

SPRINZ / SESNZ Strength and Conditioning Conference 2024



Sharon Kearney

Physical Capacity – what not
to miss?

 **NetballSmart**

ACC SportSmart

 mbphotoz
NETBALL
POTIRAWHITI AOTEAROA

What do we know?

- Females are not small males.



- Athletically very similar pre-pubescent
- Post puberty – movement mechanics change in females (landing patterns)
- Lack of testosterone – and its impact on strength development

- Pyscho-social challenges

- Exposure

- To sport +++
- To S&C -----
- Environments (gym size and equipment)
- Expectations

- Female relationship with sport and participation
- Injury Rate: Intrinsic vs extrinsic factors most important

The ACL – the “Celebrity ligament”

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It has been the hottest topic in the women's game - but not for welcome reasons. Anterior cruciate ligament (ACL) injuries are wreaking havoc within the sport, depriving top competitions, leagues and tournaments of some of the world's best players.



Title IX

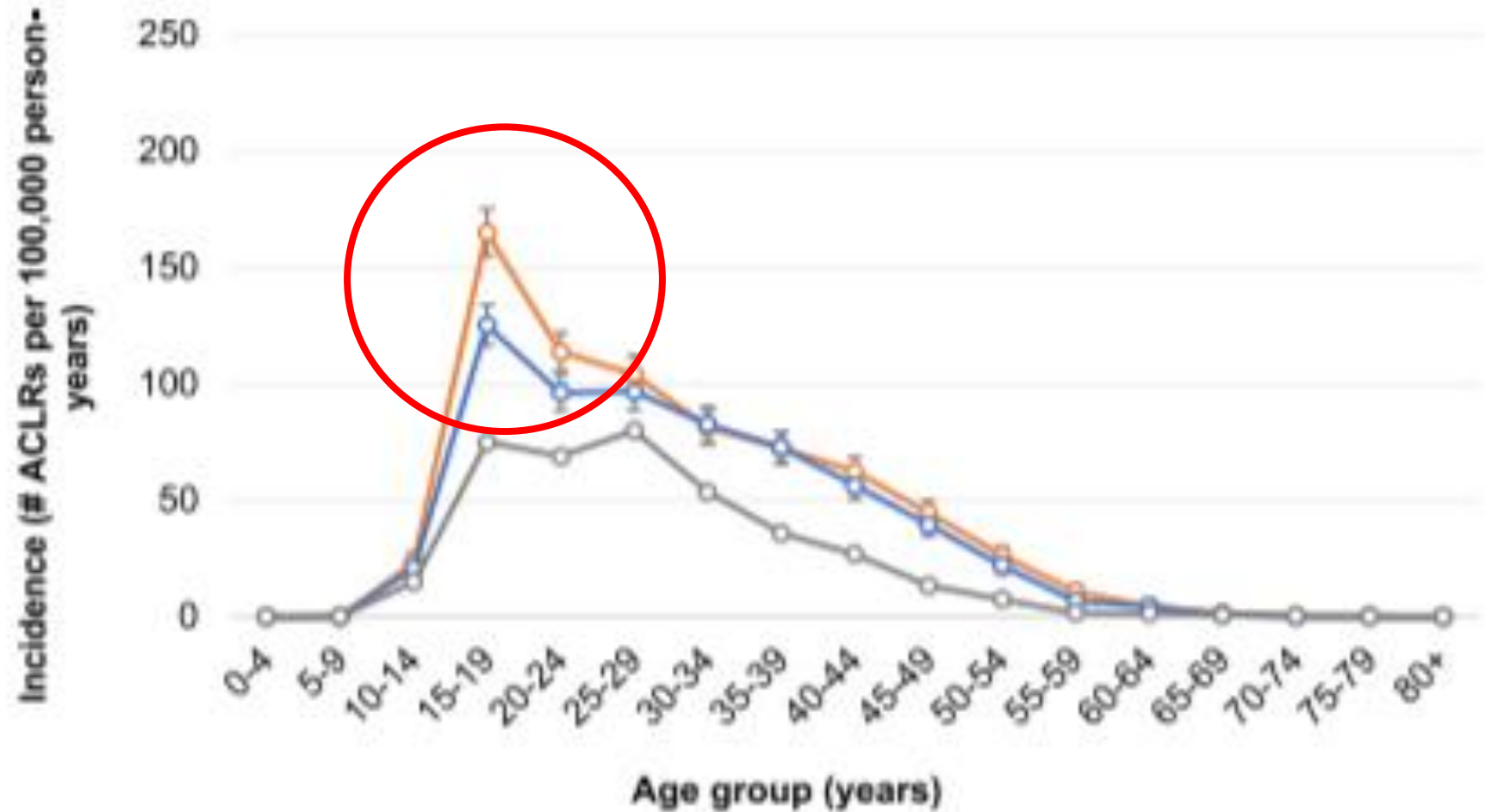
Title IX, the landmark gender equity law passed as part of the Education Amendments of 1972, banned sex discrimination in federally funded education programs.

Its protections would open doors for girls and women in admission, academic majors, teaching positions, vocational programs and individual classes, and help ensure equal access and treatment once they got in.

Exposure +++++



NZ ACL Injury Rate



*Data sourced from Gianotti et al. 2009

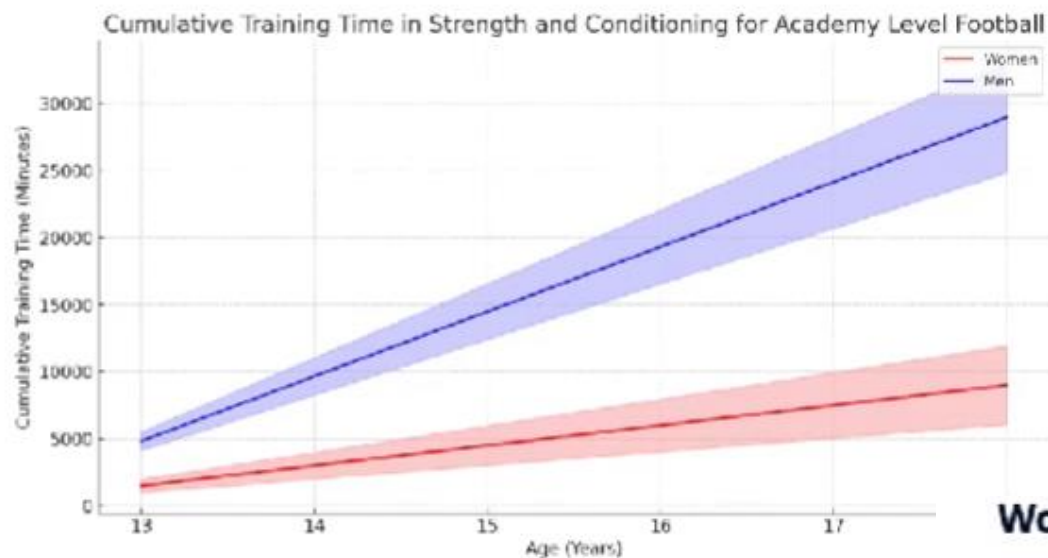
Fig. 1. Female annual incidence of anterior cruciate ligament reconstruction surgery in New Zealand. (—○—), 2013–2016; (—○—), 2009–2012; (—○—), 2000–2005 (data sourced from Gianotti *et al.*¹⁹).

Why?

- How you train and what you are good at matters more than the sex.
- Strength is totally modifiable
- Women tear their ACL because they have a different muscle activation pattern (Quad: Ham)
- Change to.....People who haven't trained or are weaker tend to be quad dominant.
- People who train more and who have been “taught” to jump / land and side-step have a better balance of muscle activation.
- Not a sex difference/ an exposure difference

Women's strength and conditioning accumulation

Habitual or cramming?



Using reported average weekly frequency and minutes training data from McQu an extrapolation of training accrual based on reported means with SD of trainin pre-season for 48 weeks.

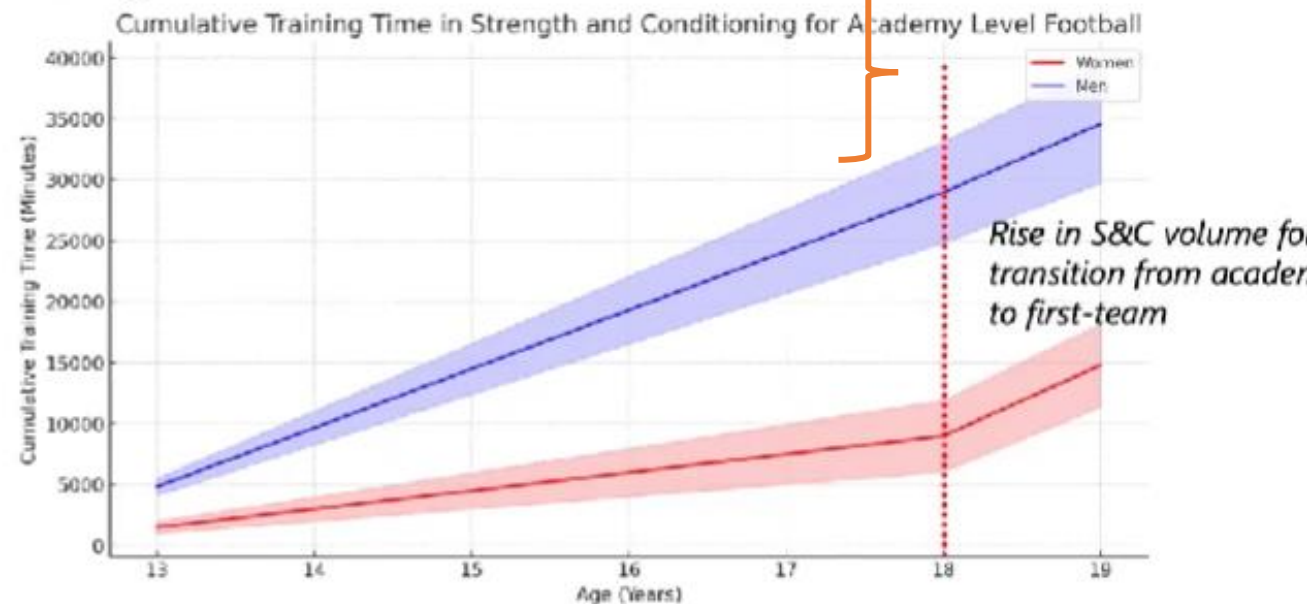
Fail to accrue training and then double it up..... and at this point ACL is sex specific.

Not a sex difference/ an exposure difference.



Women's strength and conditioning accumulation

Habitual or **cramming**?



McQuilliam et al (2022) reports a significant increase in in-season S&C duration (16 to 55 minutes) with a "non-significant" increase in frequency per week (1.56 to 2.26).

HDD
PLAY

L R

brendan foot supersite
SUZUKI

TE WĀKANGA O RANGI
2019

Big Screen
Big Results

AR2

MEDIA

Pit

ICS



- The athlete – female and individual intrinsic factors - Biological
- Sport – Level 1
- Landing Strategy
- Trunk Strategy
- Vision Strategy
- Ball Strategy

+ PYSOCOSOCIAL

ALL FIVE AT ONE TIME can lead to an ACL INJURY



- The athlete – female and individual intrinsic factors - Biological
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- + pysicsocial*
- ALL FIVE AT ONE TIME can lead to an ACL INJURY





ANZ

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MO

NETBALL
SERIES

05:11

TEAM A
TEAM B

NETBALL SERIES



