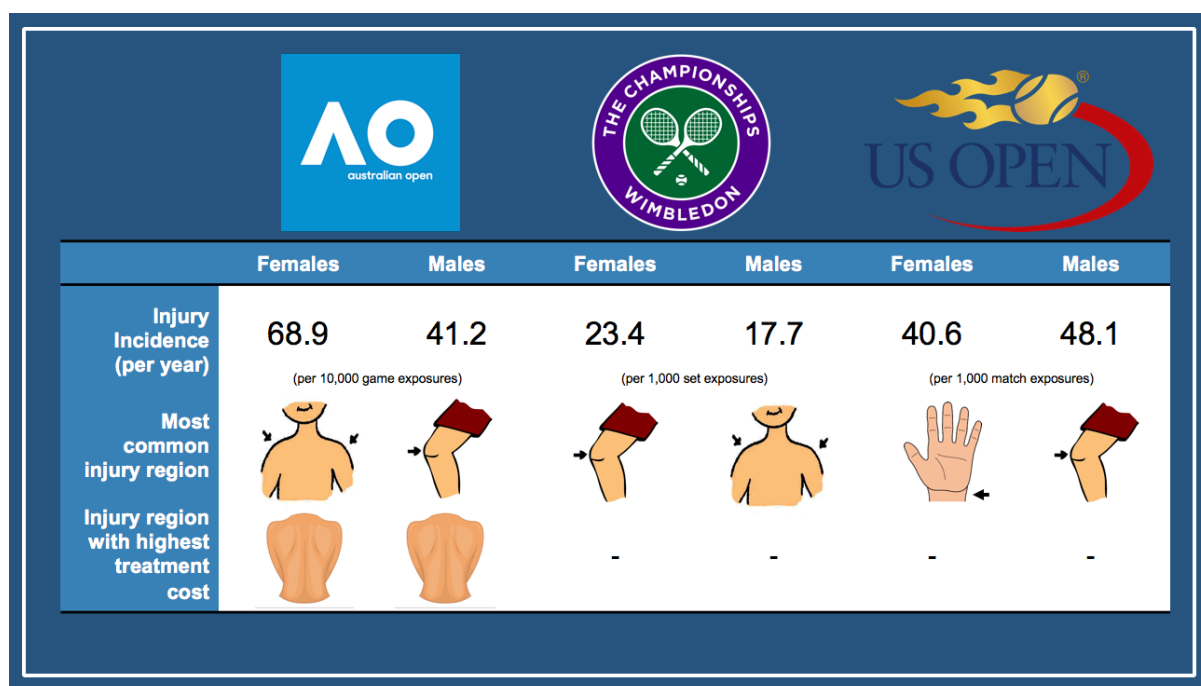


Injuries throughout the elite tennis pathway

Injuries are common throughout the elite tennis pathway and can be detrimental to a player’s development, ranking progression and subsequent success in the sport. Tennis injuries are typically attributed to a combination of training and match play loads, court surface, age, equipment, injury history and physical condition of the player. However, in understanding how to mitigate these injury risks, it’s important to firstly understand *what* injuries occur in elite tennis and whether they change throughout the pathway.

To start, an exploration of common injuries that occur at the Grand Slams highlights the injury profile of the pinnacle of the elite tennis pathway. The injury profile of the Australian Open (2011-2016), Wimbledon (2003-2012) and the US Open (1994-2009) have all been explored by different research groups. The findings suggest that there is disparity in the injury incidence by sex across the events, but similarities in the body regions of injury (Figure 1). The shoulder, knee and wrist were found to be the most common injury regions across all three Grand Slams. Additionally, unique to the research exploring injuries at the Australian Open, was the quantification of severity of injuries. Specifically, how many times an athlete had to seek treatment for the same injury. This research revealed that the torso region had the highest treatment cost in both male and female Australian Open players. This suggests it is the body region of most risk of serious/severe injury in professional tennis players.





The injury profile of elite junior tennis players, who are ultimately the up-and-comers of the sport, have been limited in the research, and subsequent understanding, until recently. The same research group who profiled Australian Open injuries, explored injuries in elite, junior Australian tennis players within the Tennis Australia National Academies over a five-year period. Interestingly, the findings suggest similarities in the body region and severity of injuries throughout the elite tennis pathway. Specifically, the lumbar spine and shoulder were the most common body regions of injury in both elite junior male and female tennis players. Additionally, both body regions had the highest severity defined as the most number of days of lost training/competition due to injury.

Overall, the injuries that occur throughout the elite tennis pathway are relatively consistent, with the shoulder and torso, specifically the lumbar spine, being prominent injury sites. The biggest question is 'why?'.

The reasons for such can vary, but one culprit is likely to be the serve. The serve requires large ranges of motion and fast rotational demands which exploit both the shoulder joint and lumbar spine. Given elite tennis players must hit high serve loads within a match and over a tournament, the strain on these body regions can accrue and is likely to manifest in injury risk. Therefore, in order to mitigate the risk, the suggestion is not to limit serves within training but rather do the opposite. Serves should be periodised and progressed to match and tournament loads in order for players to be physically resilient to the required loads and subsequently limit their injury risk.

Overall, the findings suggest that the body regions of injury remain unchanged throughout the elite tennis pathway. Although disheartening, this provides valuable insight for targeted injury prevention and training strategies.

By Danielle Gescheit