

Supplementary Table 2. Studies reporting on concussion incidence

| Author (year) | Concussion incidence | Injury Definition | Level of Play | Number of teams and seasons | Ranking of concussion frequency among all other injuries, rates of overall injury, and rates of concussion |
|-------------------|---|--|-----------------------------|--|--|
| King et al (2012) | Ball carrier 6 per 10,000 tackle events & 12 per 1,000 match hours; Tackler 4 per 10,000 tackle events & 8 per 1,000 match hours. Concussion Risk ration Ball Carrier:Tackler = 1.4 | An injury that rendered the player unavailable for selection in the next match | Professional | One team, two seasons (48 matches; 830 playing hours) | Equal 4 th ; 18 concussions / 266 total injuries |
| King et al (2009) | Division 1: 12.9; Division 2: 27.2; overall 17.5. | Injuries defined as both: transient (did not miss a game), and missed game injuries. | Amateur | Two teams, two seasons (53 matches; 951 hours) | Least frequent injury category recorded |
| Gabbett (2008) | 4.6 | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Junior | One team, four seasons (84 matches) | 5 th most frequent type of injury |
| King et al (2006) | Total 6.5; Semi-Professional 10.6; Amateur 0. | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Semi-Professional & Amateur | 20 teams, 1 'sevens' tournament (47 games) | Equal 6 th ; 1 concussion / 76 total injuries |
| Gabbett (2005) | Forwards: 5; Backs: 3; Outside Backs: 4; Halves & Hooker: 2; Backrowers: 4; Props: 6. | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Semi-Professional | 156 players over two seasons | Forwards equal 5 th , 5 / 80 total injuries; Backs equal 5 th , 3 / 57 total injuries. |
| Gabbett (2005) | Unlimited Interchange: 5.1; Limited Interchange: 3.0; Limited/Unlimited | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent | Semi-Professional | One club, three seasons (two under Unlimited Interchange; one under Limited Interchange) | Unlimited Interchange equal 4 th , Limited Interchange equal 5 th . |

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| | Interchange RR: 0.59 | match. | | rules) | |
| Gabbett et al (2005) | 3.0 | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Semi-Professional | One club, four seasons | 5 th |
| Gabbett (2004) | Training injuries: Year 2001: 0; Year 2002: 1.7 Year 2003: 0.7 | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Semi-Professional | One club, three seasons | 2001: 10 th ; 2002: 8 th ; 2003: 10 th . |
| Hinton-Bayre et al (2004) | 1 st Grade: 9.84; Res. Grade: 7.87; Age-Grade: 5.90 | The team physician made a clinical diagnosis of concussion | Professional | Two clubs, three seasons | NR: Concussion only |
| Gissane et al (2003) | Summer: 4.02; Winter: 3.35 Summer:Winter RR: 1.20 | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Professional | One club, nine seasons (five summer and four winter seasons) | Summer: 6 th Winter: equal 4 th |
| Gabbett (2003) | NR graphically represented. Match: Forward: slightly less than 40.0; Backs: slightly less than Forwards total. Training: Forwards: less than 1; Backs: 0. | Any pain or disability suffered by a player during a match that resulted in the player missing a subsequent match. | Semi-Professional | 156 players, two seasons | Match: Forwards: 7 th ; Backs: 6 th . Training: Forwards: 11 th ; Backs: 13 th . |
| Gissane et al | Winter: 3.35 | A physical impairment received during a competitive match which | Professional | One club, four seasons | Winter: Equal 4 th , (8 / 72 total |

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| (1998) | Summer: 2.51 | prevented a player from being available for selection for the next competition game. | | | injuries) Summer: equal 5 th (1 / 20 total injuries) |
| Jennings et al (1997) | Forwards: 11.1 Backs: 5.6 Total: 8.1 | The onset of pain or a disability that occurred while playing. | Professional | One club, four seasons | Forward: 6 th (22 / 277 injuries) Backs: 7 th (13 / 215 injuries) Total: 6 th (35 / 492 injuries) |
| Stephenson et al (1996) | All players: 8 1 st team: 8 A team: 9 | The onset of pain or disability that occurred while playing rugby league football | Professional | Four seasons (249 games) | All players: 8 th (35 / 492 injuries) 1 st team: 8 th (8 / 297 injuries) A team: 7 th (17 / 195 injuries) |
| O'Connor (2011) | NRL: 4.3 NYC: 3.3 | Any injury that was sustained during a first grade NRL game (or NYC game) or training session that resulted in missed game time. | Professional | Sixteen clubs, one season | NRL: 5 th ; NYC: 7 th |
| O'Connor (2012) | NRL: 4.2 NYC: 3.4 | Any injury that was sustained during a first grade NRL game (or NYC game) or training session that resulted in missed game time. | Professional | Sixteen clubs, one season | NRL: Equal 5 th NYC: 5 th |
| King (2006) | Total: 14.7 u/16: 4.3 u/18: 18.5 | Any pain or disability suffered by a player during a match that required advice and/or treatment | Junior | Four teams, one season | Total: 6 th (5 / 74 total injuries) u/16: equal 9 th (1 / 49 total injuries) u/18: 2 nd (4 / 23 total injuries) |

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| King & Gabbett (2009) | NR, graphically represented, approx. 6. | Any pain or disability suffered by a player during a match that required advice and/or treatment | Semi-Professional | Eight teams, one season | 7 th |
| <p>Note. Incidence reported as number of injuries per 1,000 playing (or training) hours; RR: risk ratio; Res: Reserve; NR: not reported; NYC: national youth competition; u/: under; approx.: approximately.</p> | | | | | |