The Incidence of Injuries and the Epidemiology of Osteoarthritis in Retired, Amateur, Rugby Union Males

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AIM: To examine the epidemiology of osteoarthritis in male, former rugby union players, compared to untrained, aged-matched males.

Background

Musculoskeletal disorders are considered to be a pivotal indicator of quality of life. They incur substantial economic cost to the UK, with the physical incapabilities presenting major personal, and societal burdens (Woolf 2007). The long-term effects of ligament and joint damage on clinical osteoarthritis (OA)-onset are well established. Trauma reoccurrence in rugby union is common, but the associated OA risk remains inconclusive.

Methods

Two-hundred retired, amateur rugby union players (43±11 years) and two-hundred healthy males (38±8 years) completed online and paper questionnaires, including sections on: sporting, injury and medical history, adapted from USA rugby (2015).

Outcome Measures

Age, height, weight, musculoskeletal disorders, injury history, affected joints, career duration, reason for retirement and previous surgery were recorded.

Conclusion

Prospective studies are required in order to assess the severity of the long-term implications of premature, post-traumatic OA and the disability and loss of function it may cause. Future research could examine bone density. The involvement of a radiologic assessment would provide further details about the nature and precise site of OA, increasing detail and adding depth to the research.

Results

Results: There was a 34.5% (odds ratio (OR) 6.37; 95% confidence interval (CI) 3.83-10.60) higher prevalence of clinical OA within the ex-rugby union players, when compared to the untrained males (*p*=<0.001). 55.5% had retired from rugby due to injury, 46.5% had been diagnosed with OA, 18.5% with joint weakness and 12% with an overuse injury. The mean age for developing OA within ex-rugby union players (41±10 years) was notably earlier than that of untrained males (47±11 years). Prevalence of OA increased linearly with career duration (*p=0.001)* and the site of the disease often reflected the joint where a previous rugby union injury or trauma had occurred.

	Frequency (RU)	Valid Percent (%) (RU)	Frequency (Non-athletic)	Valid Percent (%) (Non-athletic)	Odds Ratio (95% Confidence Interval)
Osteoarthritis	93	46.5	24	12.0	6.37 (3.83-10.60)
Joint Weakness	37	18.5	29	14.5	0.75 (0.44-1.28)
Overuse Injury	24	12.0	9	4.5	2.74 (1.24-6.07)
Rheumatoid Arthritis	0	0.0	4	2.0	-
Osteoporosis	0	0.0	38	19.0	-
None	46	23.0	96	48.0	N/A
Total	200	100.0	200	100.0	N/A

Table 1: Prevalence of Musculoskeletal Disorders within Retired RU Players and Non-Athletic Males.

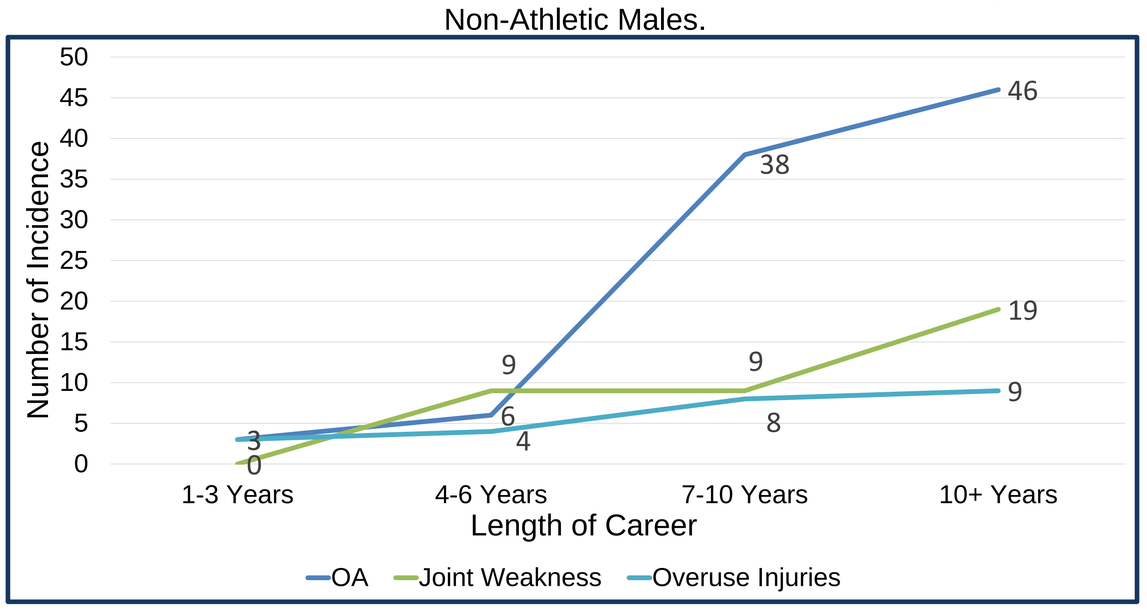

Figure 1: Career Duration and Musculoskeletal Disorders, OA (Osteoarthritis)

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