

Physiotherapy Outpatients

Evidence Update



May 2018
(Quarterly)

Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Training Calendar 2018

May (13.00-14.00)

22nd (Tue) **Critical Appraisal**

30th (Wed) **Statistics**

June (12.00-13.00)

7th (Thu) **Literature Searching**

11th (Mon) **Critical Appraisal**

20th (Wed) **Statistics**

28th (Thu) **Literature Searching**

Your Outreach Librarian – **Helen Pullen**

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Outreach: Your Outreach Librarian can help facilitate evidence-based practice for everyone in the team, as well as assisting with academic study and research. We also offer one-to-one or small group training in **literature searching, critical appraisal and medical statistics**.

Get in touch: library@uhbristol.nhs.uk

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research. Please email requests to library@uhbristol.nhs.uk

Library Opening Times

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**Level 5, Education and Research Centre
University Hospitals Bristol**

Latest Evidence

NICE National Institute for
Health and Care Excellence

[Best practice for management of distal radial fractures \(DRFs\)](#) [PDF]

Source: [British Orthopaedic Association - BOA](#) - 01 April 2018 - Publisher: British Orthopaedic Association (BOA); British Society for Surgery of the Hand

The British Orthopaedic Association (BOA) and the British Society for Surgery of the Hand (BSSH) have collaborated to commission a committee to produce best practice guidelines on the management of...



[Non-pharmacological interventions for treating chronic prostatitis/chronic pelvic pain syndrome](#)

Source: [Cochrane Database of Systematic Reviews](#) - 12 May 2018

These therapies were given to men in an outpatient setting. Most studies did not specify their funding sources; three studies reported...

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OpenAthens login required. Register here: <https://openathens.nice.org.uk/>

Searched but nothing relevant to add.

Journal Tables of Contents

Click on the hyperlinked title (+Ctrl) for the current contents of key journals.

If you would like any of the papers in full text then please email the library:
library@uhbristol.nhs.uk

[Physiotherapy](#)

June 2018, Volume 104, Issue 2

[Musculoskeletal Science and Practice](#)

June 2018, Volume 35

[BMJ](#)

Archive at a glance

[Spine](#)

June 2018, Volume 43, Issue 12

[British Journal of Sports Medicine](#)

June 2018, Volume 52, Issue 12



Library Clinic

Stop by and find out more about our services. We will be here to answer any questions you may have!

June 6th: **Terrace (Level 4, Education Centre) 12.00-14.00**

June 19th: **Welcome Centre, BRI 10.00-16.00**

July 3rd: **Welcome Centre, BRI 10.00-16.00**

July 4th: **Canteen (Level 9, BRI) 12.00-14.00**

August 8th: **Foyer, Education Centre 12.00-14.00**

August 29th: **Foyer, St Michael's Hospital 12.00-14.00**

September 5th: **Canteen (Level 9, BRI) 12.00-14.00**

September 11th: **Welcome Centre, BRI 10.00-16.00**

October 3rd: **Terrace (Level 4, Education Centre) 12.00-14.00**

November 7th: **Canteen (Level 9, BRI) 12.00-14.00**

December 5th: **Foyer, Education Centre 12.00-14.00**

December 11th: **Welcome Centre, BRI 10.00-16.00**

Recent Database Articles

Below is a selection of articles recently added to the healthcare databases.

- Achilles Tendon Rupture
- Anterior Cruciate Ligament Repair
- Cervical Spine Disc
- Shoulder Impingement and Dislocation

If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch:

library@uhbristol.nhs.uk

1. Analysis of shoulder compressive and shear forces during functional activities of daily life.

Author(s): Klemt, Christian; Prinold, Joe A.; Morgans, Sharon; Smith, Samuel H.L.; Nolte, Daniel; Reilly, Peter; Bull, Anthony M.J.

Source: Clinical Biomechanics; May 2018; vol. 54 ; p. 34-41

Publication Date: May 2018

Publication Type(s): Academic Journal

Abstract:Background Knowledge of forces acting through the glenohumeral joint during activities of daily living is a prerequisite for improving implant design and aiding rehabilitation planning. Existing data are limited by the number of activities performed and, in some cases, the lack of representation of the glenohumeral loading direction, although high shear force components may cause joint dislocation or implant loosening. This study aims to analyse shoulder compression and shear force components during essential functional activities of daily living. Methods This is a combined modelling and experimental study. Motion data and external forces measured from 25 participants for 26 activities of daily living serve as input into an upper limb musculoskeletal model that quantifies glenohumeral loading. Findings The shoulder contact force exceeds 50% of the body weight in 10/26 activities of daily living with a maximum contact force of 164% of the body weight (SD 69%) for a sit to stand task. The ratio of glenohumeral shear force component to compression force component exceeds 0.5 in 8/26 functional activities, with maximum ratios for reaching across the body (1.09; SD 0.41) and pick and place an everyday object (0.88; SD 0.36). Interpretation This study demonstrates substantial loads through the glenohumeral joint during activities of daily living. The ratios of glenohumeral shear force component to compression force component are considerable when high loads act at long lever arms and at high angles of arm elevation. These glenohumeral ratios represent a key component of loading that should be considered when designing implants, surgical procedures, or rehabilitation protocols.

Database: CINAHL

3. Treatment of acute achilles tendon rupture with the panda rope bridge technique.

Author(s): Yin, Liangjun; Wu, Yahong; Ren, Changsong; Wang, Yizhong; Fu, Ting; Cheng, Xiangjun; Li, Ruidong; Nie, Mao; Mu, Yuan

Source: Injury; Mar 2018; vol. 49 (no. 3); p. 726-729

Publication Date: Mar 2018

Publication Type(s): Academic Journal

PubMedID: 29361295

Abstract:Introduction: Although nonsurgical methods and many surgical techniques have been developed for repairing a ruptured Achilles tendon, there is no consensus on its best treatment. In this article, a novel minimally invasive technique called the Panda Rope Bridge Technique (PRBT) is described.Methods: Patient with acute Achilles tendon rupture was operated on in the prone position. The PRBT begin with making the proximal bridge anchor (Krackow sutures in the myotendinous junction), the distal bridge anchor (two suture anchors in the calcaneus bone) and the ropes (threads of the suture anchors) stretched between the anchor sites. Then a small incision was made to debride and reattach the stumps of ruptured tendon. After the surgery, no cast or splint fixation was applied. All patients performed enhanced recovery after surgery (ERAS), which included immediate ankle mobilisation from day 1, full weight-bearing walking from day 5 to 7, and gradually take part in athletic exercises from 8 weeks postoperatively.Results: PBRT was performed in 11patients with acute Achilles tendon rupture between June 2012 and June 2015. No wound infection, fistula, skin necrosis, sural nerve damage, deep venous thrombosis or tendon re-rupture was found. One year after the surgery, all patients reported 100 AOFAS ankle-hindfoot score points and the mean ATRS was 96.6.Conclusion: The PRBT is a simple, effective and minimally invasive technique, with no need for immobilisation of the ankle, making possible immediate and aggressive postoperative rehabilitation.

Database: CINAHL

4. Clinical reasoning for complex cervical spine conditions.

Author(s): Reid, Duncan; Rebbeck, Trudy; McCarthy, Christopher

Source: International Journal of Osteopathic Medicine; Mar 2018; vol. 27 ; p. 45-51

Publication Date: Mar 2018

Publication Type(s): Academic Journal

Abstract:Clinical reasoning is at the cornerstone of clinical practice. Case studies are not viewed as highly in the evidence hierarchy as randomised controlled trials but they provide valuable insights into individual cases and clinicians often relate well to these as there are parallels with patients they see in their own clinics. This master class presents three cases related to cervical spine pathologies as assessed or managed by three physiotherapists. These therapist are experienced clinicians and academics and bring their expertise of both worlds (clinical and academic) to these cases providing an overview of the case, followed by their interpretation and rationale for care with their clinical reasoning insights. The cases where originally presented at a recent international physiotherapy conference and reworked for journal publication.

Database: CINAHL

5. Pediatric and adolescent anterior shoulder instability: clinical management of first-time dislocators.

Author(s): Lin, Kenneth M.; James, Evan W.; Spitzer, Elad; Fabricant, Peter D.

Source: Current Opinion in Pediatrics; Feb 2018; vol. 30 (no. 1); p. 49-56

Publication Date: Feb 2018

Publication Type(s): Academic Journal

PubMedID: 29135565

Abstract: Purpose Of Review: The purpose of this review is to discuss the epidemiology, pathoanatomy, diagnosis, and clinical management of pediatric and adolescent patients following a first-time shoulder dislocation. Recent Findings: Shoulder instability is becoming increasingly common as pediatric and adolescent patients engage in earlier organized sports competition. Recommended treatment following a first-time glenohumeral dislocation event in adolescents depends on several factors, but surgical stabilization is becoming more frequently performed. Surgical indications include bony Bankart lesion, ALPSA lesion, bipolar injury (e.g. Hill-Sachs humeral head depression fracture) or off-season injury in an overhead or throwing athlete. Complications following surgical treatment are rare but most commonly are associated with recurrent instability. Young children (eg. open proximal humerus growth plate), individuals averse to surgery, or in-season athletes who accept the risk of redislocation may complete an accelerated rehabilitation program for expedited return to play in the absence of the structural abnormalities listed above. Summary: Following a first-time dislocation event in pediatric and adolescent patients, a detailed discussion of the risks and benefits of nonoperative versus operative management is critical to match the recommended treatment with the patient's injury pattern, risk factors, and activity goals.

Database: CINAHL

6. Comparison of 2 Exercise Rehabilitation Programs for Multidirectional Instability of the Glenohumeral Joint: A Randomized Controlled Trial.

Author(s): Warby, Sarah A.; Ford, Jon J.; Hahne, Andrew J.; Watson, Lyn; Balster, Simon; Lenssen, Ross; Pizzari, Tania

Source: American Journal of Sports Medicine; Jan 2018; vol. 46 (no. 1); p. 87-97

Publication Date: Jan 2018

Publication Type(s): Academic Journal

Abstract: Background: The recommended initial treatment for multidirectional instability (MDI) of the shoulder is a rehabilitation program, yet there is very low-quality evidence to support this approach. Purpose/Hypothesis: The purpose was to compare the Watson MDI program and Rockwood Instability program among patients with nontraumatic, nonstructural MDI. The hypothesis was that the Watson MDI program would produce clinically and statistically superior outcomes over the Rockwood Instability program. Study Design: Randomized controlled trial; Level of evidence, 2. Methods: Forty-one participants with MDI were randomly allocated to the Watson MDI or Rockwood Instability program. Participants attended 12 weekly physiotherapy sessions for exercise prescription. Outcomes were assessed at baseline and 6, 12, and 24 weeks after randomization. Primary outcomes were the Melbourne Instability Shoulder Score (MISS) and the Western Ontario Shoulder Index (WOSI). Secondary outcomes included the Orebro Musculoskeletal Pain Questionnaire, pain, muscle strength, scapular upward rotation, scapular coordinates, global rating of change, satisfaction scales, limiting angle in abduction range, limiting factor in abduction range, and incidence of dislocation. Primary analysis was by intention to treat based on linear mixed models. Results: Between-group differences showed significant effects favoring the Watson program for the WOSI (effect size [ES], 11.1; 95% CI, 1.9-20.2; P = .018) and for the limiting factor in abduction (ES, 0.1; 95% CI, 0.0-1.6; P = .023) at 12 weeks, and for the WOSI (ES, 12.6; 95% CI, 3.4-21.9; P = .008), MISS (ES, 15.4; 95% CI, 5.9-24.8; P = .002), and pain (ES, -2.0; CI: -2.3 to -0.7, P = .003) at 24 weeks. Conclusion: For people with MDI, 12 sessions of the Watson MDI program were more effective than the Rockwood program at 12- and 24-week follow-up. Registration: ACTRN12613001240730 (Australian New Zealand Clinical Trials Registry).

Database: CINAHL

7. A novel minimally invasive surgery combined with early exercise therapy promoting tendon regeneration in the treatment of spontaneous Achilles tendon rupture

Author(s): Aisaiding A.; Wang J.; Maimaiti R.; Jialihasi A.; Aibek R.; Qianman B.; Shawutali N.; Badelihan A.; Bahetiya W.; Kubai A.; Kelamu M.; Nuerdoula Y.; Makemutibieke E.; Bakyt Y.; Wuerliebieke J.; Jielile J.

Source: Injury; Mar 2018; vol. 49 (no. 3); p. 712-719

Publication Date: Mar 2018

Publication Type(s): Article

Abstract:Objective: Acute closed spontaneous Achilles tendon rupture often occurs in elderly individuals and is usually accompanied with many complications. Conventional surgical approaches to remove the tendon lesions and enthesophytes are highly traumatic and cause complications. In this study, a previously established minimally invasive surgical approach was modified and combined with a Kazakh exercise therapy to reduce trauma, improve wound healing, and promote tendon regeneration in the management of acute closed spontaneous Achilles tendon rupture. Methods: Fifty-two patients with acute closed spontaneous Achilles tendon rupture were randomly classified into 2 groups. Group A included 23 patients that were treated with the novel approach. Group B included 29 patients that were treated with a continuous medial oblique surgical approach. Follow-up examinations were performed at post-operative weeks 12 and 24, and year 2. Outcomes were assessed by Achilles tendon rupture score (ATRS), a heel-rise endurance test, and ultrasonographic and multislice spiral computerized tomography. Results: Mean ATRS in Group A was 68.6 and 86.0 at post-operative week 12 and 24, respectively, significantly higher than that in Group B (55.9 and 72.0, respectively). Recovery of patients in Group A was significantly better compared to Group B ($p < 0.01$), allowing them to participate in early rehabilitating kinesiotherapy. Patients in Group A rarely experienced complications after surgery, such as infection and Achilles tendon exposure, while in Group B, the wound healing was slower, the inside flaps were prone to necrosis and infection, and Achilles tendon exposure occurred in 10% of patients. Conclusions: The novel minimally invasive surgery is more advantageous in the treatment of acute closed spontaneous Achilles tendon rupture over previous approaches by promoting wound healing and tendon regeneration. Copyright © 2017 Elsevier Ltd

Database: EMBASE

8. Biplanar fixation of acromio-clavicular joint dislocation associated with coracoid process fracture: Case report

Author(s): Metwaly R.G.; Edres K.

Source: Trauma Case Reports; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract:Introduction: Acromioclavicular (AC) joint injury associated with coracoid process (CP) fracture is a rare injury and only case reports had been published in the literature. Although AC joint injury is not uncommon, there is controversy as regard the best stabilization method whether to use wires, hook plate, arthroscopic reconstruction or the recently described techniques of anatomic restoration of both the coracoclavicular (CC) and acromioclavicular (AC) ligaments to add stability in both the vertical as well as the horizontal plane for the AC joint. Isolated CP fracture rarely necessitates surgical intervention; but in association with AC joint injury; a controversy as regard best management, surgical approach, technique of stabilization and implant used is present due to paucity of literature. Patient and method: A 36 years old manual worker who sustained a combined injury of AC joint (grade III) and CP comminuted base fracture had been treated surgically in our

hospital using a biplanar fixation technique; blind 4 mm cannulated screw for the CP fracture and anatomic reconstruction of the AC ligament using FibreTape (Arthrex, Naples, FL); to add stability in both the vertical and horizontal plane. Follow up was done for one year. Results: After completion of rehabilitation program, patient could return to work with no shoulder pain in ten weeks postoperatively. Till the last follow up there was no evidence of loss of reduction or shoulder pain with a Constant score of 86. Conclusion: Our technique in combined AC joint and CP fracture, address both injuries to add biplanar AC joint stability allowing accelerated rehabilitation and avoids metal hardware complications. Copyright © 2018 The Authors

Database: EMBASE

9. Acute Achilles tendon rupture treatment: Where are we now?

Author(s): Aujla R.; Sapare S.; Bhatia M.

Source: Journal of Arthroscopy and Joint Surgery; 2018

Publication Date: 2018

Publication Type(s): Article In Press

Abstract:Objective: Our objective was to review the current literature regarding acute Achilles tendon ruptures and provide a succinct summary of the use of clinicians treating Achilles tendon ruptures. We aim to provide guidance for treatment based upon current literature. Methods: We reviewed current literature and subjectively assessed for quality and influence of studies in current practice. Review: The Achilles Tendon Rupture Score (ATRS) has become a vital tool in assessing functional outcome following interventions as re-rupture rates have balanced out for all treatment modalities. There remains continued debate between surgical and non-surgical treatment options. Both patterns have evolved over the past decade. Percutaneous fixation techniques are superseding traditional open surgery. Functional dynamic non-surgical regimes are also being developed to create the optimum environment for the Achilles tendon to heal and provide high functional outcomes. There even remains limited evidence that platelet-rich plasma aids healing, the significance of gap between tendon ends or of thromboprophylaxis lowering the incidence of symptomatic venous thromboembolism. Conclusions: Acute Achilles tendon ruptures should either be managed in a functional rehabilitation regime or by percutaneous surgical repair. The decision depends upon both patient and clinician factors. Copyright © 2018

Database: EMBASE

10. Train the brain: immediate sensorimotor effects of mentally performed flexor exercises in patients with neck pain. A pilot study.

Author(s): Beinert, Konstantin; Sofsky, Marc; Trojan, Jörg

Source: European journal of physical and rehabilitation medicine; May 2018

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29745626

Abstract:BACKGROUND Sensorimotor tests, like cranio- cervical flexion and cervical joint position sense tests, share a strong cognitive component during their execution. However, cognitive training for those tests has not been investigated so far. AIM To compare mental and physical exercises for improving the sensorimotor function of the cervical spine. DESIGN A within-subject design with 16 participants. SETTING Outpatient physiotherapy centre. POPULATION Patients with chronic neck pain. METHODS Participants were instructed to perform specific active or mental exercises for the

deep and superficial neck flexor muscles. The primary outcomes were cranio-cervical flexion test performance, postural sway, cervical joint position sense and pressure pain threshold. A mixed model analysis was used. **RESULTS** The interventions improved cranio-cervical flexion performance ($p < 0.001$), with no difference between actively or mentally performed exercises. Postural sway increased after actively ($p < 0.01$) and mentally ($p < 0.05$) performed deep cervical neck flexor exercises, but not after superficial neck flexor exercises. Mentally performed superficial neck flexor exercises improved cervical joint position sense when compared to mentally performed deep cervical flexor exercises ($p < 0.05$), and actively performed superficial neck flexor exercises were effective in improving cervical joint position sense acuity compared to mentally performed deep cervical flexor exercises ($p < 0.05$) for relocation tasks in the transverse plane. The pressure pain threshold at the cervical spine increased after active deep cervical flexor exercises ($p < 0.05$) and after mental superficial neck flexor exercise ($p < 0.05$). **CONCLUSIONS** Mentally performed deep cervical flexor exercises improved cranio-cervical flexion test performance, postural sway and pressure pain threshold at the cervical spine. Mentally performed superficial neck flexor exercises improved cervical joint position sense acuity more than mentally performed deep cervical flexor exercises. **CLINICAL REHABILITATION IMPACT** Mentally performed exercises are recommended in the early stages of rehabilitation to counteract extensive muscle impairment, and these can be incorporated into daily routine.

Database: Medline

11. The Brighton musculoskeletal Patient-Reported Outcome Measure (BmPROM): An assessment of validity, reliability, and responsiveness.

Author(s): Bryant, Elizabeth; Murtagh, Shemane; Finucane, Laura; McCrum, Carol; Mercer, Christopher; Smith, Toby; Canby, Guy; Rowe, David A; Moore, Ann P

Source: Physiotherapy research international : the journal for researchers and clinicians in physical therapy; May 2018 ; p. e1715

Publication Date: May 2018

Publication Type(s): Journal Article

PubMedID: 29749667

Abstract: **BACKGROUND** In response for the need of a freely available, stand-alone, validated outcome measure for use within musculoskeletal (MSK) physiotherapy practice, sensitive enough to measure clinical effectiveness, we developed an MSK patient reported outcome measure. **OBJECTIVES** This study examined the validity and reliability of the newly developed Brighton musculoskeletal Patient-Reported Outcome Measure (BmPROM) within physiotherapy outpatient settings. **METHODS** Two hundred twenty-four patients attending physiotherapy outpatient departments in South East England with an MSK condition participated in this study. The BmPROM was assessed for user friendliness (rated feedback, $N = 224$), reliability (internal consistency and test-retest reliability, $n = 42$), validity (internal and external construct validity, $N = 224$), and responsiveness (internal, $n = 25$). **RESULTS** Exploratory factor analysis indicated that a two-factor model provides a good fit to the data. Factors were representative of "Functionality" and "Wellbeing". Correlations observed between the BmPROM and SF-36 domains provided evidence of convergent validity. Reliability results indicated that both subscales were internally consistent with alphas above the acceptable limits for both "Functionality" ($\alpha = .85$, 95% CI [.81, .88]) and 'Wellbeing' ($\alpha = .80$, 95% CI [.75, .84]). Test-retest analyses ($n = 42$) demonstrated a high degree of reliability between "Functionality" (ICC = .84; 95% CI [.72, .91]) and "Wellbeing" scores (ICC = .84; 95% CI [.72, .91]). Further examination of test-retest reliability through the Bland-Altman analysis demonstrated that the difference between "Functionality" and "Wellbeing" test scores did not vary as a function of absolute test score. Large treatment effect sizes were found for both subscales

(Functionality $d = 1.10$; Wellbeing 1.03). **CONCLUSION** The BmPROM is a reliable and valid outcome measure for use in evaluating physiotherapy treatment of MSK conditions.

Database: Medline

12. Prediction models of health-related quality of life in different neck pain conditions: a cross-sectional study.

Author(s): Beltran-Alacreu, Hector; López-de-Uralde-Villanueva, Ibai; Calvo-Lobo, César; La Touche, Roy; Cano-de-la-Cuerda, Roberto; Gil-Martínez, Alfonso; Fernández-Ayuso, David; Fernández-Carnero, Josué

Source: Patient preference and adherence; 2018; vol. 12 ; p. 657-666

Publication Date: 2018

Publication Type(s): Journal Article

PubMedID: 29750020

Available at [Patient preference and adherence](#) - from Europe PubMed Central - Open Access

Available at [Patient preference and adherence](#) - from PubMed Central

Abstract: **Purpose** The main aim of the study was to predict the health-related quality of life (HRQoL) based on physical, functional, and psychological measures in patients with different types of neck pain (NP). **Materials and methods** This cross-sectional study included 202 patients from a primary health center and the physiotherapy outpatient department of a hospital. Patients were divided into four groups according to their NP characteristics: chronic (CNP), acute whiplash (WHIP), chronic NP associated with temporomandibular dysfunction (NP-TMD), or chronic NP associated with chronic primary headache (NP-PH). The following measures were performed: Short Form-12 Health Survey (SF-12), Neck Disability Index (NDI), visual analog scale (VAS), State-Trait Anxiety Inventory (STAI), Beck Depression Inventory (BECK), and cervical range of movement (CROM). **Results** The regression models based on the SF-12 total HRQoL for CNP and NP-TMD groups showed that only NDI was a significant predictor of the worst HRQoL (48.9% and 48.4% of the variance, respectively). In the WHIP group, the regression model showed that BECK was the only significant predictor variable for the worst HRQoL (31.7% of the variance). Finally, in the NP-PH group, the regression showed that the BECK, STAI, and VAS model predicted the worst HRQoL (75.1% of the variance). **Conclusion** Chronic nonspecific NP and chronic NP associated with temporomandibular dysfunction were the main predictors of neck disability. In addition, depression, anxiety, and pain were the main predictors of WHIP or primary headache associated with CNP.

Database: Medline