The Efficacy of Rehabilitation of Postural and Muscular Imbalances in the Chiropractic Management of Shoulder Impingement Syndrome in Swimmers

A dissertation submitted to the Faculty Health Sciences, Technikon Witwatersrand, in partial fulfilment of the requirement for the degree of Master of Technology: Chiropractic By

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DECLARATION

I declare that this dissertation is my own, unaided work. It is being submitted in partial fulfilment for the Degree of Master of Technology at the Technikon Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other Technikon or University.

__________________________     ___________
Jacqueline Richards      Date
ABSTRACT

The purpose of this unblinded, controlled pilot study was to compare the effectiveness of Spinal Manipulative Therapy and a shoulder rehabilitation program, focussing on improving muscular and postural imbalances, verses Spinal Manipulative Therapy alone in the treatment of sub-acute and chronic shoulder impingement syndrome found in swimmers.

In executing the comparison, it was anticipated that both treatment protocols would be effective, but the combined therapy of Spinal Manipulative Therapy and rehabilitation would be the most effective in treating sub-acute and chronic shoulder impingement syndrome in swimmers. This treatment protocol focused on correcting the biomechanical dysfunction in the cervical spine and thoracic spine coupled with a rehabilitation program to stretch anterior musculature, strengthen posterior musculature and strengthen the shoulder in external rotation. These muscular and postural imbalances are a contributing factor in perpetuating the pathomechanics causing sub-acute and chronic shoulder impingement syndrome found in swimmers. Shoulder impingement syndrome of this kind in swimmers is known as Swimmer’s shoulder.

Thirty swimmers between the ages of 18 and 60 with subacute and chronic shoulder pain were recruited by advertising in the local newspapers. Two groups of fifteen patients were created. Patients were randomly assigned to one of the groups as they enrolled for participation. Group A underwent Spinal Manipulative Therapy of the thoracic and cervical spines in conjunction with shoulder strengthening and postural corrective exercises. Group B underwent Spinal Manipulative Therapy of the thoracic and cervical spines. Each patient was treated nine times in three weeks.

A Saunders Digital Inclinometer was used to record objective glenohumeral ranges of motion and a painful arc was determined as positive between 45 and 120 degrees. The Supraspinatus Test was performed which was recorded as positive or negative. Subjective findings were measured with the use of the Visual Analogue Pain Scale and a questionnaire modified from Athletic Shoulder Outcome Rating Scale and American Shoulder and Elbow Surgeons’ Shoulder Evaluation Form. Data was collected prior to the first, fourth, seventh and ninth visit.
The results indicated that both groups were effective in treating Swimmer’s shoulder. Group A showed the most positive results in terms of objective and subjective clinical findings.

In conclusion, Group A (Spinal Manipulative Therapy and Rehabilitation) was the most effective treatment protocol for the management of sub-acute and chronic shoulder impingement syndrome in swimmers. This treatment protocol had a greater benefit with regard to improvement of shoulder abduction range of motion, painful arc, Supraspinatus Test and Visual Analogue Pain Scale than Group B (Spinal Manipulative Therapy only).
DEDICATION

This work is dedicated to my family, Louise, Chris, Nikki and Darren. Thank you for your unfailing support, your unconditional love and your unquestionable patience.

Thank you to my mentor Robert Fuller for his support throughout the course of my Chiropractic studies. Were it not for his assistance I would not be doing Chiropractic and would not be where I am today. Thank you for your tolerance, support and assistance.
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Thank you to the Caxton Local Newspapers for publishing my advert free of charge. Without your assistance my clinical trial would not have been completed so quickly.

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Thank you to my supervisor, Dr Barrett Losco and co-supervisor Dr Craig Lyons for your hard work and assistance with this dissertation.

Last, but definitely not least, thank you to all the patients who took part in the study. Without you I would not have been able to complete this study. Your contribution was greatly appreciated!
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECLARATION</td>
<td>II</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>III</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>V</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>VI</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>VII</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>XIII</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>XV</td>
</tr>
<tr>
<td>LIST OF APPENDIX</td>
<td>XVII</td>
</tr>
<tr>
<td>CHAPTER 1  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>CHAPTER 2  LITERATURE REVIEW</td>
<td>3</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>3</td>
</tr>
<tr>
<td>2.2 Anatomy and Biomechanics of the shoulder</td>
<td>3</td>
</tr>
<tr>
<td>2.2.1 The Sternoclavicular Joint (SC)</td>
<td>4</td>
</tr>
<tr>
<td>2.2.2 The Acromioclavicular Joint (AC)</td>
<td>4</td>
</tr>
<tr>
<td>2.2.3 Glenohumeral Joint</td>
<td>5</td>
</tr>
<tr>
<td>2.2.4 Scapulothoracic Joint</td>
<td>6</td>
</tr>
<tr>
<td>2.2.5 Scapulohumeral Rhythm</td>
<td>8</td>
</tr>
<tr>
<td>2.2.6 Muscles Acting on the Shoulder and Pectoral Girdle</td>
<td>8</td>
</tr>
<tr>
<td>2.3 Impingement</td>
<td>10</td>
</tr>
<tr>
<td>2.3.1 Aetiology</td>
<td>10</td>
</tr>
<tr>
<td>2.3.1.1 Types of Acromion</td>
<td>10</td>
</tr>
<tr>
<td>2.3.2 Primary Impingement</td>
<td>11</td>
</tr>
<tr>
<td>2.3.3 Secondary Impingement</td>
<td>11</td>
</tr>
<tr>
<td>2.4 Swimmer’s Shoulder</td>
<td>12</td>
</tr>
<tr>
<td>2.4.1 Definition</td>
<td>12</td>
</tr>
<tr>
<td>2.4.2 Incidence and Prevalence</td>
<td>12</td>
</tr>
<tr>
<td>2.4.3 Aetiology</td>
<td>13</td>
</tr>
<tr>
<td>2.4.4 Propulsion and Drag</td>
<td>13</td>
</tr>
<tr>
<td>2.4.4.1 Propulsion</td>
<td>13</td>
</tr>
</tbody>
</table>
3.4.3.2 Subjective Measurements

3.4.3.2.1 Visual Analogue Pain Scale

3.4.3.2.2 Questionnaire

3.5 Data Analysis

3.5.1 Objective Data

3.5.2 Subjective Data

3.5.3 Statistical Analysis

CHAPTER 4 RESULTS

4.1 Introduction

4.2 Objective Data

4.2.1 Shoulder Abduction Range of Motion

4.2.1.1 Graphical Representation of Pain Free Shoulder Range of Motion

4.2.1.2 Statistical Representation of Pain Free Shoulder Range of Motion

4.2.1.2.1 Intragroup Comparison

4.2.1.2.2 Intergroup Comparison

4.2.2 Painful Arc

4.2.2.1 Graphical Representation of Painful Arc

4.2.2.2 Statistical Representation of Painful Arc

4.2.3 Supraspinatus Test

4.2.3.1 Graphical Representation of Supraspinatus Test

4.2.3.2 Statistical Representation of Supraspinatus Test

4.3 Subjective Data

4.3.1 Visual Analogue Pain Scale

4.3.1.1 Graphical Representation of Visual Analogue Pain Scale

4.3.1.2 Statistical Representation of Visual Analogue Pain Scale

4.3.1.2.1 Intragroup Comparison

4.3.1.2.2 Intergroup Comparison

4.3.2 Questionnaire Scores

4.3.2.1 Question 1: Is your shoulder comfortable with your arm at rest by your side?

4.3.2.1.1 Graphical Representation of Question 1 Scores

4.3.2.1.2 Statistical Representation of Question 1 Scores

4.3.2.2 Question 2: Does your shoulder allow you to sleep comfortably?

4.3.2.2.1 Graphical Representation of Question 2 Scores

4.3.2.2.2 Statistical Representation of Question 2 Scores
4.3.2.2 Statistical Representation of Question 2 Scores

4.3.2.3 Question 3: Can you reach the small of your back to tuck in your shirt with your hand?

4.3.2.3.1 Graphical Representation of Question 3 Scores

4.3.2.3.2 Statistical Representation of Question 3 Scores

4.3.2.4 Question 4: Can you place your hand behind your head with the elbow straight out to the side?

4.3.2.4.1 Graphical Representation of Question 4 Scores

4.3.2.4.2 Statistical Representation of Question 4 Scores

4.3.2.5 Question 5: Can you lift a full litre container to the level of your shoulder without bending your elbow?

4.3.2.5.1 Graphical Representation of Question 5 Scores

4.3.2.5.2 Statistical Representation of Question 5 Scores

4.3.2.6 Question 6: Can you wash the back of your opposite shoulder with the affected extremity

4.3.2.6.1 Graphical Representation of Question 6 Scores

4.3.2.6.2 Statistical Representation of Question 6 Scores

4.4 Levels Adjusted at each Visit

4.4.1 Visit 1

4.4.2 Visit 2

4.4.3 Visit 3

4.4.4 Visit 4

4.4.5 Visit 5

4.4.6 Visit 6

4.4.7 Visit 7

4.4.8 Visit 8

4.4.9 Visit 9

4.5 Tables of Interpretive Data

4.6 Swimming Strokes

CHAPTER 5 DISCUSSION

5.1 Introduction

5.2 Objective Data

5.2.1 Shoulder Abduction Range of Motion
5.2.2 Painful Arc
5.2.3 Supraspinatus Test
5.3 Subjective Data
  5.3.1 Visual Analogue Pain Scale
  5.3.2 Questionnaire
    5.3.2.1 Question 1: Is your shoulder comfortable with your arm at rest by your side?
    5.3.2.2 Question 2: Does your shoulder allow you to sleep comfortably?
    5.3.2.3 Question 3: Can you reach the small of your back to tuck in your shirt with your hand?
    5.3.2.4 Question 4: Can you place your hand behind your head with the elbow straight out to the side?
    5.3.2.5 Question 5: Can you lift a full litre container to the level of your shoulder without bending your elbow?
    5.3.2.6 Question 6: Can you wash the back of your opposite shoulder with the affected extremity?
  5.4 Levels of Manipulation
  5.5 Tables of Interpretive Data
5.6 Swimming Strokes

CHAPTER 6 CONCLUSION AND RECOMMENDATION
  6.1 Conclusion
  6.2 Recommendation

CHAPTER 7 REFERENCE
LIST OF FIGURES

Figure 1. Anterior view of musculature and osteology of the pectoral girdle 7
Figure 2. Muscles of the rotator cuff 9
Figure 3. Lift force and propulsion while swimming freestyle 15
Figure 4. Freestyle stroke pattern 18
Figure 5. Backstroke stroke pattern 19
Figure 6. Butterfly stroke pattern 20
Figure 7. Butterfly arm pattern 21
Figure 8. Breaststroke stroke pattern 22
Figure 9. Adduction stress in swimmer’s shoulder 25
Figure 10. Vascularity of critical zone 25
Figure 11. Scheme showing the relationship of a cervical nerve and its ganglion to a cervical vertebra 35
Figure 12. Joint manipulation and mobilization 38
Figure 13. The in-door-way stretch 46
Figure 14. Sports specific exercise of the shoulder 47
Figure 15. Lateral rotation of the arm at the shoulder 48
Figure 16. Standing row 49
Figure 17. Push-ups with extra 50
Figure 18. Posterior Superior Occiput 52
Figure 19. Superior condyle 53
Figure 20. Cervical Break 54, 55
Figure 21. Thumb Cervical Extension 56
Figure 22. Combination Movement 58
Figure 23. Thumb Movement: Bench TM 59
Figure 24. Crossed Bilateral Body Drop 60
Figure 25. Comparison of the Means for Shoulder Abduction Range of Motion. 68
Figure 26. The graph compares the number of positive pain scale readings in each visit. 71
Figure 27. The graph compares the number of positive Supraspinatus test results. 73
Figure 28. Comparison of the Means for the Visual Analogue Pain Scale Scores 75
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>A comparison of the Means for the Questionnaire Question One</td>
<td>78</td>
</tr>
<tr>
<td>30</td>
<td>Comparison of the Means for the Questionnaire Question Two</td>
<td>81</td>
</tr>
<tr>
<td>31</td>
<td>Comparison of the Means for the Questionnaire question Three</td>
<td>83</td>
</tr>
<tr>
<td>32</td>
<td>Comparison of the Means for the Questionnaire Question Four</td>
<td>85</td>
</tr>
<tr>
<td>33</td>
<td>Comparison of the Means for the Questionnaire Question Five</td>
<td>87</td>
</tr>
<tr>
<td>34</td>
<td>Comparison of the Means for the Questionnaire Question Six</td>
<td>89</td>
</tr>
<tr>
<td>35</td>
<td>Pie chart representing the levels adjusted at the first visit.</td>
<td>91</td>
</tr>
<tr>
<td>36</td>
<td>Pie chart representing the levels adjusted at the second visit.</td>
<td>93</td>
</tr>
<tr>
<td>37</td>
<td>Pie chart representing the levels adjusted at the third visit.</td>
<td>95</td>
</tr>
<tr>
<td>38</td>
<td>Pie chart representing the levels adjusted at the fourth visit.</td>
<td>97</td>
</tr>
<tr>
<td>39</td>
<td>Pie chart representing the levels adjusted at the fifth visit.</td>
<td>99</td>
</tr>
<tr>
<td>40</td>
<td>Pie chart representing the levels adjusted at the sixth visit.</td>
<td>101</td>
</tr>
<tr>
<td>41</td>
<td>Pie chart representing the levels adjusted at the seventh visit.</td>
<td>103</td>
</tr>
<tr>
<td>42</td>
<td>Pie chart representing the levels adjusted at the eighth visit.</td>
<td>105</td>
</tr>
<tr>
<td>43</td>
<td>Pie chart representing the levels adjusted at the ninth visit.</td>
<td>107</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1: Phases of scapulohumeral rhythm 8
Table 2. Neer Stages of Impingement 11
Table 3. Muscles connecting the upper limb to the spine 33
Table 4. Differential Diagnosis of Shoulder pain 39
Table 5. Uncommon diagnoses of cervicobrachial pain 40
Table 6. Contraindications to Spinal Manipulative Therapy 43
Table 7. Contraindications to shoulder rehabilitation 44
Table 8: Descriptive statistics for Questionnaire Question 1 79
Table 9. Descriptive Statistics for Questionnaire Question 2 82
Table 10. Descriptive Statistics for Questionnaire Question 3 84
Table 11. Descriptive Statistics for Questionnaire Question 4. 86
Table 12. Descriptive Statistics for Questionnaire Question 5. 88
Table 13. Descriptive Statistics for Questionnaire Question 6 90
Table 14. Table demonstrating the number of times each level was adjusted in 91
visit 1.
Table 15. Table demonstrating the number of times each level was adjusted in 93
visit 2.
Table 16. Table demonstrating the number of times each level was adjusted in 95
visit 3.
Table 17. Table demonstrating the number of times each level was adjusted in 97
visit 4.
Table 18. Table demonstrates the number of times each level was adjusted in 99
visit 5.
Table 19. Table demonstrating the number of times each level was adjusted in 101
visit 6.
Table 20. Table demonstrating the number of times each level was adjusted in 103
visit 7
Table 21. Table demonstrating the number of times each level was adjusted in 105
visit 8
Table 22. Table demonstrating the number of times each level was adjusted in 107
visit 9.
Table 23. Age groups 108
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 24</td>
<td>Gender</td>
<td>108</td>
</tr>
<tr>
<td>Table 25</td>
<td>Dominance</td>
<td>109</td>
</tr>
<tr>
<td>Table 26</td>
<td>Chronicity</td>
<td>109</td>
</tr>
<tr>
<td>Table 27</td>
<td>Number of patients and their main stroke</td>
<td>110</td>
</tr>
<tr>
<td>Appendix</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Appendix A</td>
<td>Advertisement</td>
<td>135</td>
</tr>
<tr>
<td>Appendix B</td>
<td>Patient Information and Consent Form</td>
<td>136</td>
</tr>
<tr>
<td>Appendix C</td>
<td>Soap Note</td>
<td>138</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Pertinent Physical Examination</td>
<td>139</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Cervical Spine Regional Examination</td>
<td>141</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Shoulder Regional Examination</td>
<td>147</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Questionnaire</td>
<td>155</td>
</tr>
<tr>
<td>Appendix H</td>
<td>Visual Analogue Pain Scale</td>
<td>156</td>
</tr>
<tr>
<td>Appendix I</td>
<td>Pain Free Shoulder Abduction Range of Motion Scores</td>
<td>157</td>
</tr>
<tr>
<td>Appendix J</td>
<td>Painful Arc Scores</td>
<td>158</td>
</tr>
<tr>
<td>Appendix K</td>
<td>Supraspinatus Test Scores</td>
<td>159</td>
</tr>
<tr>
<td>Appendix L</td>
<td>Visual Analogue Pain Scale Scores</td>
<td>160</td>
</tr>
<tr>
<td>Appendix M</td>
<td>Questionnaire Score</td>
<td>161</td>
</tr>
<tr>
<td>Appendix N</td>
<td>Levels of Adjustment</td>
<td>164</td>
</tr>
<tr>
<td>Appendix O</td>
<td>Full Statistical Analysis</td>
<td>165</td>
</tr>
</tbody>
</table>