



## Short Communication

# Real-World Observations from a First Season of the Rugby Union “Activate Programme” for Injury Risk Reduction in a U19 Men’s Team in North Carolina, USA

Claude Hughes\*

Departments of Obstetrics and Gynecology, Duke University Medical Center, and Mathematics, North Carolina State University, USA

\*Corresponding author: Claude Hughes, Departments of Obstetrics and Gynecology, Duke University Medical Center, and Mathematics, North Carolina State University, USA. Tel: +19196493920; Email: clhughes@ncsu.edu

**Citation:** Hughes C (2018) Real-World Observations from a First Season of the Rugby Union “Activate Programme” for Injury Risk Reduction in a U19 Men’s Team in North Carolina, USA. Sports Inj Med 02: 135. DOI: 10.29011/2576-9596.100035

**Received Date:** 28 June, 2018; **Accepted Date:** 06 July, 2018; **Published Date:** 16 July, 2018

### Abstract

We implemented an adapted version of the “Activate Programme” for our U19 men’s rugby team for the 2018 season. Since we had systematically documented all injuries that led to missed time from training or match play for all players in the 2017 (before) and 2018 (after) seasons, I compared the descriptive data regarding our team’s experience with injuries. These observational data suggest that the Activate Programme may have contributed to our lower number of injuries in the latter of the two seasons.

### Commentary Text

In youth sports, especially contact sports, adult leaders including parents, coaches and officials bear the responsibility for implementing processes that can minimize the risk of injuries while preserving the benefits of participation. In the sport of rugby, there is an appropriate high level of concern about the risk of concussions and other injuries [1] and the sport has taken strong stances at all levels to inform players, parents, coaches, referees and all other authorities in the sport about recognition, removal from play and strict guidelines about return to play after any concussive injury. From a coach’s perspective, reduction of risk of injury of all types including concussions depends upon thorough coaching of proper techniques especially those related to tackling, rucking and scrummaging. Additionally, player fitness, adherence to the laws of the game and the ethos of respect for the opponent are also factors that plausibly reduce the risks of injuries during practices and matches.

As the injury registrar and a Back’s Coach (USA Rugby Level 200) for our U19 Chapel Hill Highlanders men’s team, I have used the commercially available injury tracking system “Injure Free” [<http://www.injurefree.com/>] for the last two seasons (2017 & 2018) to document all observed and reported injuries by players during our preseason training intervals (NOV 2016-JAN

2017 and NOV 2017-JAN 2018) and competitive seasons (FEB-MAY 2017 and FEB-MAY 2018). This injury-tracking system also allows documentation of compliance with return-to-play protocols consistent with good medical practices and the requirements of USA Rugby.

Between the 2017 competitive season and the beginning of the preseason training in NOV 2017 (for the 2018 competitive season), I became aware of the new “Activate Programme” [<http://www.englandrugby.com/rugbysafe/activate/>] developed by investigators at the University of Bath with support of the Rugby Football Union (RFU) in England [2,3]. After careful consideration of the potential benefits, we instituted an adapted version of the Activate Programme from the RFU/SRU in early NOV 2017 in the preseason for the 2018 season and progressed it across our 2018 season.

Our team competes as a U19 “High school” team in the USA, so we have players spanning four grade-levels with ages 15-18 years. To address this age range, with a season duration that does not match that in the UK, and with the Activate Phases available from the RFU as of OCT 2017, I empirically chose to adapt the programme as follows with approximate durations of each phase:

From the RFU Activate Program [<http://www.englandrugby.com/rugbysafe/activate/>]

- U15 Phase 1: 2 weeks
- U15 Phase 2: 2 weeks
- U16 Phase 1: 2 weeks
- U16 Phase 2: 2 weeks
- U17/18 Phase 1: 3 weeks
- U17/18 Phase 2: 3 weeks

And then from the SRU Rugby Right Activate Phases 1-5 [http://www.scottishrugby.org/rugbyright-activate-warm-routine]

- Rugby Right Activate Phase 2: 4 weeks
- Rugby Right Activate Phase 3: 6 weeks (end of season)

Compliance with the respective phase of the Activate warm-up routine was required of all players at our two or three practices per week and before all matches.

The players initially reacted to the new routines with a certain degree of silly disdain. They were repeatedly told that this was a data-based approach to reduce their individual and collective risk of

injuries, and to reduce their chances of missing playing time due to injury. Over time, and as the Activate routines became more intense, the jesting dissipated and the focus on the work at hand solidified.

After completion of the 2018 season, I retrieved the 2017 and 2018 data from our Injure Free Account Table 1 and have considered the extent to which these results of the team’s documented injuries might provide some insights, whether reassuring or worrisome. As these are only uncontrolled “observational data,” it would not be scientifically rigorous to claim that a cause and effect relationship between use of the Activate Programme and our incidence of injuries can be concluded. Nonetheless, all human health and safety research projects must move into a “real-world” setting to have any broad public health benefit, and observations and experiences in that setting are ultimately essential to acceptance or rejection of any new practice(s). With these limitations outside of a carefully designed research study and with admittedly modest numbers of players and rather few events, I am nonetheless willing to say that I think these observational data suggest that the Activate Programme may have contributed to our lower number of injuries leading to missed training and playing time in the latter of the two seasons.

Season	2017	2018
Players on active roster	31	36
Total Injuries that led to missed training or match play	18 injuries in 14 players	9 injures in 8 players
Concussion*	6	2
Contusion	1 (foot)	0
Fracture	0	1 (hand)
Laceration	0	1 (eyebrow)
Shoulder “Stinger”	0	2
Sprain	4 (1 wrist; 3 ankle)	2 (ankle)
Strain	7 (3 back; 4 lower extremity)	1 (lower extremity)
* No player experienced more than 1 concussion in either or both seasons.		

**Table 1:** Roster Size and Injuries in 2017 and 2018.

These data can be considered a quasi-experimental design in that “treatment” allocation is not random [4]; nevertheless, as is often the case with medical studies [4] where the impact of an intervention leads to a comparison of “before” and “after,” it seems reasonable to assess the data with a statistical tool. I chose to apply the non-parametric Mann-Whitney U test to compare the numbers of injuries in the two seasons.

- For total injures comparing 2017 to 2018;

Sum of ranks for Group 1 is 1238.5, for n= 31; Sum of ranks for Group 2 is 1039.5, for n= 36

Value of U statistic is 373.5; z score is 2.320067; z critical (5%, two-tailed) is 1.959964 and p value is 0.020337.

- For concussions only comparing 2017 to 2018;  
Sum of ranks for Group 1 is 1168, for n = 31; Sum of ranks for Group 2 is 1247, for n = 38

Value of U statistic is 672; z score is 1.001260; z critical (5%, two-tailed) is 1.959964 and p value is 0.316701.

Although these data do NOT represent a concurrent, double-blind, randomized placebo or standard regimen-controlled trial, I have considered whether these descriptive data offer at least

some plausible reason to choose to continue use of the Activate Programme in future seasons. Did we see any suggestion of apparent harm in 2018? No. Did we see any suggestion of apparent benefit (risk reduction) in 2018? Seemingly, yes. Some understandable concerns have been recently raised about broad adoption of this programme in the sport of rugby for youth [5]. I wish to suggest that our modest limited experience with our U19 men’s team in North Carolina, USA appears to suggest benefit in terms of improved player safety and we shall continue use of the Activate Programme for our 2019 season.

## References

1. Quarrie KL, Brooks JHM, Burger N, Hume PA, Jackson S (2017) Facts and values: on the acceptability of risks in children’s sport using the example of rugby - a narrative review. *Br J Sports Med* 51: 1134-1139.
2. Hislop MD, Stokes KA, Williams S, McKay DC, England ME et al. (2017) Reducing musculoskeletal injury and concussion risk in school-boy rugby players with a pre-activity movement control exercise programme: a cluster randomised controlled trial. *Br J Sports Med* 51: 1140-1146.
3. Attwood MJ, Roberts SP, Trewartha G, England ME, Stokes KA (2018) Efficacy of a movement control injury prevention programme in adult men’s community rugby union: a cluster randomized controlled trial. *Br J Sports Med* 52: 368–374.
4. Swinscow TDV, Campbell MJ (1997) *Statistics at Square One* (9<sup>th</sup> Edition). Chapters 9 and 13. BMJ Publishing Group.
5. White AJ, Batten J, Kirkwood G, Anderson E, Pollock AM (2018) ‘Pre-activity movement control exercise programme to prevent injuries in youth rugby’: some concerns. *Br J Sports Med*.