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# The role of limb preference during the tackle in women's rugby union: Effect on success rate, quality and impact level.

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## Background

- Tackling is a key attribute in rugby union and tackle technique can directly affect the outcome of a match (Hendricks & Lambert, 2014).
- Incorrect tackle technique is a factor in rugby-related injuries (Burger et al, 2016)
- Correct tackling technique reduces injury incidence and improves tackle success (Sewry et al, 2015)
- Performance of a tackle may be attributed to the limb preference of the player completing the tackle, where limb preference relates to the choice of shoulder used to affect the tackle.

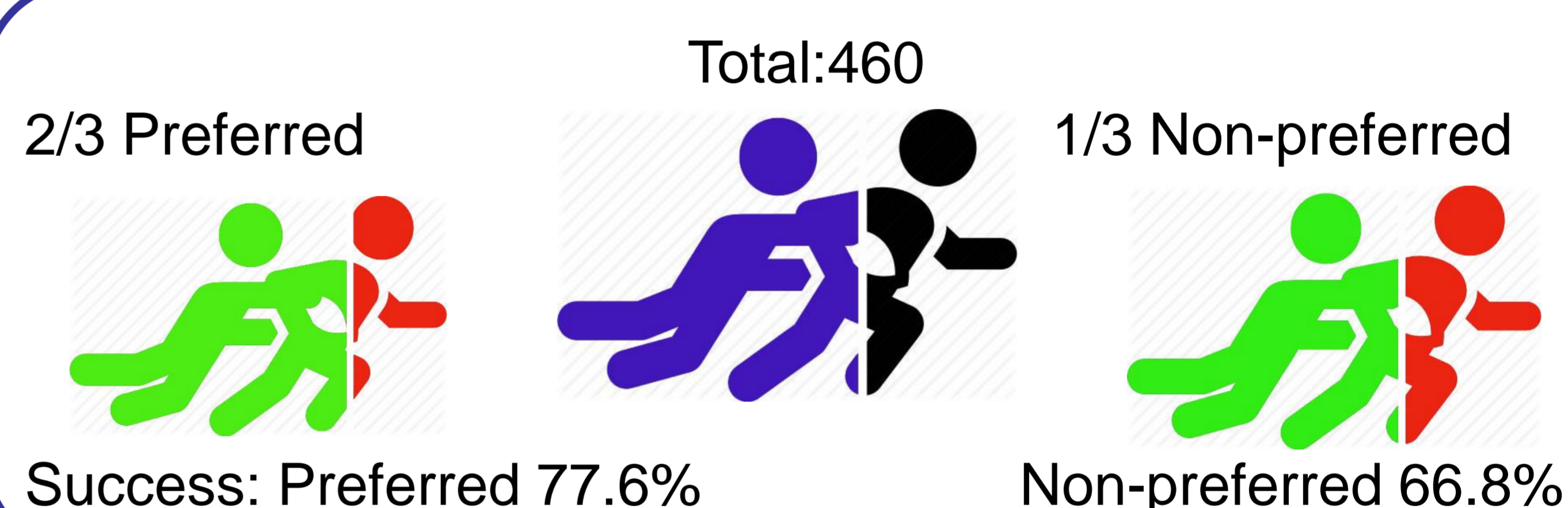
## AIM:

To identify if a relationship between limb preference and tackle outcomes was evident through an examination of the success rate and quality of tackles during match-play and biomechanically measured impacts in tackles performed on a tackle bag.

## Match-Play Tackle Assessment

- 4 Tyrrell's Premier15s League matches
- Video-analysis using Longomatch
- All tackles identified and coded based on tackler side and tackle success
- Tackle quality determined by qualitative assessment of technique (Criteria in Burger et al, 2016)

## Findings



## Good Tackle Technique:

Preferred 95.2% / Non-preferred 89.1%



Eyes on the ball carrier  
Head to side of ball carrier  
Shoulder contact with torso  
Tackle complete with head on top

## Poor Tackle Technique:

Preferred 4.8% / Non-preferred 10.9%

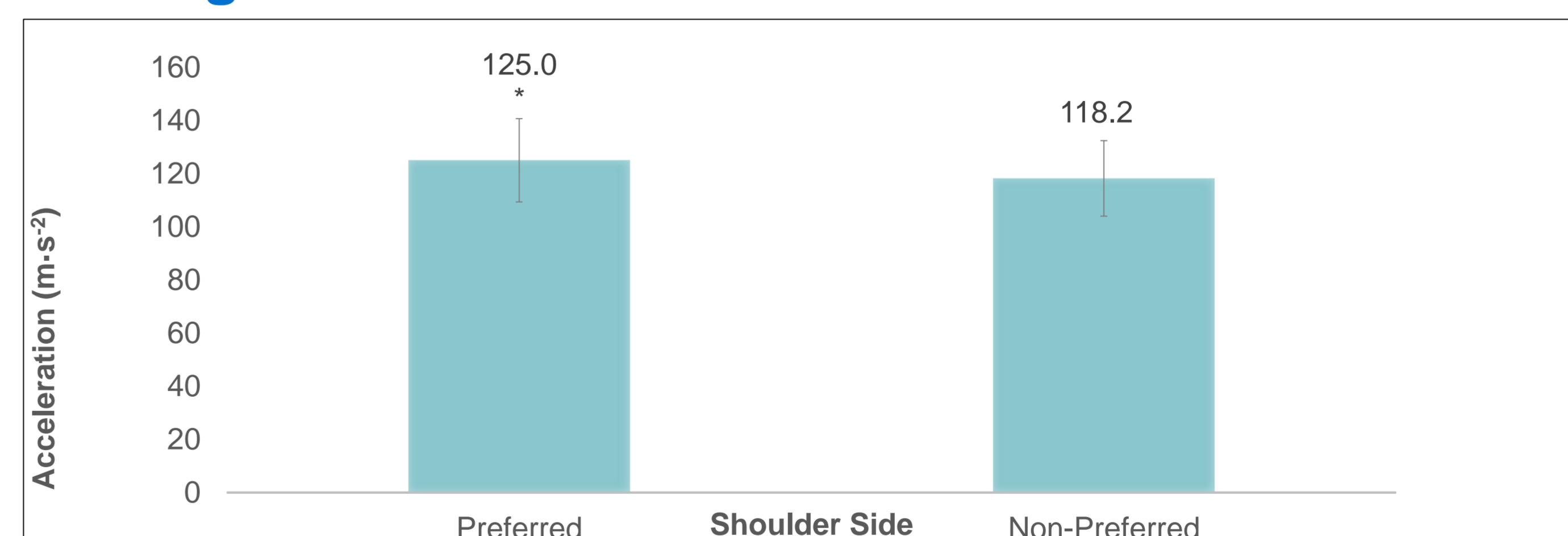


Player attempts to tackle with preferred shoulder  
Head caught across body  
Impact on crown of the head  
Tackler pushed up and back

## Practice Tackle Assessment

- Practice Tackle Assessment
- 13 players (age 26±5 years; height 168.3±7 cm; weight 73.1±9 kg); 6 forwards/7 backs
  - Pasco Capstone 3-axis accelerometer integrated inside a 23kg Centurion tackle bag at shoulder height.
  - Three tackles with the right and left shoulders
  - Maximum horizontal acceleration measured

## Findings



## Conclusions

- Tackle performance is influenced by players' limb preference - greater number of successful tackles produced with the preferred limb
- Preferred shoulder results in significantly ( $p=0.28$ ) greater impact accelerations that are likely to stop the opposition player
- Attempting to use the preferred shoulder may place players in a dangerous position due to poor technique
- Coaching should aim to improve tackle proficiency of both shoulders to improve confidence in using the non-preferred shoulder.

## References

- Hendricks & Lambert (2014). *J Sports Sci Med*, 13(3): 715-717.  
 Burger et al. (2016). *Br J Sports Med*, 50(15): 932-938.  
 Sewry et al. (2015). *Int J Sports Sci Coach*, 10(6): 1115-1128.