

# **Are dancers more susceptible to injury when transitioning to fulltime training or professional companies? A systematic review and meta-analysis**

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Overuse injuries in athletes can be a consequence of disproportionate training loads with insufficient recovery<sup>1-2</sup>. Emerging athletes in their first year of competition in the professional Australian Football League have been shown to have a lower threshold to injury compared to more experienced athletes<sup>3</sup>. In the dance medicine literature, a systematic review<sup>4</sup> includes two investigations considering the risk of younger or lower ranked dancers. The first reported that younger dancers sustained more ankle sprains, and dancers experiencing bone stress injuries were younger than the average age of the company<sup>5</sup>, whereas in the second investigation, the rank of dancers in a professional ballet company was shown not to be related to injury<sup>6</sup>. This systematic review aims to investigate whether dancers are more susceptible to injury at two key stages of their training and career development: transitioning to full-time training, when they experience an increase in training hours; and transitioning to professional companies, when performance demands increase. Six electronic databases have been searched to July 15, 2017: Pubmed, Embase, CINAHL, SPORTdiscus, Scopus, and the Performing Arts Periodicals Database. Only original studies in ballet and/or contemporary dance that reported injuries across age, rank, years of experience, junior and main companies, and year level in training institutions were included. Where possible, effect size ratios were calculated from extracted data from the included studies, and when supplied by authors of included studies, for transitioning dancers relative to seniority. 16 studies were included and assessed for risk of bias. The rate ratio per working hours was calculated from extracted data from two professional subgroup longitudinal cohort studies<sup>7-8</sup> (N. Allen, personal communication, April 19, 2016; S. Ojofeitimi, personal communication April 16, 2016). These two studies were pooled to reveal that the rate of injuries per work hours is significantly higher for lower ranked and junior company professional ballet and contemporary dancers relative to more senior dancers. Other included studies that reported on the susceptibility to injury of transitioning dancers, will be presented. The findings will be discussed in relation to identifying transitioning training loads, in an effort to guide load management prevention strategies.

## References

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