INTRODUCTION

Rugby League (RL) players require a plethora of physical qualities including; strength, power, speed and agility (4). To optimise RL performance, efforts should be made to enhance these physical qualities concurrently, through structured training protocols. Although the role of an optimal WU is well documented, the belief is that an effective WU positively affects numerous physiological and mechanical factors. It is also well established that an effective WU can elicit a beneficial effect on performance (5). Dynamic stretches, exercises that involve quick changes in direction and speed, have been shown to improve the overall efficiency and performance of athletes (6). Several studies have shown that incorporating dynamic stretches into a WU protocol can increase vertical jump performance (7). The introduction of dynamic WU protocols to a training regimen has been shown to increase power, speed and agility (8) and thus improve performance and injury risk (9).

Certain common elements of WU such as static stretching (5) have come under critical scrutiny (11). Authors have reported impairments in strength (5), lower extremity power (9), and 4% – 4.5% MVC, lower extremity power (9) when acute bouts of SS have been implemented into a WU protocol (2, 7, 8, 10, 11). It has been suggested that SS should be removed from the WU routines of elite rugby league due to its detrimental effect on performance and injury prevention (11). However, the incorporation of dynamic WU protocols and stretching methods have led to significant benefits in the prevention of injury and the aforementioned physical qualities (3). Due to the beneficial physiological effects such as post-activation potentiation, an increase in core temperature and a decrease in muscle stiffness and tension, SS is often advocated for injury prevention (10). Hence, the aim of this study was to investigate the perceptions of both amateur and professional RL players and secondly to investigate the athletes in their sport. Therefore, this study aimed to firstly investigate the WU protocols at both a professional and amateur standard was clearly apparent, whilst only 22% of participants started their WU with SS. 83% Professional and 70% Amateur players claimed to perform a mixed SS and a Dynamic WU protocol (P > 0.05). The questionnaire also revealed the prevalence of SS; 83% of professional and 70% of professional players claimed to perform SS during their WU. The focus group revealed that RL players’ protocols and perceptions of these regime are due to the influence of others such as coaches, strength and conditioning practitioners and physiotherapists and emphasises the importance of ensuring all participants place SS at the commencement of their WU.

RESULTS

Questionnaire

- There was a significant difference within WU duration for the two standards (P < 0.0001). Professionals WU protocols were commonly longer in comparison to Amateur protocols (67% of Professionals performed WU for 15 min whereas only 42% of Amateurs performed WU for 15 min).
- No other significant differences (P > 0.05) existed between Professional and Amateur players for ‘Protocols of (method of WU)’. ‘Perception variables (benefit of WU routine)’, ‘Static stretching routine’ and ‘Similarity of the WU protocol over career span’.

- In total 73 of 80 Professional and 70 Amateur players claimed to perform static stretching (5), 41 of these claimed to perform dynamic stretching (20) and finished with SS, whereas only 22 performed SS before DS. 83% Professional and 70% Amateur players claimed to perform a mix of SS and DS.
- Most who were surveyed stretched for 0-15 s or longer (56% of Professionals; 75% of Amateurs). In total 81 of 83 claimed to prepare a pre-match activity at the beginning of their WU with the aim of increasing their heart rate.
- Although non-significant (P > 0.074), it was revealed that 60% of Professional players consider their protocols have changed throughout the years however, 83% of Amateurs believe their protocols have remained the same.
- More Professional (50%) and Amateur (45%) players believed their WU protocol reduced risk of injury, choosing this perceived benefit over other aspects such as performance enhancement. 70% of Professionals and 72% of Amateurs claimed their beliefs were influenced by the opinion of others (i.e. Strength & conditioning coach, RL coach).

- The general dimension ‘WU duration’ witnessed typical responses from Amateur players explaining their WU protocol can beonomised and rushed on occasions, often affecting the intensity of their WU, whereas, the Professionals reported a consistently well-structured WU.
- Regarding ‘Preparatory activity’, it became apparent that the Professionals tend to incorporate a ball handling drill whereas the Amateurs seem to take part in jogging activities alone (Table 3).

- The focus group findings were in agreement with the questionnaire concerning ‘Contents and order of WU’, where in general, static stretching was followed by Dynamic WU.

- Concerning the theme ‘Perceived benefits of WU’, injury prevention was the most popular perceived benefit of WU, however, both focus groups highlighted the importance of maintaining injury prevention as one of the four sub-themes perceived to benefit from WU (Table 3).

- The dimension ‘Similarity of WU protocol’ derived from the focus group also supported findings from the questionnaire. Interviewed Amateurs perceive their WU to be very similar since they began playing RL, whereas, Professionals considered their WU to have changed throughout their playing career. These findings outlined by Professionals included the inclusion of dynamic movements, more specific movements / drills and a longer WU duration.

CONCLUSIONS

This study highlighted the high prevalence of static stretching within rugby league warm up routines at both professional and amateur level and rejects the opinions that suggest static stretching has been removed from most major sports such as Rugby League. It is also interesting to note the order (dynamic then static) in which stretches are performed and provides evidence to further support the research conducted in this area and could lead to performance decrements. This study also concluded that the protocols and perceptions of players are predominantly due to the influences of others such as coaches.

REFERENCES


PRACTICAL APPLICATIONS

It is recommended that coaches, strength and conditioning practitioners and other key influential figures are appropriately educated on optimal evidence based warm-up up procedures prior to prescribing any warm-up protocol. It is also important for coaches and strength and conditioning practitioners to be aware of the research conducted in this area and could lead to performance decrements. This study also concluded that the protocols and perceptions of players are predominantly due to the influences of others such as coaches.