HRB Centre for Primary Care Research
Research Briefs

Musculoskeletal Disorders

Diagnosis and treatment of common musculoskeletal disorders

HRB Centre for Primary Care Research

RCSI Royal College of Surgeons in Ireland
Coláiste Ríoga na Máinleá in Éirinn

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123 St Stephen's Dublin 2, Ireland

The HRB Centre for Primary Care Research offers elective research placements to RCSI's and other universities' undergraduate medical students. Students are facilitated to engage in research in a supportive environment. This process allows students to develop their research skills and nurture an interest in evidence-based medicine.

Dr. Rose Galvin, a physiotherapist and post-doctoral researcher at the HRB Centre, was responsible for the supervision of two students who conducted research into musculoskeletal disorders. The first condition, lateral epicondylitis, is commonly known as tennis elbow (TE). The condition is characterised by pain, at or near the outside of the elbow, particularly when resistance is applied on wrist or finger extension. The second condition, subacromial impingement syndrome (SIS), is a shoulder complaint and patients usually present with pain and weakness around the shoulder region.

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Claire Callaghan, an undergraduate medical student from University College Dublin, examined the effect of botulinum toxin (BoNT-A) injections when compared to other non-BoNT-A interventions on pain and grip strength in individuals presenting with TE. The results of the systematic review suggest that an injection of BoNT-A into the origin of the extensors of the forearm significantly reduces pain for up to 18 weeks when compared to placebo or no treatment. No differences in grip strength are found between BoNT-A and placebo treated subjects. The long term impact of BoNT-A injections is not reported in the six trials included in the review, whilst short term adverse effects of BoNT appear to be low. Dr. Galvin commented that further randomised controlled trials assessing the longer term risks and benefits of BoNT-A injection are required prior to mainstream use in clinical practice. The findings were published in *Seminars in Arthritis and Rheumatism* [1].

Marwan Alqunaee, a medical student at RCSI, completed a systematic review and meta-analysis that examined the diagnostic accuracy of five common clinical tests used in the diagnosis of SIS. This review was recently published in *Archives of Physical Medicine and Rehabilitation* [2]. Ten studies are included in the meta-analysis. The results indicate that the Hawkins-Kennedy test, Neer's sign and the empty can test are more useful at ruling out rather than ruling in SIS. In contrast, the drop arm test and lift off test are more useful for ruling in SIS if the test is positive. This systematic review highlights the diagnostic accuracy of five clinical tests for SIS, in particular the lift off test. Accurate diagnosis of SIS in clinical practice may serve to improve appropriate treatment and management of individuals with such shoulder complaints.

Dr. Borislav D Dimitrov, Senior Research Fellow and Programme Manager of the Centre (www.hrbcentreprimarycare.ie), highlights the multidisciplinary nature of the research team: 'Having staff from a variety of different disciplines means that students can be facilitated to complete research in a clinical domain of interest to them'.

The articles can be viewed at:

[1] Galvin R, Callaghan C, Chan SC, Dimitrov BD, Fahey T. Injection of botulinum toxin for treatment of chronic lateral epicondylitis: systematic review and meta-analysis. *Seminars in Arthritis and Rheumatism* 2011, 40(6):585-587. (www.ncbi.nlm.nih.gov/pubmed/21397930)

[2] Alqunaee M, Galvin R, Fahey T. Diagnostic accuracy of clinical tests for subacromial impingement syndrome: a systematic review and meta-analysis. *Archives of Physical Medicine and Rehabilitation* 2012; 93(2):229-236. (www.ncbi.nlm.nih.gov/pubmed/22289231)