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ALTERNATIVE TREATMENTS TO CSI FOR GTPS

Presentation · October 2018

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ALTERNATIVE TREATMENTS FOR GTPS

Notes can be found by searching "Researchgate Angie Fearon"

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LEARNING OUTCOMES

- Known risk factors and impairments
- Treatment of GTPS

“Don’t rest a tendon”
Jill Cook

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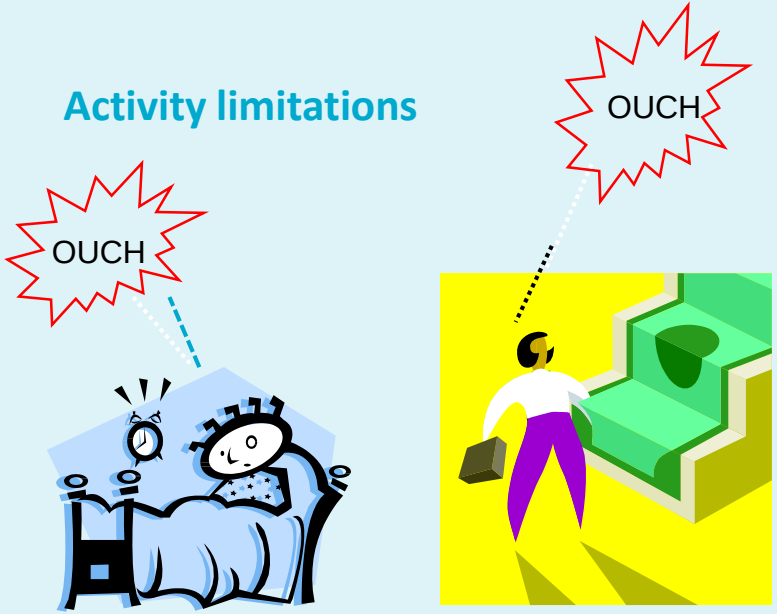
WHY DO WE CARE?

Activity limitations



Participation limitations

- Reduced full time work participation
- Likely reduced involvement in sport/fitness/walking

As a population…

- Increased BMI
- High levels of pain
- Sleep deprivation
- Higher rate of co-morbidities

Fearon et al 2014

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Assessment/diagnosis

CLINICAL EXAMINATION

Intra or extra articular hip problem?

Hip ROM tests

GT palpation: -LR = 0.43

FADDIR -ve groin pain, -LR: 0.15 (Reiman 2016)
FABER – pain location (lateral hip, GTPS OR 43.3) (Fearon 2012)

SLS (30sec) – if reproduces lateral pain - +LR=12, GT
FADER – R +LR=6.6 (Grimaldi et al 2016)

Pre test prob ~50% (based on history)
+ve GT palpation & SLS/FADER-R & FABER = ~96%

Increased hip adduction moment & movement

Allison et al 2016 a,b,c

(Image from Robinson et al *under review)*

Not necessarily apparent clinically

(Fearon et al 2016)

Reduced Gmed/min activation variability

Allison et al 2017

Semciw et al 2014

Reduced hip abduction strength

Fearon et al 2016

Allison et al 2016 d

Principles of Conservative Management (Tendons)

- Modify the risk factors [1]
- Pain education
- Manage the load [1]
- Strengthen the limb [2]
- Treat the co-morbidities [4]
- Neuromuscular control training [5]
- Review the progress

"Don't rest a tendon"
Jill Cook

[1] Cook and Purdam, 2013; [2]Ganderton et al 2018, [3]Mellor et al 2018; [4]Sayegh et al., 2004, [5] Rio et al, 2016

What are Risk Factors for Tendinopathy?

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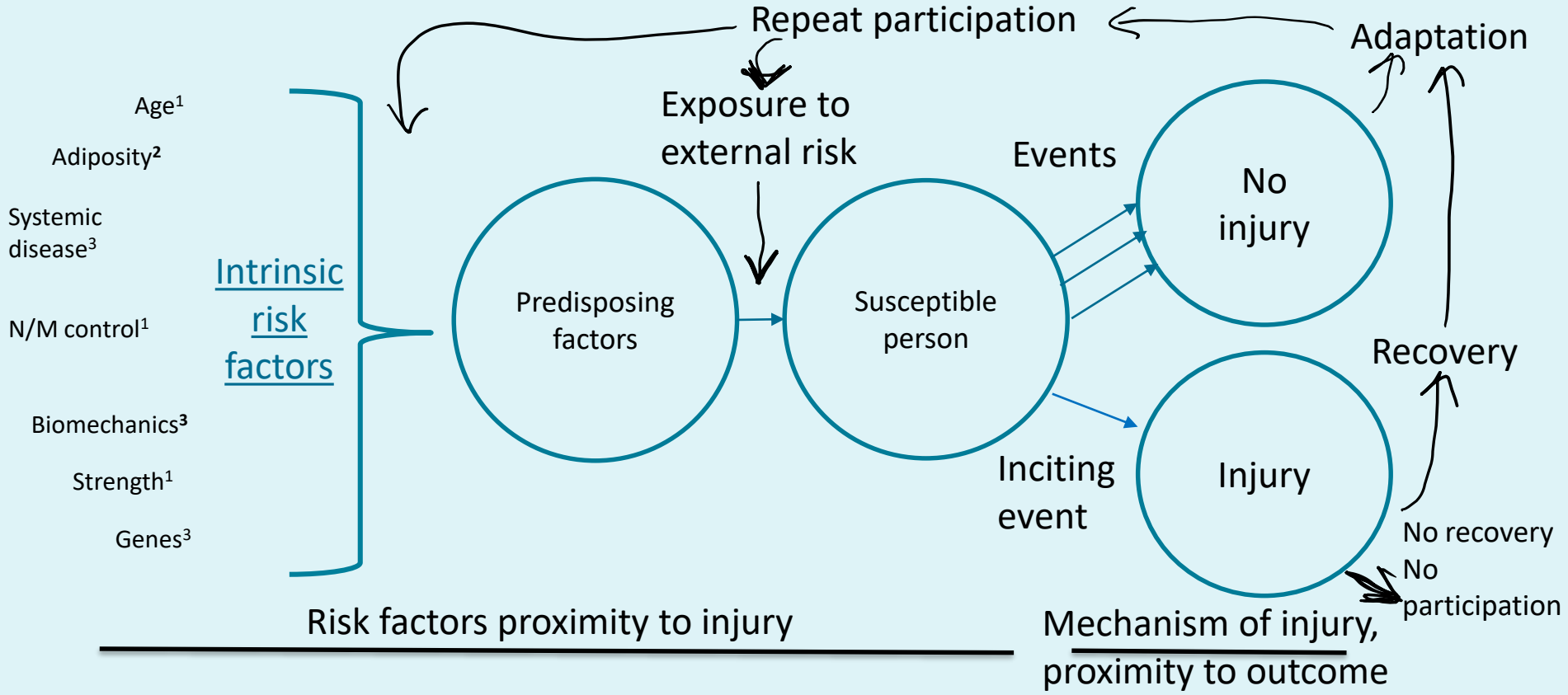
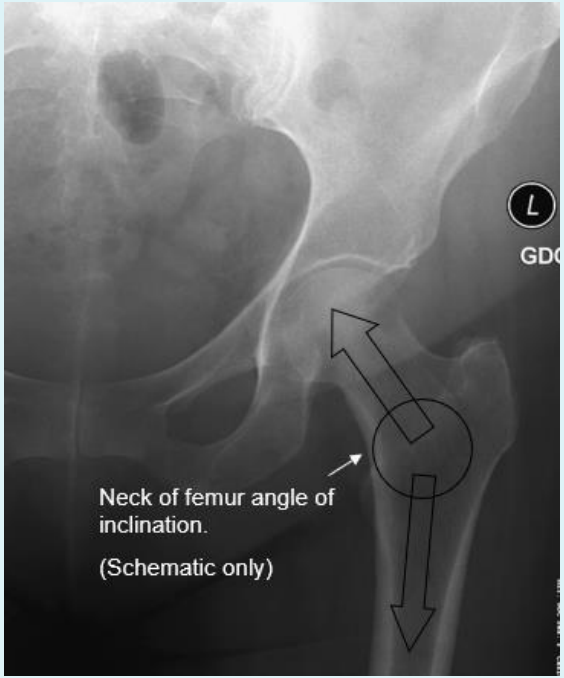


FIXED RISK FACTORS

- Female
- >40 years of age

Tortolani et al 2002; Segal et al 2007



OR of neck/shaft angle <134°
3.33 GTR; 1.4 GTPS; 0.85 OA
Fearon et al 2012

MODIFIABLE RISK FACTORS

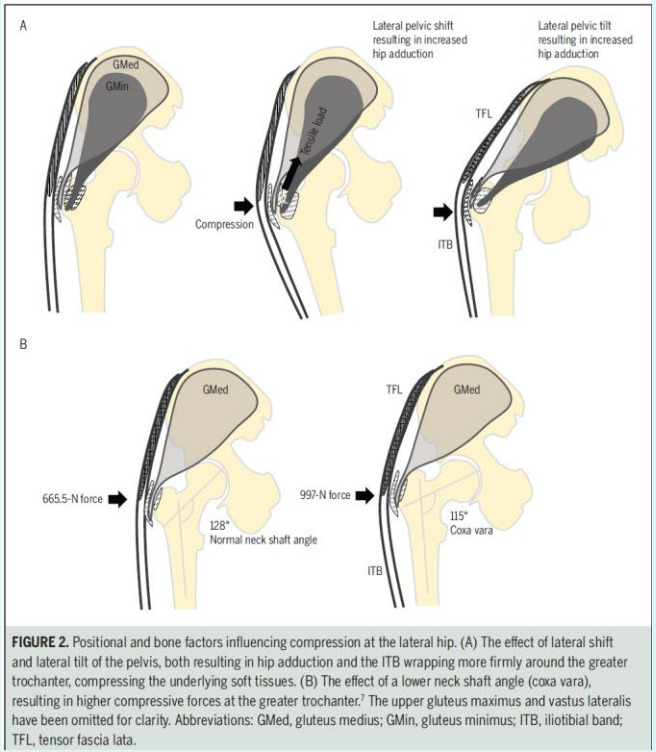


FIGURE 2. Positional and bone factors influencing compression at the lateral hip. (A) The effect of lateral shift and lateral tilt of the pelvis, both resulting in hip adduction and the ITB wrapping more firmly around the greater trochanter, compressing the underlying soft tissues. (B) The effect of a lower neck shaft angle (coxa vara), resulting in higher compressive forces at the greater trochanter.[7] The upper gluteus maximus and vastus lateralis have been omitted for clarity. Abbreviations: GMed, gluteus medius; GMin, gluteus minimus; ITB, iliotibial band; TFL, tensor fascia lata.

Grimaldi and Fearon 2015

Increased compression of ITB on GT with every degree of Addn.

At 0° = 4N

At 10° = 36N

At 40° = 106N

(Birnbaum et al 2004)

- Increase adiposity at GT
- LBP (Fearon et al 2012)

Anything that increases
- Compression of Gmed and min tendons
- ADd

⇩

May give rise to GTPS

Modify the risk factors

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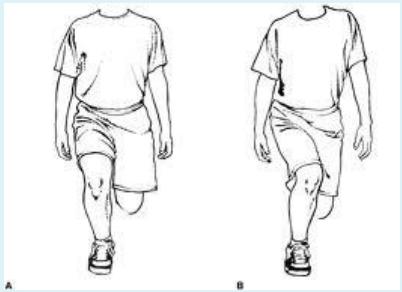

What drives ~~tendon~~ pain?

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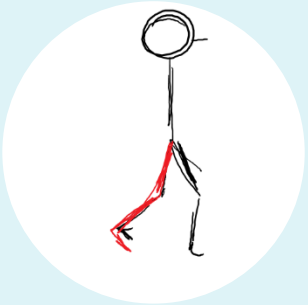
Manage the Load

Passive Loading

Loading the tendon passively

- Standing
- Sitting
- Lying



Active Loading

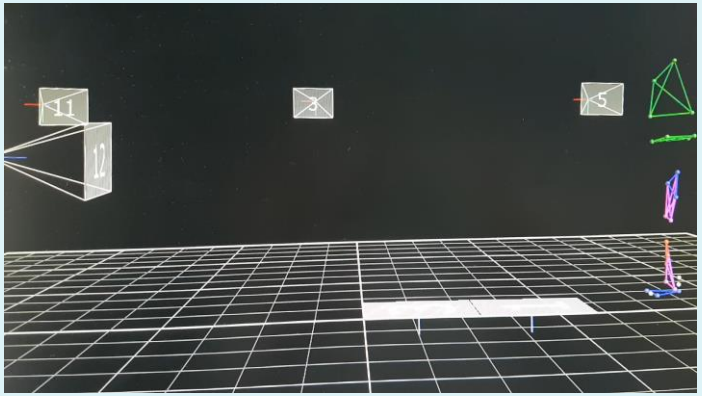
Loading the tendon over 72 hours

- Stairs
- Hills

Taping

Robinson et al *under review*

Robinson et al 2018 *under review*



TAPING

Single blinded cross over trial

Research Questions:

1. Does Dynamic Tape (DT) reduce Hip Adduction Moment, Hip Adduction Movement, Internal Rotation, Pelvic Obliquity, Trunk Lateral Flexion, Pelvic Translation
2. Does DT provide point in time pain relief?

50 Women with GTPS

Three walking trails with VICON system

baseline/ Trial 1/Trial 2

Tape order randomised into Active or Sham for Trial 1.

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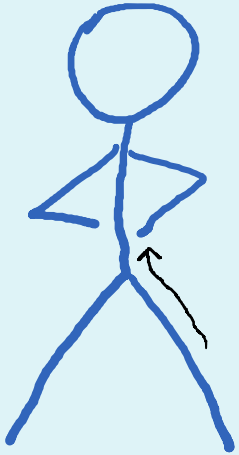

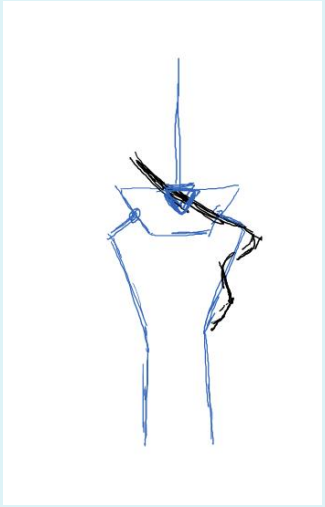

TAPING

Anchor the ends
20% stretch
Maintain and even pull

Principles of Conservative Management

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- Modify the risk factors [1]
- Pain education
- Manage the load [1]
- Strengthen the limb [2]
- Treat the co-morbidities [4]
- Neuromuscular control training [5]
- Review the progress

→ How much are they really doing?
→ Sleeping retraining

→ Sitting, sit to stand retraining
→ Gait retraining

- Prone
- ¾ prone
- ¾ supine

Grimaldi and Fearon 2016

[1] Cook and Purdam, 2013; [2]Ganderton et al 2018, [3]Mellor et al 2018; [4]Sayegh et al., 2004, [5] Rio et al, 2016

ISOMETRICS vs ISOTONIC??

Strengthen the limb

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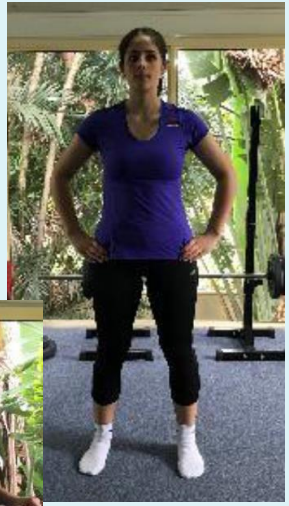
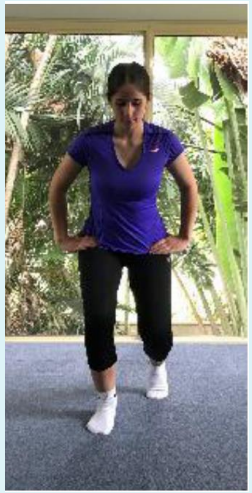
Strengthening





Deal with the impairments you find

- Hip abduction strength
- ? Lateral rotation
- ? Hip extension

STRENGTH EVIDENCE

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Mellor et al 2018

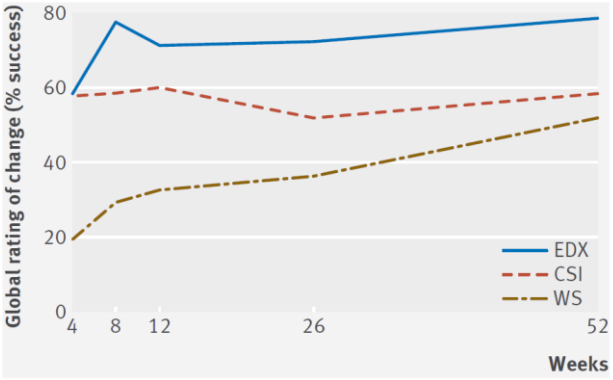

Fig 2 | Primary outcome measure—global rating of change in hip condition (GROC). Proportion (%) of participants in each group reporting "moderately better," "much better," or "very much better" on GROC (that is, defined as success) over time. Trial groups were education plus exercise (EDX), corticosteroid injection use (CSI), or wait and see approach (WS). Supplementary figure S6 shows data plot of all GROC categories

Ganderton et al 2018

TABLE 4. FIFTY TWO-WEEK VARIABLES

52-week variables		*GLoBE* (n=38) n/37[a](%)	*Sham* (n=43) n/43(%)	*Chi squared*
Continuation of exercises	Yes	18 (48.6)	17 (39.5)	0.413
	No	19 (51.4)	26 (60.5)	
Injection therapy	None	30 (81.1)	36 (83.7)	0.776[b]
	CSI	6 (16.2)	7 (16.3)	
	PRP/ABI	1 (2.7)	0 (0)	
Pain level	Increased	4 (10.8)	4 (9.3)	0.763[b]
	Decreased	16 (43.2)	22 (51.2)	
	No change	17 (45.9)	17 (39.5)	
Hip surgical intervention	Yes	0 (0)	1 (2.3)	1.00[b]
	No	37 (100)	42 (97.7)	

Strength and Education was provided in both studies

Neuro-muscular Control (motor control training)

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Do they have enough strength to do the movement?

Do they have the control to do the movement?

Can they put it together? Motor skill training

Treat the co-mobidities

Up to 35% have LBP

Faster recovery if you treated the Lx

Sayegh et al 2004

Overweight/obese & diabetes

Tilley et al 2015

Ranger et al 2016

Gaida et al 2012

Psycho-social

Address

What if they are not getting better?

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Re-visit

- What activities they are doing or not doing?
- ***Are they doing the exercises?***
  - at all
  - correctly (technique)
- monitoring the total tendon load

Re-assess

- clinically ms/joints/strength balance
- the risk factors
- biomechanics
- the co-morbidities

- Re-consider the treatment options
- Re-consider the diagnosis

In summary

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- Pain can confuse the clinical assessment
  - Patient reports
  - Clinician interpretation
- Clear any red flags
- Settle the pain/anxiety/ms spasm (what is driving the pain?)
- Re-assess & re-evaluate
- Ask for help (use your networks)
- Make a progressive plan with your patient

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