

Appendix 1: Match Descriptors and Definitions

DESCRIPTOR	DEFINITIONS
Ball in play time ²⁹	The amount of time the ball is in the possession of any of the players or is in a position where either team can contest the ball. Time when play has been stopped by the referee is considered out of play and does not contribute to ball in play time.
Match Period ^{23,31}	Each match is divided into four periods of 20 minutes (1st, 2nd, 3rd and 4th period)
Field Position ^{23,31}	Vertical - The field was divided into vertical sections between the two try-lines. A representing the area between the attacking team's 22m line and own try-line, B the area between attacking team's 22m line and half-way line, C the area between the opposition 22m line and half-way line and D representing the area between the opposition 22m and try-line. 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
Field location	Name of field or home team or town/city of match field.
Match Status ^{23,31}	Whether the attacking team was winning, losing or drawing at the time of the contact event, based on the score
Total tries	Count of tries by the attacking and defensive teams during the match
Total conversions	Total number of conversions by the attacking and defensive teams during the match
Total of successful conversions	Total number of successfully converted conversion by the attacking and defensive teams during the match
Final Score	Final score of the match
Points difference	Points difference between winning and losing teams
Total yellow cards	Total number of yellow cards given by referee during the match
Total red cards	Total number of red cards given by referee during the match
Total foul plays	Total number of foul plays during the match (definitions of foul play can be found in the World Rugby Law Book)
Total number of passes	The number of times the ball is transferred between attacking players
Total number of line breaks	The number of times a ball-carrier moved through a straight line between two defenders, or a defender and the touchline, without being physically contacted by a defender
Total number of out of hand kicks	The number of times the ball is kicked out of hand by a player
Total number kicks into touch	The number of times the ball is kicked out of play
Weather conditions (more than one can be recorded)	Hot Overcast Dry Cold Light Rain Windy Heavy Rain Other (specify)
Pitch conditions (subjective rating of level of quality of the pitch)	Poor Fair Good Very good Excellent

Appendix 2: Primary tackler and ball-carrier contact proficiency criteria for front-on tackle ^{20,22,24,32}**Tackler****Pre-contact**

Identify ball-carrier onto shoulder

Body position - upright to low

Keep back straight, and centre of gravity ahead of base of support

Alignment square to ball-carrier

Assume 'boxer stance' - elbows low and close, hands up

Head up and face forward

Shortening steps

Approach from front/oblique

Identify the ball carrier and position body to ensure shoulder contact is made
Reposition from an upright to crouched/bent at the waist body position (i.e. lower centre of gravity)

Exhibit a straight back with centre of gravity forward of the support base

Align body position with the ball carrier

Bend elbows with hands raised above the level of the elbow.

Manoeuvre head to face towards the ball carrier

Exhibit shorter and faster steps when approaching the ball carrier (feet remain active)

Approach the ball carrier from front-on or at an oblique angle

Contact

Explosiveness (rapid movement) on contact

Contact with shoulder

Contact in centre of gravity

Head placement on the correct side of ball-carrier

Execute rapid movements to maintain contact

Contact the ball carrier with the shoulder as the first point of contact

Contact the ball carrier in their centre of gravity (upper pelvis/lower torso)

Place head beside or behind the ball carrier's body correctly (i.e. tackler right shoulder, ball-carrier right side; tackler left shoulder, ball-carrier left side)

Post contact

Shoulder drive upon first contact

Leg drive upon contact

Arm usage – rapidly extend arms forward, wrap and pull (hit and stick)

Release ball-carrier and compete for possession

Manoeuvre shoulder to impede and disrupt the ball carrier's movement

Stay on feet and engage in rapid leg movement

Wrap arms around the ball carrier and maintain hold

Release ball carrier, get back onto feet and compete for possession

Ball-carrier**Pre-contact**

Focus on tackler

Shift ball away from contact to correct arm

Body position - upright to low

Keep back straight, and centre of gravity ahead of base of support

Head up and face forward

Shuffle or evasive manoeuvre

Focus eyes towards the tackler

Move the ball away from the point of contact

Reposition from upright to crouched/bent at the waist body position (i.e. lower centre of gravity)

Exhibit a straight back with centre of gravity forward of the support base

Manoeuvre head to face towards the tackler

Shuffle, side-step or change direction to attempt to evade contact

Contact

Fending into contact

Side-on into contact

Explosiveness (rapid movement) on contact

Body position - from low up into contact (airplane movement)

Ball in correct arm and protected

Use arm to push/repel the tackler

Contact the tackler side-on with the hard parts of the body (i.e. shoulders and hips), with hips facing away from the tackler

Execute rapid movement to break through contact

Drive the body upwards into contact from a crouched/bent at the waist body position

Ensure ball remains secure in possession

Post contact

Leg drive upon contact

Arm usage - use arm and shoulder to push tackler

Go to ground and present ball/break tackle/offload

Stay on feet and engage in rapid leg movement

Manoeuvre arms and shoulders to disrupt the tackler

Go to ground and present ball, break through the tackle or pass ball to a teammate.

Appendix 1: Match Descriptors and Definitions**Appendix 2: Primary tackler and ball-carrier contact technique criteria for front-on tackle** ²⁰^{22 24 32}