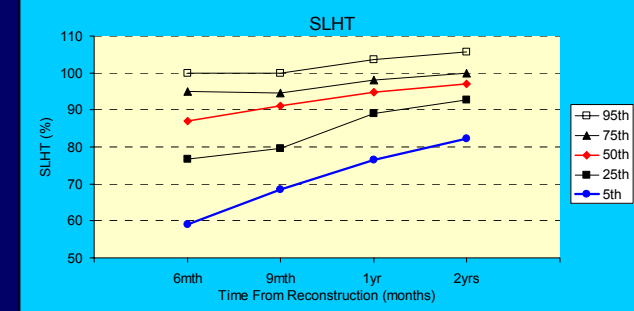


Single Leg Hop Test (SLHT)



- A functional outcome measure
 - IKDC Normal >90%
 - IKDC Nearly Normal > 75%
 - IKDC Abnormal > 50%
- 85% suggested as a probable safe level for return to sports
 - Barber S, Noyes FR, et al. 1990
- Correlated with both the IKDC grade and Mohtadi's Quality Of Life (QOL) Score
 - Spalding T, et al. ISAKOS 1999

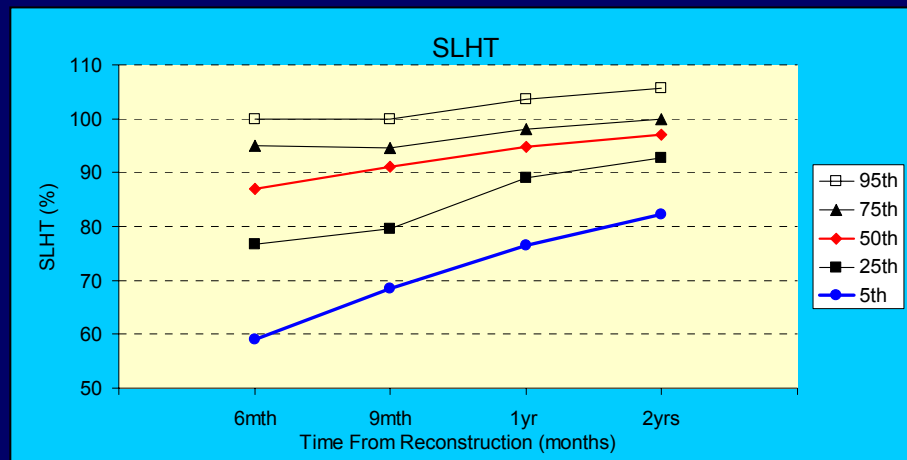
Learning effect?



- Must be some learning: but small
 - Bolgla 1997, Ageberg 1998
- SLHT low standard error of measurement
 - 4.61 – 17.4 cm (Ross et al 2002)
 - 4.56 cm (Bolgla 1997)
- High test-retest reliability
 - 0.91 (Birmingham 2000)
 - 0.96 (Ageberg 1998)
- Safe to compare ratio between groups (Gaunt 2001)
- Useful as assessment for conditioning sportsmen (Ross 2002)
- Better if use fatigue test conditions (Augustsson 2004)

Summary

- Single Leg Hop Test is a simple and quick test in a busy out-patient clinic
- A guide to functional recovery
- The chart presented can be used to determine how a patient is progressing



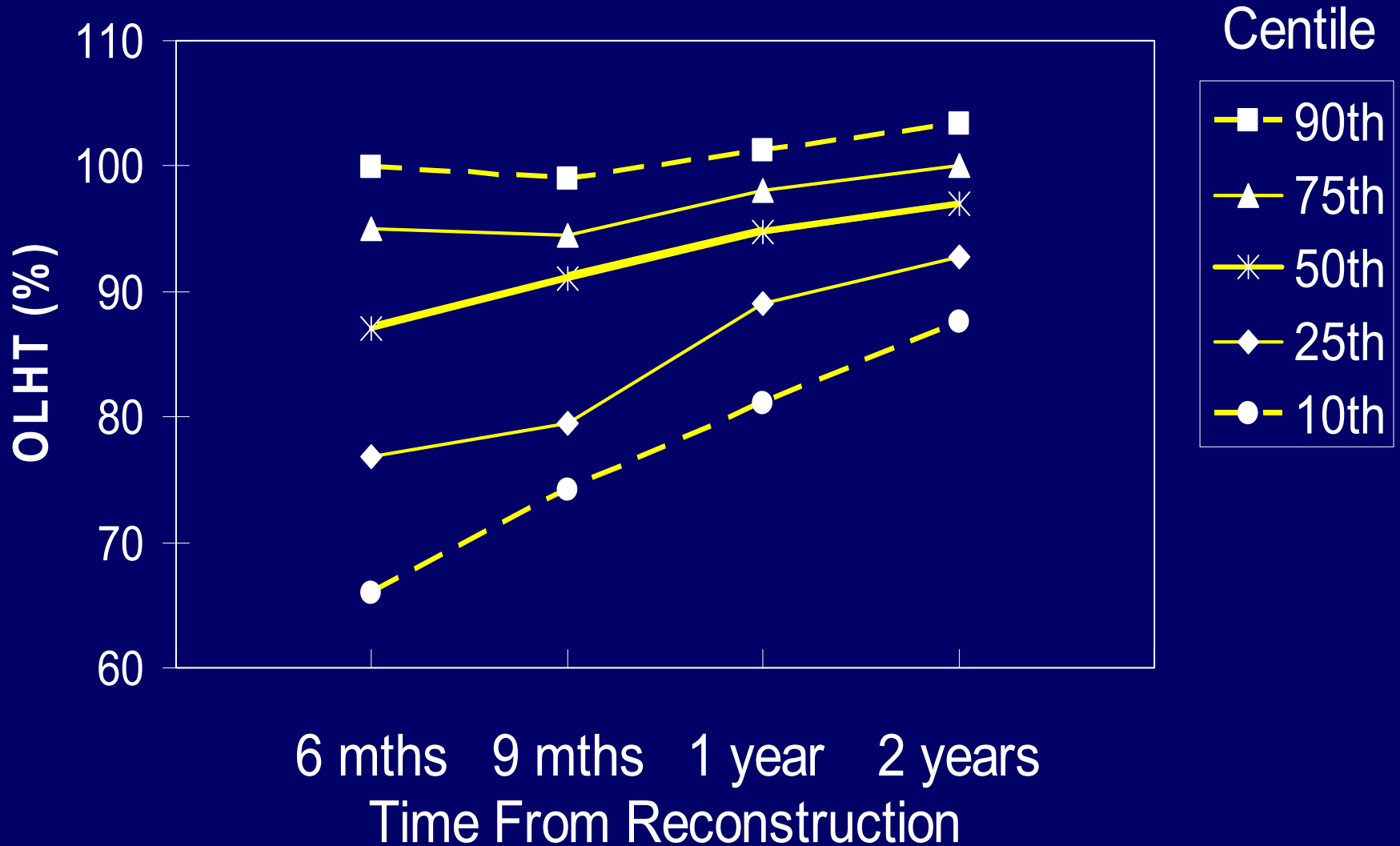
Future Use

- Identify patients who are under-achieving
- Show patients how they compare with the 'average' recovery
- A method for monitoring progress weekly
 - A home incentive for patients
 - Clinical trial for return to sport



Thank You

One Leg Hop Test



One Leg Hop Test

