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CREATE CHANGE

Understanding Turnout in Dancers

Clinical Implications for the Physiotherapist

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2022 Masters of Sports Physiotherapy Conference

The Artistic Athlete

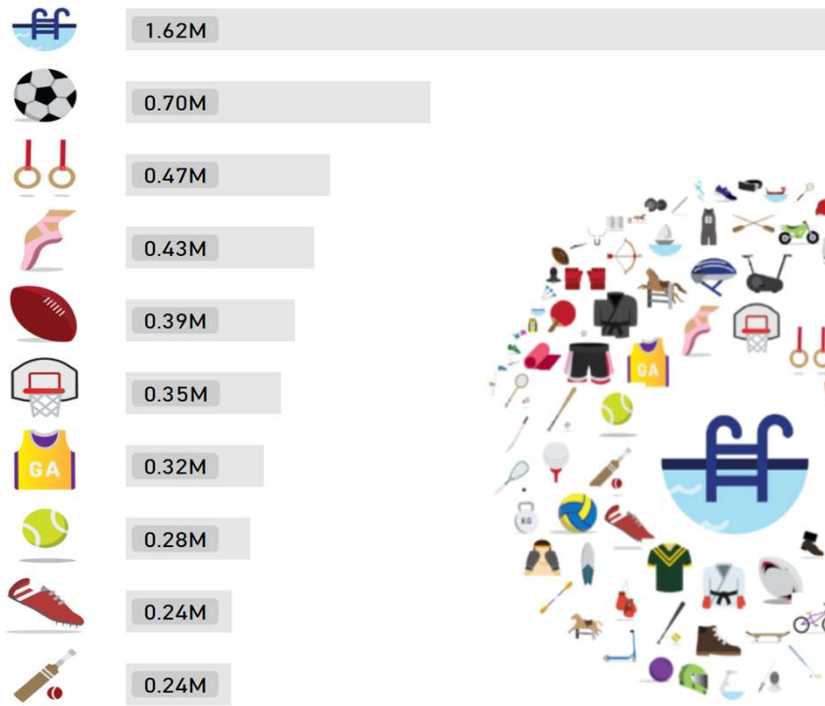


(Vassallo et al., 2019; Hincapié & Cassidy, 2010; Kenny et al., 2021)

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Dance in the Australian Sports and Physical Activity Industry

AUSPLAY™



(Clearinghouse for Sport, 2022; AISC, 2021)

(Atelier Australia, 2022)

Ballet

Ballet makes up **33% of total participation** in dance
(Clearinghouse for Sport, 2022)

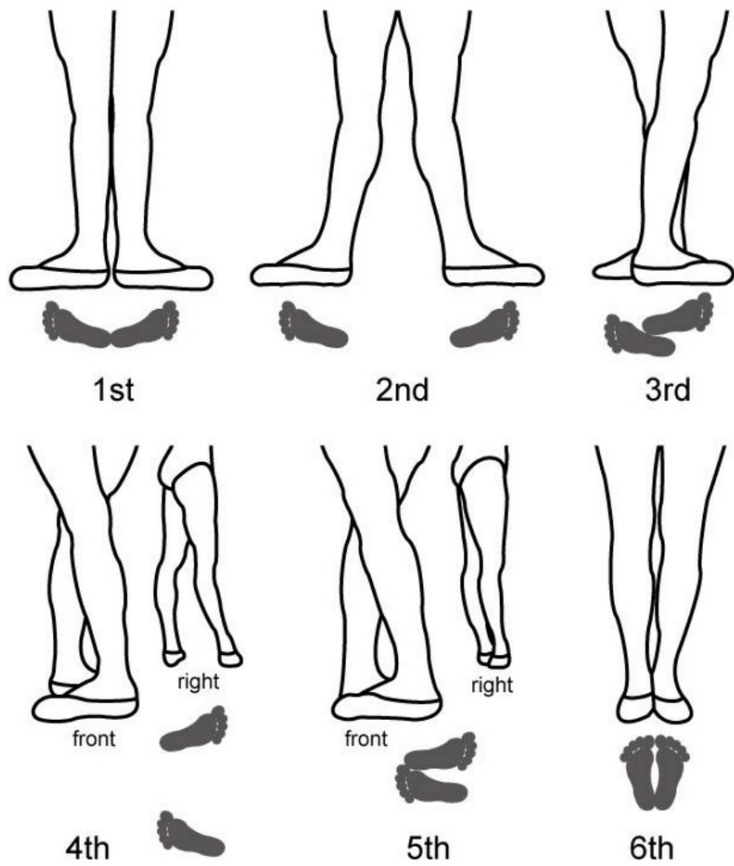
Foundational dance discipline for most training dancers as well
as cross-training used in various other sports

It is one of the first disciplines learnt as a child through to being
ranked the **most physically demanding occupation** in the U.S
(Schrock, 2020)



(Atelier Australia, 2022)

Turnout



(Tanabe et al, 2017; Royal Opera House, 2011; Gilbert et al, 1998; Gorwa et al, 2020)

(Royal Opera House, 2011)

Where does it come from?

Hip joint:

60% of total turnout → 55°

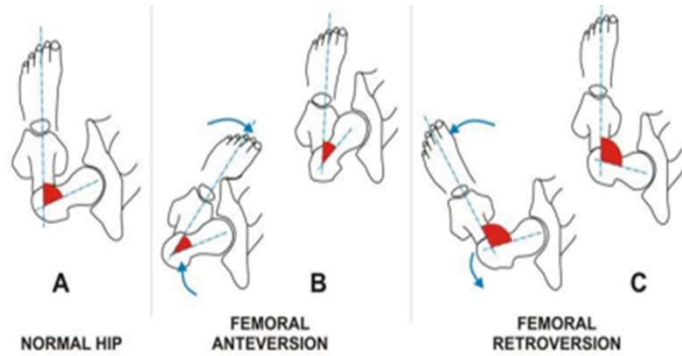
Non-hip contributors:

Femoral version, end-range rotation of the knee, tibial torsion,
pronation of the subtalar complex

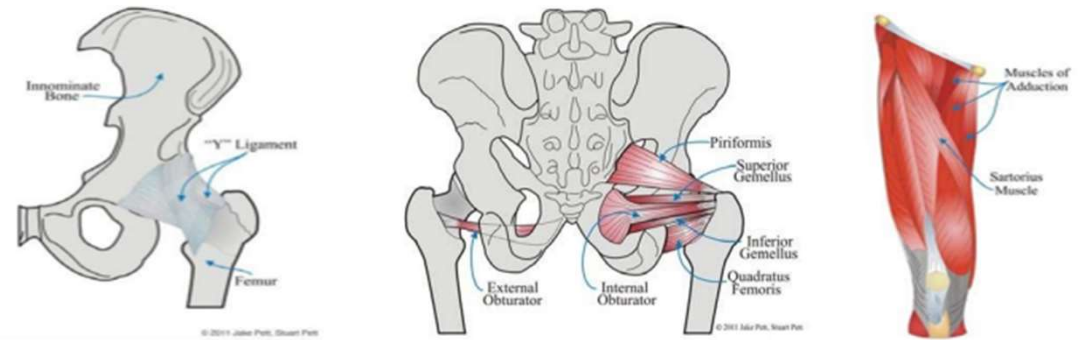
40% of total turnout → 35°



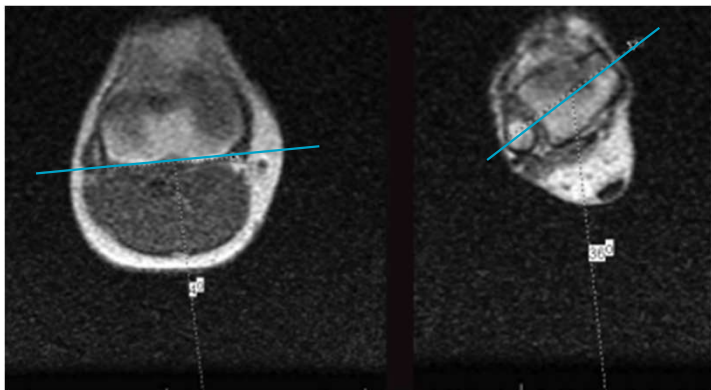
Is it anatomical?



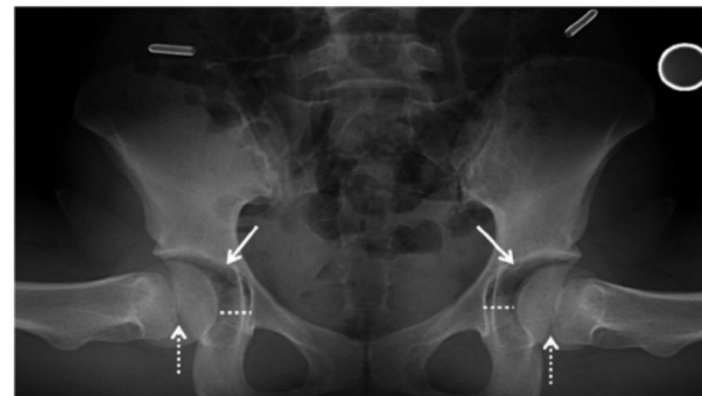
(Wilmerding & Krasnow 2011)



(Wilmerding & Krasnow 2011)



(Grossman, 2017)



(Harris et al 2016)

Definitions

Anatomical Turnout → hip joint passive external rotation

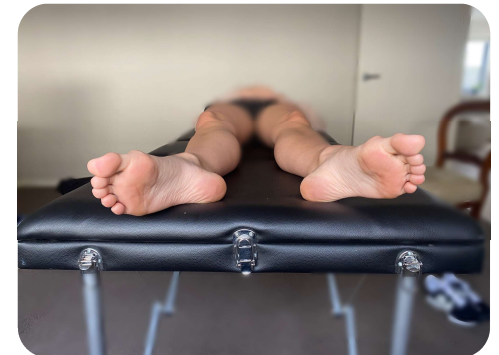
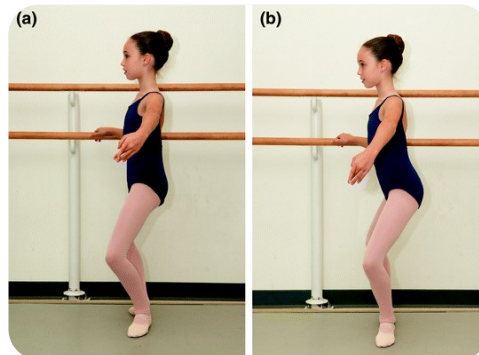
Functional Turnout → position assumed by the dancer in weightbearing

Compensated Turnout → functional turnout minus anatomical turnout

(van Merkensteijn & Quin, 2015; Parr et al, 2022; Quanbeck et al, 2017; Champion & Chatfield, 2008)



Compensated Turnout

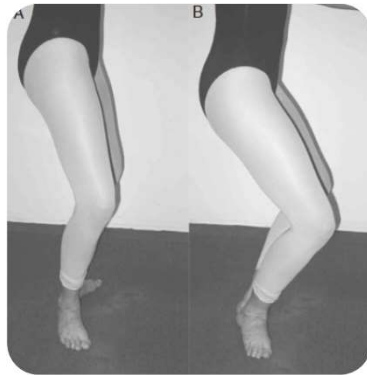


(Southwick & Crupi, 2017)

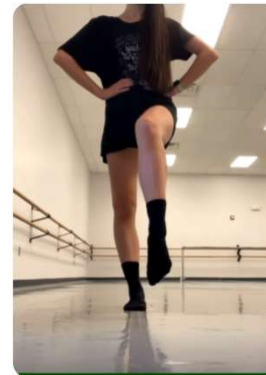
The Kinetic Chain



(Carter et al 2019)



(Negus et al, 2005)



(C.A, 2022)



(Carter et al 2019)

Assessment of Turnout



(Gorwa et al 2020)



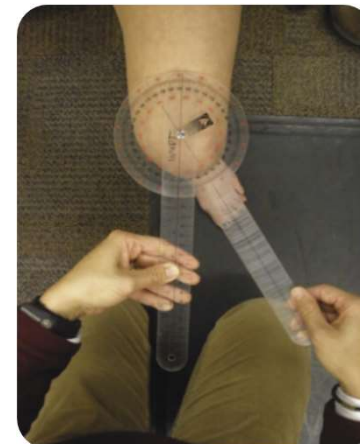
(Grossman, 2017)



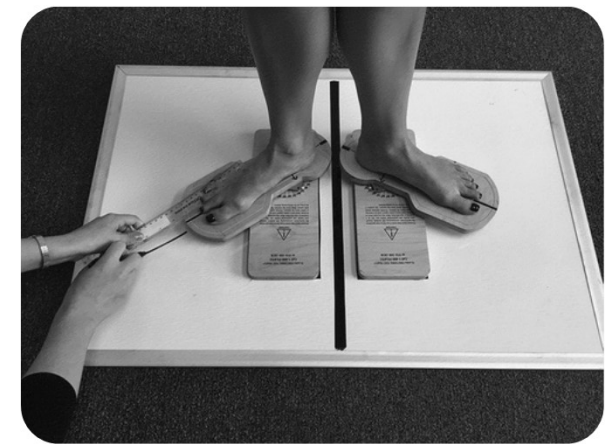
(Sherman et al, 2014)



(Howell, 2022)



(Khoo-Summers et al 2013)



(Greene et al 2019)

Addressing Turnout



(The Australian Ballet, 2021)



(Howell, 2022)

Questions?



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