



# 2015 AFL Injury Survey

## Collaborators:

AFL Doctors Association

AFL Physiotherapists Association

AFL Football Operations Department

## 1 Key Indicators

**Table 1 – Key indicators for all injuries over the 24 seasons**

All injuries	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Incidence (new injuries per club per season)	35.4	30.3	33.7	38.2	38.9	40.1	40.3	36.9	37.4	35.8	34.4	34.1
Incidence (recurrent)	8.8	7.3	6.0	6.2	4.9	8.0	7.6	5.2	5.9	5.5	4.4	4.6
Incidence (total)	44.2	37.6	39.7	44.4	43.8	48.1	47.9	42.1	43.3	41.3	38.8	38.7
Prevalence (missed games per club per season)	145.9	122.5	116.3	133.1	140.0	151.2	141.9	135.9	131.8	136.4	134.7	118.7
Average injury severity	4.1	4.0	3.5	3.5	3.6	3.8	3.5	3.7	3.5	3.8	3.9	3.5
Recurrence rate	25%	24%	18%	16%	13%	20%	19%	14%	16%	15%	13%	14%
Clubs participating	12/15	14/15	15/16	15/16	16/16	16/16	16/16	16/16	16/16	16/16	16/16	16/16
Average players per club	46.1	44.6	42.5	42.3	44.1	44.2	41.7	41.7	41.4	43.4	43.0	42.2

All injuries	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Incidence (new injuries per club per season)	34.8	35.3	34.0	34.6	36.9	37.8	38.7	38.4	38.1	41.5	36.1	<b>37.7</b>
Incidence (recurrent)	3.7	4.8	4.1	5.6	5.4	3.6	4.7	3.6	3.6	5.1	4.4	<b>4.0</b>
Incidence (total)	38.5	40.1	38.2	40.3	42.3	41.4	43.4	42.0	41.7	46.6	40.5	<b>41.7</b>
Prevalence (missed games per club per season)	131.0	129.2	138.3	146.7	147.1	151.2	153.8	157.1	147.7	158.1	146.0	<b>156.2</b>
Average injury severity (number of missed games)	3.8	3.7	4.1	4.2	4.0	4.0	4.0	4.1	3.9	3.8	4.0	<b>3.7</b>
Recurrence rate	11%	14%	12%	16%	15%	10%	12%	9%	9%	12%	12%	<b>11%</b>
Clubs participating	16/16	16/16	16/16	16/16	16/16	16/16	16/16	17/17	18/18	18/18	18/18	<b>18/18</b>
Average players per club	42.8	43.3	43.9	44.2	44.6	46.1	46.4	46.9	46.7	45.4	45.1	<b>45.4</b>

## 2 Injury Incidence – New Injuries Per Club Per Season

Body area	Injury type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Head/neck	Concussion	0.3	0.3	0.4	0.5	0.5	1.1	1.0	1.0	1.3	1.5
	Facial fractures	0.3	0.4	0.2	0.5	0.5	0.5	0.6	0.9	0.4	0.5
	Neck sprains	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1
	Other head and neck injuries	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.3
	<b>TOTAL</b>	<b>1.0</b>	<b>0.9</b>	<b>0.9</b>	<b>1.1</b>	<b>1.3</b>	<b>1.9</b>	<b>1.9</b>	<b>2.1</b>	<b>1.9</b>	<b>2.5</b>
Shoulder/arm/elbow	Shoulder sprains and dislocations	1.6	1.0	1.8	1.3	1.6	1.8	1.3	1.2	1.2	1.6
	A/C joint injuries	1.2	0.8	0.7	0.5	0.8	0.7	0.5	0.9	0.9	0.4
	Fractured clavicles	0.3	0.3	0.1	0.2	0.2	0.1	0.2	0.3	0.1	0.1
	Elbow sprains or joint injuries	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1
	Other shoulder/arm/elbow injuries	0.3	0.2	0.3	0.1	0.3	0.4	0.6	0.3	0.4	0.7
<b>TOTAL</b>	<b>3.6</b>	<b>2.4</b>	<b>2.9</b>	<b>2.3</b>	<b>3.0</b>	<b>3.3</b>	<b>3.0</b>	<b>2.8</b>	<b>2.8</b>	<b>2.9</b>	
Forearm/wrist/hand	Forearm/wrist/hand fractures	1.1	0.9	1.2	1.1	1.2	1.6	0.8	0.8	1.1	1.2
	Other forearm/wrist/hand injuries	0.3	0.6	0.4	0.4	0.3	0.4	0.5	0.6	0.5	0.4
	<b>TOTAL</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>	<b>1.4</b>	<b>1.5</b>	<b>2.0</b>	<b>1.4</b>	<b>1.4</b>	<b>1.6</b>	<b>1.5</b>
Trunk/back	Rib and chest wall injuries	1.0	0.4	0.7	0.3	0.6	0.4	0.4	0.8	0.5	0.7
	Lumbar and thoracic spine injuries	1.5	1.3	1.5	1.4	1.7	1.4	1.5	2.0	1.7	1.4
	Other buttock/back/trunk injuries	0.6	0.5	0.7	0.5	0.4	0.6	0.9	0.1	0.5	0.7
	<b>TOTAL</b>	<b>3.0</b>	<b>2.2</b>	<b>2.9</b>	<b>2.2</b>	<b>2.7</b>	<b>2.4</b>	<b>2.7</b>	<b>2.9</b>	<b>2.6</b>	<b>2.8</b>
Hip/groin/thigh	Groin strains and osteitis pubis	3.3	4.0	3.2	3.3	4.1	2.8	2.6	2.7	2.5	2.2
	Hamstring strains	6.4	6.7	6.6	7.1	6.0	4.8	5.7	5.2	5.2	5.2
	Quadriceps strains	1.7	1.8	1.8	2.1	1.7	1.4	1.6	1.7	1.1	1.0
	Thigh and hip haematomas	1.1	0.6	0.5	1.0	1.1	0.5	0.4	1.3	0.8	0.5
	Hip joint/impingement injuries	0.3	0.7	0.5	0.7	0.6	1.0	1.2	1.1	0.3	0.0
	Other hip/groin/thigh injuries	0.0	0.1	0.3	0.3	0.1	0.0	0.0	0.0	0.0	1.6
<b>TOTAL</b>	<b>12.7</b>	<b>14.0</b>	<b>12.9</b>	<b>14.4</b>	<b>13.6</b>	<b>10.6</b>	<b>11.6</b>	<b>12.0</b>	<b>10.0</b>	<b>10.4</b>	
Knee	Knee ACL	0.9	0.6	0.9	0.7	0.6	0.9	0.8	1.0	0.7	0.7
	Knee MCL	0.8	1.4	1.3	0.7	0.8	1.0	0.9	0.7	0.7	0.9
	Knee PCL	0.3	0.2	0.3	0.3	0.4	0.6	0.3	0.5	0.2	0.5
	Knee cartilage injuries	1.0	1.2	1.6	2.0	1.7	1.5	1.0	1.5	1.0	1.1
	Knee and patella tendon injuries	0.4	0.3	0.3	0.5	0.4	0.6	1.0	0.7	0.4	0.5
	Other knee injuries	0.5	1.1	1.2	1.2	0.9	1.2	1.0	1.4	1.3	1.7
<b>TOTAL</b>	<b>4.0</b>	<b>4.8</b>	<b>5.6</b>	<b>5.3</b>	<b>4.7</b>	<b>5.8</b>	<b>4.9</b>	<b>5.8</b>	<b>4.3</b>	<b>5.3</b>	
Shin/ankle/foot	Ankle sprains or joint injuries	2.1	2.2	2.5	2.6	3.4	2.9	2.6	3.7	3.1	2.4
	Calf strains	1.6	1.2	2.0	1.3	1.7	2.1	3.0	3.7	2.6	2.9
	Achilles tendon injuries	0.3	0.4	0.6	0.6	0.4	0.9	0.7	0.5	0.9	0.6
	Leg and foot fractures	0.7	0.5	0.5	1.0	0.9	0.7	0.3	0.7	0.7	0.5
	Leg and foot stress fractures	1.1	1.1	0.9	0.9	1.2	1.4	1.4	1.3	1.7	0.7
	Other leg/foot/ankle injuries	1.5	1.3	1.1	1.5	1.7	2.5	2.0	2.3	1.3	2.8
<b>TOTAL</b>	<b>7.4</b>	<b>6.7</b>	<b>7.7</b>	<b>8.0</b>	<b>9.3</b>	<b>10.4</b>	<b>10.0</b>	<b>12.2</b>	<b>10.2</b>	<b>9.8</b>	
Medical	Medical illnesses	0.7	1.9	2.1	2.9	2.1	1.8	2.2	2.2	2.4	1.9
Non-football injuries		0.2	0.2	0.3	0.2	0.5	0.1	0.5	0.2	0.3	0.1
General Soreness											0.3
<b>NEW INJURIES/CLUB/SEASON</b>		<b>34.0</b>	<b>34.6</b>	<b>36.9</b>	<b>37.8</b>	<b>38.7</b>	<b>38.4</b>	<b>38.1</b>	<b>41.5</b>	<b>36.1</b>	<b>37.7</b>

### 3 Injury Prevalence – Missed Games Per Club Per Season

Body area	Injury type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Head/neck	Concussion	0.3	0.3	0.5	0.7	0.8	2.2	1.6	1.3	1.6	4.2
	Facial fractures	0.8	0.7	0.5	1.1	1.4	1.6	1.5	2.6	0.9	0.9
	Neck sprains	0.3	1.1	1.1	0.1	0.1	1.5	0.1	0.3	0.0	0.1
	Other head and neck injuries	1.1	1.6	0.1	0.3	1.3	0.2	0.3	0.2	0.2	1.7
	<b>TOTAL</b>	<b>2.5</b>	<b>3.7</b>	<b>2.2</b>	<b>2.2</b>	<b>3.5</b>	<b>5.6</b>	<b>3.5</b>	<b>4.4</b>	<b>2.8</b>	<b>7.0</b>
Shoulder/arm/elbow	Shoulder sprains and dislocations	10.8	6.4	10.2	7.7	10.9	12.1	9.0	7.1	9.8	11.5
	A/C joint injuries	2.7	1.4	1.5	1.2	1.5	2.3	1.0	2.0	3.2	1.4
	Fractured clavicles	1.7	1.8	1.1	0.6	0.7	0.6	0.6	1.4	0.8	0.5
	Elbow sprains or joint injuries	0.7	0.8	0.5	1.5	0.2	1.3	0.7	0.4	0.8	0.8
	Other shoulder/arm/elbow injuries	1.7	0.7	0.7	1.0	0.3	1.3	2.1	1.2	3.1	2.7
	<b>TOTAL</b>	<b>17.6</b>	<b>11.1</b>	<b>14.0</b>	<b>12.1</b>	<b>13.5</b>	<b>17.7</b>	<b>13.4</b>	<b>12.0</b>	<b>17.7</b>	<b>16.8</b>
Forearm/wrist/hand	Forearm/wrist/hand fractures	4.3	2.3	3.2	4.8	3.4	5.4	3.3	2.9	3.5	4.0
	Other forearm/wrist/hand injuries	0.5	3.1	1.4	0.8	1.1	1.8	1.6	1.7	1.5	1.6
	<b>TOTAL</b>	<b>4.8</b>	<b>5.4</b>	<b>4.6</b>	<b>5.7</b>	<b>4.5</b>	<b>7.2</b>	<b>5.0</b>	<b>4.6</b>	<b>5.0</b>	<b>5.6</b>
Trunk/back	Rib and chest wall injuries	2.2	1.9	1.3	0.6	1.3	0.7	0.9	1.7	1.0	2.3
	Lumbar and thoracic spine injuries	5.4	2.8	5.0	4.6	6.9	5.9	5.9	4.7	5.9	3.6
	Other buttock/back/trunk injuries	1.3	1.7	1.3	1.2	1.0	1.7	1.7	0.1	1.4	2.3
	<b>TOTAL</b>	<b>8.8</b>	<b>6.5</b>	<b>7.6</b>	<b>6.4</b>	<b>9.2</b>	<b>8.3</b>	<b>8.5</b>	<b>6.5</b>	<b>8.4</b>	<b>8.2</b>
Hip/groin/thigh	Groin strains and osteitis pubis	14.0	17.5	12.4	11.7	15.3	7.9	7.1	7.0	6.7	7.1
	Hamstring strains	21.8	24.3	25.8	21.8	20.6	16.5	21.5	20.8	20.7	19.1
	Quadriceps strains	5.5	5.6	6.5	8.4	6.3	5.7	4.0	5.1	3.5	2.2
	Thigh and hip haematomas	1.4	1.0	0.6	1.2	1.9	0.7	0.5	2.0	1.1	0.6
	Hip joint/impingement injuries	2.3	4.4	2.8	5.4	4.5	5.7	5.6	4.6	0.8	0.0
	Other hip/groin/thigh injuries	0.0	0.2	0.6	1.3	0.2	0.2	0.0	0.0	0.0	5.9
	<b>TOTAL</b>	<b>45.0</b>	<b>52.9</b>	<b>48.8</b>	<b>49.7</b>	<b>48.8</b>	<b>36.8</b>	<b>38.6</b>	<b>39.6</b>	<b>32.8</b>	<b>34.9</b>
Knee	Knee ACL	14.1	15.1	15.3	11.1	7.8	13.6	13.5	17.8	11.1	16.7
	Knee MCL	1.7	4.7	4.0	2.3	2.5	3.2	3.5	2.0	2.6	2.3
	Knee PCL	1.8	1.6	2.2	1.2	3.2	4.8	2.0	3.3	1.1	3.2
	Knee cartilage injuries	5.7	9.1	8.5	10.7	13.0	7.6	4.8	9.7	4.5	6.5
	Knee and patella tendon injuries	1.8	0.7	1.1	0.8	0.8	2.3	2.8	3.1	2.4	2.7
	Other knee injuries	1.4	4.4	3.6	4.4	3.3	3.7	3.2	3.7	5.9	5.9
	<b>TOTAL</b>	<b>26.6</b>	<b>35.6</b>	<b>34.7</b>	<b>30.6</b>	<b>30.5</b>	<b>35.1</b>	<b>29.8</b>	<b>39.5</b>	<b>27.6</b>	<b>37.4</b>
Shin/ankle/foot	Ankle sprains or joint injuries	8.1	7.1	7.0	8.9	9.2	8.7	10.5	12.1	10.0	7.2
	Calf strains	3.4	3.1	4.4	3.0	3.7	5.5	7.1	10.6	8.1	5.9
	Achilles tendon injuries	2.1	2.2	4.1	2.2	3.4	4.0	5.0	2.2	4.0	2.5
	Leg and foot fractures	5.7	2.7	3.2	7.5	7.6	4.6	4.5	4.3	6.9	4.1
	Leg and foot stress fractures	8.2	7.8	7.3	11.2	8.5	10.6	9.1	10.9	14.2	8.6
	Other leg/foot/ankle injuries	4.1	4.2	4.6	6.8	5.7	9.3	6.6	6.9	4.5	14.0
	<b>TOTAL</b>	<b>31.6</b>	<b>27.1</b>	<b>30.6</b>	<b>39.6</b>	<b>38.1</b>	<b>42.7</b>	<b>42.6</b>	<b>47.1</b>	<b>47.6</b>	<b>42.4</b>
Medical	Medical illnesses	0.7	3.1	3.5	3.7	3.2	3.2	4.2	4.2	3.7	3.2
Non-football injuries		0.5	1.4	1.1	1.3	2.4	0.5	2.1	0.3	0.5	0.1
General Soreness											0.4
<b>MISSED GAMES/CLUB/SEASON</b>		<b>138.3</b>	<b>146.7</b>	<b>147.1</b>	<b>151.2</b>	<b>153.8</b>	<b>157.1</b>	<b>147.7</b>	<b>158.1</b>	<b>146.0</b>	<b>156.2</b>



## 4 Recurrence

Body area	Injury type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shoulder/arm/elbow	Shoulder sprains and dislocations	13%	16%	9%	12%	26%	11%	14%	4%	52%	9%
Hip/groin/thigh	Groin strains/osteitis pubis	28%	39%	23%	19%	20%	15%	19%	11%	11%	20%
	Hamstring strains	16%	22%	27%	18%	14%	12%	14%	24%	16%	16%
	Quadriceps strains	19%	18%	15%	15%	18%	7%	3%	19%	0%	5%
Shin/ankle/foot	Ankle sprains or joint injuries	10%	20%	9%	10%	5%	13%	5%	20%	18%	4%
	Calf strains	7%	9%	5%	0%	12%	5%	6%	16%	16%	8%
<b>AVERAGE RECURRENCE RATE</b>		<b>12%</b>	<b>16%</b>	<b>15%</b>	<b>10%</b>	<b>12%</b>	<b>9%</b>	<b>9%</b>	<b>12%</b>	<b>12%</b>	<b>11%</b>

## 5 Observations

- During the 2015 AFL season, there was an average of 37.7 new injuries per team causing 156.2 home & away and finals games to be missed.
- Hamstring injuries continue to be the number one injury concern (with an average of 5.2 new injuries causing 19.1 games missed per team). The overall incidence and prevalence of hamstring injuries was about average against historical data. Recurrence rates however remain relatively low (16%), reflecting improved understanding (particularly of intra-muscular tendon injuries) and/or more conservative management.
- Calf strains (with an average of 2.9 new injuries causing 5.9 games missed per team) continue to track above the historical average, although injury rates and severity remain below the high observed in season 2013 (3.7 new injuries causing 10.6 games missed per club). This is likely to represent improved conditioning strategies and/or management.
- Groin injuries, which were once the third most common injury and cause of games missed in the AFL, remain low (with an average of 2.2 new cases of “groin strain or osteitis pubis” causing 7.1 games missed per team). This reflects improved prevention and management of groin injuries in the AFL.
- ACL injury rates were on par with historical averages (with an average of 0.7 injuries causing 16.7 games missed per team).
- Rates of leg and foot stress fractures returned to levels observed in the past after an increase in recent seasons (with an average of 0.7 injuries causing 8.6 missed games per year in season 2015). The reason for these changes is unclear.
- Rates of concussions causing missed games continues to trend up (with 1.5 new injuries causing 4.2 missed games per team). This reflects a more conservative approach, rather than a true increase in incidence. The incidence rate from the AFL concussion audit (which includes all concussions, whether they missed games or not) was 6.0 per 1000 player hours (95% confidence interval 4.39-7.65), compared to the rate of 7.1 (95%CI 6.28-7.84) observed over the past 5 years. When expressed in similar figures to the AFL Injury Survey i.e. 40 players for 22 games – the incidence figure would be 5.3 new injuries per team in 2015, with the 5-year concussion rate at 6.2 new injuries per team per year.
- There is a notable increase in “other” injuries in a number of categories (e.g. “leg / foot / ankle” and “hip / groin / thigh”). The cause of this is not clear, but is likely to reflect an interpretation/classification issue rather than a significant change in specific injury types.