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Table 1. Tackle descriptors and definitions

Contact	Description
Type of tackle	
Arm tackle	Tackler impedes ball-carrier with upper limbs
Collision tackle	Tackler impedes ball-carrier without the use of arms
Jersey tackle	Tackler holds ball-carrier's jersey before impeding ball-carrier with upper limbs
Lift tackle	Tackler raises ball-carrier's hips above ball-carrier's head
Shoulder tackle	Tackler makes contact with their shoulder as the first point of contact
Smother tackle	Tackler uses chest and wraps both arms around ball-carrier
Tap tackle	Tackler trips ball-carrier with hand on lower limb below the knee
Missed tackle	Tackler fails to tackle the ball-carrier, thus allowing the ball-carrier to advance during open play
Direction of tackle	
Front	Tackler makes contact head-on with ball-carrier
Side	Tackler makes contact with the ball-carrier's side
Oblique	Tackler makes contact with ball-carrier at an angle
Behind	Tackler makes contact with ball-carrier from behind
Body region of ball-carrier struck	
Legs	Area between tackler's hips and toes
Mid-torso	Above the tackler's hip level to the level of the tackler's arm pit
Shoulder/arm	From the tackler's arm pit level to the shoulder level, including the arm/hand
Head and neck	Above the shoulder (contact with the head/neck)
Ball-carrier fend	
Absent	Provided no fend
Moderate	Provided a light to moderate fend (e.g. swat or slap technique)
Strong	Provided strong fend (e.g. push technique)
Post Contact	
Leg drive by tackler	
Absent	No leg drive
Moderate	Moderate knee movement, with no high lift
Strong	High, rapid knee lift
Leg drive by ball-carrier	
Absent	No leg drive
Moderate	Moderate knee movement, with no high lift
Strong	High, rapid knee lift
Territorial Change	
The direction of progression the tackler and ball-carrier made (as a single unit) with reference to the gain line (an imaginary line that is drawn through the middle of the set piece/breakdown) from the point of contact to the point where both players went to ground.	
Ball-carrier	Ball-carrier advances over the gain line.
Tackler	Tackler advances over the gain line
None	Neither the ball-carrier nor the tackler advance over the gain line
Tackle Outcomes	
Offload	The ball-carrier is able to pass the ball to a teammate during the tackle
Tackle break	The ball-carrier successfully penetrates the attempted tackle and continues to advance
Ruck formed	When an offload or tackle break does not occur, and either player goes to ground to form a ruck. A ruck is a phase of play whereby one or more players from each team, who are on their feet, in physical contact, close around the ball on the ground (worldrugby.org).
Possession lost	The attacking team is unable to advance through an offload or tackle break, or form a ruck, and lose the ball either through an infringement or error

Table 1 (Continue). Ruck and match situation descriptors and definitions

Ruck	Description
Number of Players at Ruck: Attack	
0 - 2	Number of attacking players actively engaging in the ruck contest
3 - 5	Number of attacking players actively engaging in the ruck contest
6 - 8	Number of attacking players actively engaging in the ruck contest
Number of Players at Ruck: Defence	
0 - 2	Number of defending players actively engaging in the ruck contest
3 - 5	Number of defending players actively engaging in the ruck contest
6 - 8	Number of defending players actively engaging in the ruck contest
Ball-carrier falling direction	
Forward	Ball-carrier falls with the ball positioned between the ball-carrier and the opposition's try-line
Sideward	Ball-carrier falls with the ball positioned between either side-line
Backward	Ball-carrier falls with the ball positioned between the ball-carrier's own try-line
Active ball placement	
Yes	Ball-carrier actively placed the ball after going to the ground to continue play
No	Ball-carrier fails to actively placed the ball after going to the ground to continue play
Ruck arrival time: Attack	
Early	Ball-carrier teammates are first to arrive and engage in the ruck
Late	Tackler teammates are first to arrive and engage in the ruck
Activity at the ruck: Attack	
Clearing	Attackers are actively driving opponents off the ball
Protecting the ball	Attackers are positioned over the ball to prevent opponents access
Clearing and protecting	Attackers actively clears the ruck first, before protecting the ball
Protecting and clearing	Attackers actively protects the ball first, before clearing the ruck
Activity at the ruck: Defence	
No Pressure	Defenders are not actively attempting to regain possession
Early counter ruck	Defenders compete for the ball without the use of their hands before attackers had secured possession
Late counter ruck	Defenders compete for the ball without the use of their hands after attackers had secured possession
Jackal	A defender competes for the ball using his hands after a tackle was made but before a ruck is formed
Ruck Outcome	
Possession maintained	Attacking team maintains possession of the ball after the ruck contest and it's available to play
Attack lost possession	Attacking team fails to maintain possession of the ball after the ruck contest
Match Situation	
Match Period	Each match was divided into four periods of 20 minutes (1st, 2nd, 3rd and 4th period)
Match Status	Whether the attacking team was winning, losing or drawing at the time of the contact event, based on the score
Field Position (Vertical)	The field was divided into vertical quadrants between the two try-lines with quadrant A representing the area closest to attacking team's own try-line, and quadrant D representing the area closest to the opposition try-line
Field Position (Horizontal)	The field was divided into horizontal quadrants between the two touch lines with quadrant 1 representing the area furthest away from the camera, and quadrant 4 representing the area closest to the camera view

Table 2: Multinomial logistic regression for offload and tackle break in the Six Nations. Data are reported as relative risk ratios (RR) and 95% confidence intervals (95% CI). RR interpretation and p value are also reported.

	Six Nations			
Offload (vs. Ruck formed)	RR	95% CI	Interpretation	p value
Time quarter in match (1 st quarter)				
3 rd quarter	1.6	1.1 - 2.2	small	0.01
Tackle direction (Front)				
Behind	3.0	1.9 - 4.6	large	<0.001
Oblique	1.5	1.2 - 1.9	small	0.001
Side	1.9	1.4 - 2.7	small	<0.001
Fend (Absent)				
Moderate	1.4	1.0 - 1.9	small	0.02
Strong	4.5	2.2 - 9.2	large	<0.001
Leg Drive by Ball-carrier (Absent)				
Strong	2.3	1.6 - 3.2	moderate	<0.001
Tackle Break (vs. Ruck formed)				
Type of tackle (Shoulder tackle)				
Jersey Tackle	2.9	1.3 - 6.4	moderate	0.01
Time quarter in match (1 st quarter)				
4 th quarter	0.5	0.3 - 0.8	small	0.01
Match Location (Away)				
Home	1.5	1.0 - 2.2	small	0.04
Match Status (Losing)				
Winning	0.4	0.2 - 0.8	small	0.009
Tackle direction (Front)				
Oblique	2.3	1.5 - 3.4	moderate	<0.001
Side	4.0	2.5 - 6.5	large	0.000
Fend (Absent)				
Moderate	5.1	3.5 - 7.4	large	<0.001
Leg Drive by Ball-carrier (Absent)				
Moderate	14.9	5.7 - 39.3	very large	<0.001
Leg Drive by Tackler (Absent)				
Moderate	0.1	0.1 - 0.2	moderate	<0.001
Vertical field position (Quadrant A)				
Quadrant B	0.5	0.2 - 1.0	small	0.06
Quadrant C	0.3	0.1 - 0.6	small	0.002
3 Quadrant D	0.3	0.1 - 0.7	small	0.004

Table 3: Multinomial logistic regression for offload and tackle break in the Championship. Data are reported as relative risk ratios (RR) and 95% confidence intervals (95% CI). RR interpretation and p value are also reported.

Offload (vs. Ruck formed)	Championship			
	RR	95% CI	Interpretation	p value
Type of tackle (Shoulder tackle)				
Jersey Tackle	3.0	1.3 - 6.8	large	0.008
Tackle direction (Front)				
Behind	2.7	1.3 - 5.8	moderate	0.01
Oblique	1.6	1.1 - 2.3	small	0.02
Side	1.7	1.0 - 2.8	small	0.03
Fend (Absent)				
Moderate	2.5	1.6 - 3.9	moderate	<0.001
Strong	6.4	1.5 - 26.6	very large	0.01
Leg Drive by Ball-carrier (Absent)				
Moderate	0.4	0.3 - 0.6	small	<0.001
Strong				
Horizontal field position (Quadrant 1)				
Quadrant 3	0.6	0.4 - 1.0	small	0.05
Quadrant 4	0.5	0.3 - 0.8	small	0.003
Tackle Break (vs. Ruck formed)				
Type of tackle (Shoulder tackle)				
Jersey Tackle	2.3	0.9 - 5.7 [^]	moderate	0.07
Tackle direction (Front)				
Oblique	2.7	1.7 - 4.2	moderate	<0.001
Side	3.9	2.3 - 6.5	large	<0.001
Fend (Absent)				
Moderate	5.5	3.8 - 8.1	large	<0.001
Leg Drive by Ball-carrier (Absent)				
Moderate	11.9	6.2 - 22.6	very large	<0.001
Leg Drive by Tackler (Absent)				
Moderate	0.1	0.1 - 0.2	moderate	<0.001
Horizontal field position (Quadrant 1)				
Quadrant 4	0.5	0.3 - 0.9	moderate	0.01