

Personal Evaluation – to support your academic progress please complete the section below **BEFORE** submitting your work

What do you consider to be the best aspects of this work?		Doing my own research and using SPSS programme								
Which aspects do you consider could have been improved in this piece of work?		Get more participants								
What have you found most satisfying whilst undertaking this submission?		Working with GB women's ice hockey team								
ASSESSMENT CRITERIA		Learning outcome	GRADE							
			Poor 0 - 25%	Unsatisfactory 26 - 39%	Satisfactory 40 - 49%	Good 50 - 59%	Very Good 60 - 69%	Excellent 70 - 85%	Exceptional 86 - 100%	
THE POSTER Introduction & contextualisation (10%)		1,2, 3								
Justification, description and explanation of methods used, including research design diagram (20%)		1,2, 3								
Results, main discussion points and conclusion (40%)		1,2,3								
THE PRESENTATION Quality of the oral presentation and defence (organisation of presentation, confidence, clarity and articulation, knowledge and understanding of subject area, responses to questions) (30%)		1,2,3								
It is expected that students will present work that is proof read and follows the School Reference Guide and Assessment Checklist. Therefore a range of 0 – 10 marks will be deducted for non-completion of any of the points on the checklist below.										
TUTOR COMMENTS:										
Submission date: 11/05/2020		Return date: (within 1 week of submission date)			Tutor: Dr Simon Williams			Mark:		

Assignment Checklist

- ☐ Please complete the **Personal Evaluation** section of the Assessment Feedback sheet, add your name and details, and paste the whole of this assignment document into the front of your assignment
- ☐ Submission is a **single word file, clearly labelled** with your name and module code
- ☐ Font style - Times New Roman, size -12 for text and 14 for headings
- ☐ Ink colour – black only
- ☐ Line spacing – 1.5 line spacing and 2cm- 2.5cm page margins
- ☐ Quotations more than three lines to be indented 1 line spacing
- ☐ One line space between paragraphs, paragraphs must be left aligned
- ☐ Pagination (your assignment should have **page numbers**)
- ☐ All tables and figures are internally referenced and have a title
- ☐ **Word count** checked and written at end of text (before references and any appendix)
- ☐ Assignment is within 10% of the word limit (excluding references and any appendices)
- ☐ **All** references in the text are included in the reference list
- ☐ **Correct referencing following the Harvard style, as described in the Palgrave study skills book 'Cite them Right'.**
- ☐ Correct spelling using **UK English**
- ☐ Correct use of punctuation
- ☐ Grammar and syntax correct- double check anything that has a green line under it
- ☐ I have read my assignment out loud to myself and it makes sense and is easy to read
- ☐ Somebody else has read my work and it makes sense to him or her!
- ☐ **I have checked and I have not plagiarised**

Failure to follow these guidelines will cost you marks!

The Difference in Adductor Muscles Strength Ratio in Relation to Abductors of the Dominant vs. Non-Dominant Leg in Elite Ice Hockey Players to Understand Which Leg is More Prone to Groin Injuries

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(1) Background: Ice hockey players have the highest rates of groin injuries (13.1%) compared to other contact sports ⁽¹⁾. In elite ice hockey, the groin injuries account for 10 % of all injuries ⁽²⁾. The players are 17 times more likely to sustain an adductor muscle strain if the adductor strength was less than 80% of the abductor strength or if the percentage difference between abductors and adductors was ≥ 20 % ⁽³⁾. However, no research shows which leg is more prone to groin injuries.

(2) Objective: The aim of this study was to examine the difference in ADD muscles strength ratio in relation to ABD's of the dominant vs. non-dominant leg in order to understand which leg is more prone to ADD muscle strain injury. **(3) Method: Design:** An observational, cross-sectional study design was used. Each participant performed a total of 4 isometric tests in supine position: abduction and adduction by their dominant and non-dominant leg. To measure the strength of the muscles the participants were in supine position, stabilising themselves by holding on to the sides of the table with their hands. The tested limb was secured by external belt fixture with hand-held dynamometer and the person being tested exerted a 5-s isometric maximum voluntary contraction (MVC) against the dynamometer. The standardized command was "go ahead-push-push-push and relax". The mean value of the test was recorded. Each test was repeated only once. **Participants:** 8 female elite ice hockey players of age = 27 ± 5 years without previous groin injury in past 6 months. **Data analysis:** All findings from this observational research were tabulated in spread sheet and the percentage of the ADD strength ratio in relation to ABD strength was calculated by using equation: $\text{ADD} : (\text{ABD} : 100)$. The Paired Samples T-Test was used in order to examine the differences between ADD muscle strength ratio in relation to ABD's of the dominant vs. non-dominant leg.

(4) Results: There was statistically non-significant difference observed between dominant and non-dominant leg showed by Sig. (2-tailed) value which revealed results of 0.170. The mean values of the ADD strength ratio in relation to ABD of the dominant and non-dominant leg shown that the non-dominant leg is at risk of ADD strain injury with value of 79.2148 which is below 80% ⁽³⁾. The dominant leg is not at risk of ADD muscle strain injury as the mean value revealed score of 103.7810 which is above 80% ⁽³⁾.

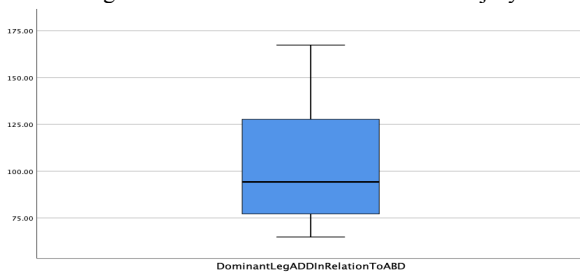


Figure 1. Box plot for dominant leg ADD ratio in relation to ABD

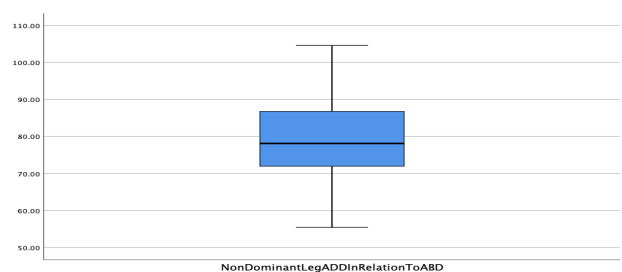


Figure 2. Box plot for non-dominant leg ADD ratio in relation to ABD

(5) Conclusion: The comparison of the ADD strength ratio in relation to ABD of the dominant vs. non-dominant leg revealed that non-dominant leg is at risk of ADD strain injuries. The dominant leg did not show to be at risk of groin injuries. However there was no statistically significant difference between dominant and non-dominant leg. Further research is needed in order to confirm findings of this research.

(6) References: 1 Epstein, D.M., McHugh, M., Yorio, M., Neri, B. (2013) 'Intra-articular hip injuries in National Hockey League players: a descriptive epidemiological study', American Journal of Sports Medicine, 41(2), pp. 343-348.

2 Thorborg, K., Bandholm, T., Holmich, P. (2012) 'Hip and knee strength assessment using hand-held dynamometer with external belt-fixation are inter-tester reliable', The Journal in Knee Surgery in Sports, 15(2), 342-349. e

3 Tyler, T.F., Nicholas, S.J., Campbell, R.J., McHugh, M.P. (2001) 'The association of hip strength and flexibility with the incidence of adductor muscle strains in professional ice hockey players', The Journal of Sports Medicine, 29(5), pp. 124-128.

