University Hospitals Bristol NHS
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Hand Rehabilitation

Evidence Update

October 2017

(Bimonthly)

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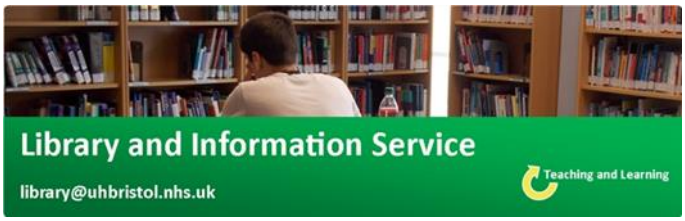

Training Calendar 2017

All sessions are one hour

October (12.00-13.00)
Fri 6th Interpreting Statistics
Mon 9th Literature Searching
Tue 17th Critical Appraisal
Wed 25th Interpreting Statistics

November (13.00-14.00)
Thu 2nd Literature Searching
Fri 10th Critical Appraisal
Mon 13th Interpreting Statistics
Tue 21st Literature Searchin

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NICE National Institute for Health and Care Excellence

Nothing relevant to add to this section

Cochrane Library

Rehabilitation following carpal tunnel release

Source: Cochrane Database of Systematic Reviews - 17 February 2016

treatments including immobilisation using a wrist orthosis, dressings, exercise, controlled cold therapy, ice therapy, multi-modal hand...

UpToDate®

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

https://www.uptodate.com/contents/search?search=hand%20rehabiliation&sp=0&searchType=PLAIN_TEXT&source=USER_INPUT&searchOffset=1&autoComplete=false&language=en&max=10&index=&autoCompleteTerm=

Journal Tables of Contents

Click on the **journal title (+ Ctrl)** for the most recent tables of contents.

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

Journal of Hand Surgery (British and European)

Volume 42, Issue 8, October 2017

Journal of Hand Surgery (America)

Volume 42, Issue 10, p773-858

Journal of Hand Therapy

Volume 30, Issue 3, p233-380

Database Articles

Below are a selection of articles that were recently added to the healthcare databases. 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

HAND REHAB ⁄ Complex Regional Pain Syndrome (CRPS)

1. Hand lesion after arthroscopic rotator cuff repair: Association with complex regional pain syndrome.

Author(s): Tanesue, Ryo; Gotoh, Masafumi; Mitsui, Yasuhiro; Nakamura, Hidehiro; Honda, Hirokazu; Ohzono, Hiroki; Shimokobe, Hisao; Tokunaga, Tsuyoshi; Imai, Takaki; Okawa, Takahiro; Shiba, Naoto

Source: Journal of orthopaedic science : official journal of the Japanese Orthopaedic Association; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28947243

Abstract:BACKGROUNDIt is known that complex regional pain syndrome (CRPS) occurs after arthroscopic rotator cuff repair (ARCR); however, few studies have investigated this complication. Therefore, the purpose of the present study was to evaluate CRPS after ARCR.METHODSA total of 182 patients who underwent ARCR were enrolled in this study. The average age of patients was 62.8 ± 10.0 years, with an average follow-up period of 21.5 ± 38.1 months. CRPS criteria outlined by the Ministry of Health, Labor, and Welfare study team for CRPS in Japan (MHLWJ) and International Association for the Study of Pain (IASP 2005) were utilized for diagnosis. There are two rating systems for the "clinical purpose" and "research purpose" in both criteria, respectively. Clinical outcomes, including Japanese Orthopedic Association (JOA) and University of California, Los Angeles scores, were evaluated using univariate and multivariate analysis.RESULTSCRPS exclusively occurred in the hand of the operated limb, developing within 3 months of surgery. Two or more of the following symptoms were noted in patients with the hand lesion associated with CRPS: edema (93.4%), restricted range of motion (83.4%), hyperalgesia (30.1%), paridrosis (20.4%), and atrophic change (12.2%). Under these conditions, the incidences of CRPS were 24.2% (44/182) when evaluated by the MHLWJ rating system for the "clinical purpose;" 11% (22/182) by the MHLWJ rating system for the "research purpose;" 6% (11/182) by the IASP 2005 for the "clinical purpose;" and 0.5% (1/182) by the IASP 2005 for the "research purpose." Results of multivariate analysis demonstrated that "Function" in the JOA score was a risk factor for the development of CRPS after ARCR, when evaluated by a system for the "clinical purpose" of the MHLWJ.CONCLUSIONFollowing ARCR, CRPS-induced hand lesions occur more frequently than is generally believed, thereby suggesting that its impact on surgical outcomes should be clarified in the future.

Database: Medline

2. Orofacial complex regional pain syndrome: pathophysiologic mechanisms and functional MRI.

Author(s): Lee, Yeon-Hee; Lee, Kyung Mi; Kim, Hyug-Gi; Kang, Soo-Kyung; Auh, Q-Schick; Hong, Jyung-Pyo; Chun, Yang-Hyun

Source: Oral surgery, oral medicine, oral pathology and oral radiology; Aug 2017; vol. 124 (no. 2); p. e164

Publication Date: Aug 2017

Publication Type(s): Journal Article

PubMedID: 28522185

Abstract: Complex regional pain syndrome (CRPS) is one of the most challenging chronic pain conditions and is characterized by burning pain, allodynia, hyperalgesia, autonomic changes, trophic changes, edema, and functional loss involving mainly the extremities. Until recently, very few reports have been published concerning CRPS involving the orofacial area. We report on a 50-year-old female patient who presented with unbearable pain in all of her teeth and hypersensitivity of the facial skin. She also reported intractable pain in both extremities accompanied by temperature changes and orofacial pain that increased when the other pains were aggravated. In the case of CRPS with trigeminal neuropathic pain, protocols for proper diagnosis and prompt treatment have yet to be established in academia or in the clinical field. We performed functional magnetic resonance imaging for a thorough analysis of the cortical representation of the affected orofacial area immediately before and immediately after isolated light stimulus of the affected hand and foot and concluded that CRPS can be correlated with trigeminal neuropathy in the orofacial area. Furthermore, the patient was treated with carbamazepine administration and stellate ganglion block, which can result in a rapid improvement of pain in the trigeminal region.

Database: Medline

3. Spatially-defined motor deficits in people with unilateral complex regional pain syndrome.

Author(s): Reid, Emily J; Braithwaite, Felicity A; Wallwork, Sarah B; Harvie, Daniel; Chalmers, K Jane; Spence, Charles; Gallace, Alberto; Moseley, G Lorimer

Source: Cortex; a journal devoted to the study of the nervous system and behavior; Jul 2017

Publication Date: Jul 2017

Publication Type(s): Journal Article

PubMedID: 28779873

Abstract:OBJECTIVESpatially-defined disruption of autonomic and sensory function has been identified in Complex Regional Pain Syndrome (CRPS). This study aimed to determine whether motor performance is also disrupted in a spatially-defined manner in people with CRPS.METHODSThirteen people with CRPS type 1 of the upper limb participated in two motor experiments. In Experiment 1 participants performed a circle drawing task that primarily tested motor accuracy. In Experiment 2 participants performed a button pressing task that tested motor co-ordination. In both experiments the motor tasks were performed with either hand (affected or healthy), and on either side of the body midline - that is, on the affected side of space or healthy side of space.RESULTSThere was a main effect of both Limb and Side for the motor tasks. In Experiment 1, motor accuracy for the circle drawing task was poorer when participants used their affected hand than when they used their healthy one ($p < .001$), and when the task was performed on the affected side of their body midline than when it was performed on the healthy side ($p < .001$). In Experiment 2, motor co-ordination for the button pressing task was poorer when participants used their affected hand than when they used their healthy one ($p < .001$), and when the task was performed on the affected side of the midline ($p < .001$), as compared to the healthy side of the midline.CONCLUSIONSUnilateral CRPS is associated with a spatially-defined disruption of motor performance. Participants perform worse when the task is performed on the affected side of the body midline, regardless of whether they use their affected or healthy hand.

Database: Medline

HAND REHAB ⁄ Wrist and Finger fractures (distal radius/scaphoid)

1. Minimal training sufficient to diagnose pediatric wrist fractures with ultrasound.

Author(s): Hedelin, Henrik; Tingström, Christian; Hebelka, Hanna; Karlsson, Jon

Source: Critical ultrasound journal; Dec 2017; vol. 9 (no. 1); p. 11

Publication Date: Dec 2017

Publication Type(s): Journal Article

PubMedID: 28484942

Available at Critical ultrasound journal - from Europe PubMed Central - Open Access

Abstract:BACKGROUNDIn children, non-fractured wrists generally need no treatment and those that are fractured may only require a 3-week cast without any clinical follow-up. The ability to perform a point-of-care triage decision if radiographs are needed could improve patient flow and decrease unnecessary radiographs. The aim of this study was to evaluate the role of ultrasound (US) as a point-of-care triage tool for pediatric wrist injuries with limited training.METHODSPhysicians with no previous US experience attended a 1.5 h course in the use of US to diagnose distal radius fractures at the Emergency Department (ED). The physicians firstly used US to diagnose a potential fracture and, if the patient had a fracture, grouped the patient according to how they wanted him/her to be treated based on US. The physician then interpreted the subsequent radiographs and decided on a treatment based on this information. Consultant traumatologists and a senior radiologist established a gold standard for correct treatment and radiological diagnosis, respectively.RESULTSOne hundred and sixteen injuries in 115 patients were included. The ED physician identified 75 fractures on radiographs. With the exception of a minimal buckle fracture, all were identified on US. US had a tendency to interpret complete fractures on radiographs as incomplete (n = 7) leading to incorrect treatment decisions.CONCLUSIONSIn the hands of an US novice, US examination is comparable with radiographs as a point-of-care tool to distinguish a fractured wrist from a non-fractured one. US is not, however, as good as radiographs for placing fractured wrists into the correct treatment group.LEVEL OF EVIDENCELevel III. Diagnostic study of non-consecutive patients.

Database: Medline

2. Effect of health literacy on adherence to osteoporosis treatment among patients with distal radius fracture.

Author(s): Roh, Young Hak; Koh, Young Do; Noh, Jung Ho; Gong, Hyun Sik; Baek, Goo Hyun

Source: Archives of osteoporosis; Dec 2017; vol. 12 (no. 1); p. 42

Publication Date: Dec 2017

Publication Type(s): Journal Article

PubMedID: 28421547

Abstract: Patients with inadequate health literacy, those with medical comorbidities, or those with a previous history of adverse drug events have a higher likelihood of non-adherence to osteoporosis treatment after sustaining a distal radius fracture.INTRODUCTIONPatients with a distal radial fracture (DRF) have a higher risk of subsequent fractures, which provides an important opportunity to begin treatment for osteoporosis. This study assessed the effect that health literacy of patients suffering from a DRF has on the subsequent adherence to osteoporosis treatment.METHODSA total of 116 patients (female, over 50 years of age) presenting a DRF caused by low-energy trauma were enrolled. Their health literacy was measured using the Newest Vital Sign (NVS). Alendronate (70 mg, orally, once weekly) was prescribed to all patients for 1 year, and adherence was defined as taking at least 80% of the tablets for 12 months and returning for the visit on month 12. Multivariable analyses were conducted to determine whether the patients' clinical, demographic, and health

literacy factors influenced their adherence to osteoporosis treatment.RESULTSAbout half (52%) of the participants who sustained a DRF exhibited an inadequate health literacy, and the rate of non-adherence to osteoporosis treatment was 38%. The rate of non-adherence for patients with inadequate literacy was significantly higher than for those with appropriate literacy (47 vs. 29%, p = 0.04). The results of the regression analysis indicate that limited health literacy, the presence of comorbidities, and prior history of adverse drug events are associated with a higher likelihood of non-adherence to osteoporosis treatment after sustaining a DRF.CONCLUSIONSPatients with inadequate health literacy, adverse drug events, or medical comorbidities had higher rates of non-adherence with alendronate treatment after sustaining a DRF. Further research is needed to show whether improvements in patient comprehension via informational intervention in patients with a DRF will improve adherence to osteoporosis treatment.

Database: Medline

3. Effect of low appendicular lean mass, grip strength, and gait speed on the functional outcome after surgery for distal radius fractures.

Author(s): Roh, Young Hak; Noh, Jung Ho; Gong, Hyun Sik; Baek, Goo Hyun

Source: Archives of osteoporosis; Dec 2017; vol. 12 (no. 1); p. 41

Publication Date: Dec 2017

Publication Type(s): Journal Article

PubMedID: 28411349

Abstract: Patients with low appendicular lean mass plus slow gait speed or weak grip strength are at risk for poor functional recovery after surgery for distal radius fracture, even when they have similar radiologic outcomes.INTRODUCTIONLoss of skeletal muscle mass and consequent loss in muscle function associate with aging, and this condition negatively impacts the activities of daily living and increases elderly individuals' frailty to falls. Thus, patients with low appendicular lean mass would show different functional recovery compared to those without this condition after surgery for distal radius fracture (DRF). This study compares the functional outcomes after surgery for DRF in patients with or without low appendicular lean mass plus slowness or weakness.METHODSA total of 157 patients older than 50 years of age with a DRF treated via volar plate fixation were enrolled in this prospective study. A definition of low appendicular lean mass with slowness or weakness was based on the consensus of the Asian Working Group for Sarcopenia. The researchers compared functional assessments (wrist range of motion and Michigan Hand Questionnaire [MHQ]) and radiographic assessments (radial inclination, volar tilt, ulnar variance, and articular congruity) 12 months after surgery between patients with and without low appendicular lean mass plus slowness or weakness. Multivariable regression analyses were performed to determine whether appendicular lean mass, grip strength, gait speed, patient demographic, or injury characteristics accounted for the functional outcomes.RESULTSPatients with low appendicular lean mass plus slowness or weakness showed a significantly lower recovery of MHQ score than those in the control group throughout 12 months. There was no significant difference in the range of motion between the groups. The radiologic outcomes showed no significant difference between groups in terms of volar tilt, radial inclination, or ulnar variance. According to multivariable regression analysis, the poor recovery of MHQ score was associated with an increase in age, weak grip strength, and lower appendicular lean mass, and these three factors accounted for 37% of the variation in the MHQ scores.CONCLUSIONPatients with low appendicular lean mass plus slowness or weakness are at risk for poor functional recovery after surgery for DRF, even when they have similar radiologic outcomes.

Database: Medline

4. Non-operative treatment of displaced distal radius fractures leads to acceptable functional outcomes, however at the expense of 40% subsequent surgeries.

Author(s): Mulders, M A M; van Eerten, P V; Goslings, J C; Schep, N W L

Source: Orthopaedics & traumatology, surgery & research : OTSR; Oct 2017; vol. 103 (no. 6); p. 905-909

Publication Date: Oct 2017

Publication Type(s): Journal Article

PubMedID: 28428037

Abstract:BACKGROUNDAlthough secondary displacement following closed reduction and plaster immobilisation is high, several guidelines still recommend non-operative treatment for displaced distal radius fractures with an adequate closed reduction.PURPOSEThe purpose of this study was to evaluate functional outcomes, measured with the Disability of the Arm, Shoulder and Hand (DASH) questionnaire, in non-operative treated patients with displaced distal radius fractures and an adequate closed reduction confirmed on radiograph.MATERIALS AND METHODSFrom a retrospective database, we reviewed non-operative treated adult patients with an unilateral displaced distal radius fracture and adequate closed reduction confirmed on radiograph. The primary outcome was the DASH score at 12months. DASH scores were prospectively collected pre-trauma and at three, six and 12months. Secondary outcome was the number of subsequent surgeries due to secondary displacement or a symptomatic malunion, and their possible predictors. Additionally, the difference in DASH scores between patients who were treated due to secondary displacement and asymptomatic malunion was compared.RESULTSOne-hundred and sixteen patients were included. The median age was 62 years and 79% was female. Fractures were classified according to the AO/OTA classification as follows: AO/OTA type A (49%), AO/OTA type B (3%), AO/OTA type C (48%). After 12months the median DASH score was 15. Forty-six (40%) patients underwent subsequent surgery due to a secondary displacement or symptomatic malunion. No significant differences in DASH scores between patients who were treated non-operatively and patients who received subsequent surgery were found. Younger patients were more likely to undergo subsequent surgery. Patients with a symptomatic malunion had significant higher DASH scores compared to patients with secondary displacement.DISCUSSIONNon-operative treatment of displaced distal radius fractures after adequate closed reduction confirmed on radiograph leads to acceptable functional outcomes after 12months, however, at the expense of 40% subsequent surgeries.LEVEL OF EVIDENCELevel IV, retrospective cohort study.

Database: Medline

5. Prescribed exercise programs may not be effective in reducing impairments and improving activity during upper limb fracture rehabilitation: a systematic review.

Author(s): Bruder, Andrea M; Shields, Nora; Dodd, Karen J; Taylor, Nicholas F

Source: Journal of physiotherapy; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28941967

Abstract:QUESTIONWhat is the effect of exercise on increasing participation and activity levels and reducing impairment in the rehabilitation of people with upper limb fractures?DESIGNSystematic review of controlled trials.PARTICIPANTSAdults following an upper limb fracture.INTERVENTIONAny exercise therapy program, including trials where exercise was delivered to both groups provided that the groups received different amounts of exercise.OUTCOME MEASURESImpairments of body

structure and function, activity limitations and participation restrictions.RESULTSTwenty-two trials were identified that evaluated 1299 participants with an upper limb fracture. There was insufficient evidence from 13 trials to support or refute the effectiveness of home exercise therapy compared with therapist-supervised exercise or therapy that included exercise following distal radius or proximal humeral fractures. There was insufficient evidence from three trials to support or refute the effectiveness of exercise therapy compared with advice/no exercise intervention following distal radius fracture. There was moderate evidence from five trials (one examining distal radius fracture, one radial head fracture, and three proximal humeral fracture) to support commencing exercise early and reducing immobilisation in improving activity during upper limb rehabilitation compared with delayed exercise and mobilisation. There was preliminary evidence from one trial that exercise to the non-injured arm during immobilisation might lead to short-term benefits on increasing grip strength and range of movement following distal radius fracture. Less than 40% of included trials reported adequate exercise program descriptions to allow replication according to the TIDieR checklist.CONCLUSIONThere is emerging evidence that current prescribed exercise regimens may not be effective in reducing impairments and improving activity following an upper limb fracture. Starting exercise early combined with a shorter immobilisation period is more effective than starting exercise after a longer immobilisation period.REGISTRATIONCRD42016041818. [Bruder AM, Shields N, Dodd KJ, Taylor NF (2017) Prescribed exercise programs may not be effective in reducing impairments and improving activity during upper limb fracture rehabilitation: a systematic review. Journal of Physiotherapy XX: XX-XX].

Database: Medline

6. The short-term effects of hot packs vs therapeutic whirlpool on active wrist range of motion for patients with distal radius fracture: A randomized controlled trial.

Author(s): Szekeres, Mike; MacDermid, Joy C; Grewal, Ruby; Birmingham, Trevor

Source: Journal of hand therapy : official journal of the American Society of Hand Therapists; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28893496

Abstract:STUDY DESIGNBlinded randomized controlled trial.INTRODUCTIONIt is generally accepted that heat is beneficial for improving range of motion (ROM). However, the mechanism of action is not clearly understood, and the optimal method of heat application has not been established.PURPOSE OF THE STUDYTo investigate the immediate effects of using a moist hot pack (MHP) vs therapeutic whirlpool bath (WB) for improving wrist ROM during a therapy session for patients with distal radius fracture.METHODSAbout 60 adult patients, with a mean age of 54 years in the MHP group and 53 years in the WB group, with healed distal radius fracture were randomized into 2 groups of 30. Patients in group 1 were placed in an MHP for 15 minutes during therapy. Patients in group 2 had their arm placed in a WB and were asked to perform active wrist ROM exercises for the same period. This occurred for 3 consecutive therapy visits, with wrist and forearm ROM being measured before and after heat during each visit.RESULTSThe multivariate analysis of variance demonstrated that the canonical variate for ROM was significantly different between groups ($F[6,53] = 6.01$; $P < .05$), indicating that patients in the WB group had a significantly larger increase in ROM than patients receiving MHP application.DISCUSSIONBoth WB and MHP improved wrist ROM during therapy sessions in this study, making both these acceptable options for clinical use when the goal is to precondition a patient for other treatments.CONCLUSIONSIndividuals who received WB showed a statistically greater increase in wrist ROM than those receiving MHP during a

therapy session, although the difference between groups may or may not be clinically important considering the small changes in ROM observed in this study.LEVEL OF EVIDENCELevel II.

Database: Medline

HAND REHAB – Dupuytrens (fasciectomy)

1. Complications after treating Dupuytren's disease. A systematic literature review.

Author(s): Krefter, C; Marks, M; Hensler, S; Herren, D B; Calcagni, M

Source: Hand surgery & rehabilitation; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28917432

Abstract: The objective of this study was to review the incidence of complications associated with different treatment options for patients with Dupuytren's disease. In a systematic literature review, the PubMed, EMBASE, Cochrane and Scopus databases were searched for clinical studies reporting complications after collagenase treatment, percutaneous needle fasciotomy (PNF), fasciectomy and dermofasciectomy. The incidence of complications was extracted from each study and stratified by procedure. From a total of 2251 references, 113 studies were analyzed and included with complication incidences varying from 0% to 100%. The highest number of nerve and vessel lesions were reported after fasciectomy, whereas the highest rate of edema was after collagenase injection. Accidental skin tears were mostly associated with collagenase and PNF treatment. Pooled complication incidences were 17.4% (95% CI: 11.7-23.1) for fasciectomy, 78.0% (95% CI: 59.6-96.4) for collagenase treatment, 18.9% (95% CI: -5.5-43.3) for PNF and 11.6% (95% CI: 0.0-23.2) for dermofasciectomy. Due to inconsistencies in reporting complications as well as the lack of a standardized definition, the literature does not provide evidence in favor of a specific procedure for Dupuytren's disease. A standardized definition of complications is required to improve the comparability of published results.

Database: Medline

2. Prevalence and incidence of doctor-diagnosed Dupuytren's disease: a population-based study.

Author(s): Nordenskjöld, J; Englund, M; Zhou, C; Atroshi, I

Source: The Journal of hand surgery, European volume; Sep 2017; vol. 42 (no. 7); p. 673-677

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28093015

Abstract: The prevalence and incidence of doctor-diagnosed Dupuytren's disease in the general population is unknown. From the healthcare register for Skåne region (population 1.3 million) in southern Sweden, we identified all residents aged ⩾20 years (on 31 December 2013), who 1998 to 2013 had consulted a doctor and received the diagnosis Dupuytren's disease (International Classification of Diseases 10th Revision code M720). During the 16 years, 7207 current residents (72% men) had been diagnosed with Dupuytren's disease; the prevalence among men was 1.35% and among women 0.5%. Of all people diagnosed, 56% had received treatment (87% fasciectomy). In 2013, the incidence of first-time doctor-diagnosed Dupuytren's disease among men was 14 and among women five per 10,000. The annual incidence among men aged ⩾50 years was 27 per 10,000. Clinically important Dupuytren's disease is common in the general population.LEVEL OF EVIDENCEIII.

Database: Medline

3. Predictors of Outcomes Following Fasciectomy for Dupuytren's Disease in Diabetic and Non-Diabetic Patients.

Author(s): Melamed, Eitan; Beutel, Bryan G; Goldstein, Shaul; Angel, David

Source: The journal of hand surgery Asian-Pacific volume; Sep 2017; vol. 22 (no. 3); p. 309-314

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28774253

Abstract:BACKGROUNDThe aim of this study was to compare clinical outcomes, and identify predictors thereof, after fasciectomy for Dupuytren's disease in a series of diabetic patients compared with non-diabetic patients.METHODSThirty-eight patients were examined following partial palmar and/or digital fasciectomy for Dupuytren's disease (11 diabetics, 27 non-diabetics). Each patient was assessed for degree of pre- and post-operative flexion contractures at the MCP and PIP joints, post-operative Patient Evaluation Measure (PEM) total score, post-operative grip strength, limited joint mobility (LJM), recurrence, extension, and a composite outcomes score based upon grip strength and the degree of joint contractures. All measurements in the diabetic cohort were compared to those in the non-diabetic group, and a logistic regression analysis was performed to identify the predictive value of several variables on outcomes.RESULTSComplication rates between the two groups were statistically similar ($p = 0.67$). There were no significant differences in pre-operative MCP ($p = 0.69$), post-operative MCP ($p = 0.39$), pre-operative PIP ($p = 0.40$), or post-operative PIP ($p = 0.13$) joint flexion contractures between the two groups. Additionally, there was no significant difference in extension ($p = 0.35$) or recurrence ($p\sim1$) rates, post-operative grip strengths ($p = 0.64$), or PEM total scores ($p = 0.32$). However, the rate of LJM was significantly higher in the diabetic population ($p = 0.02$). Both female gender ($p = 0.01$) and a non-smoking status ($p = 0.04$) were found to be predictive of better outcomes following fasciectomy. Diabetes was not found to be an independent predictor of outcome ($p = 0.73$).CONCLUSIONSClinical results after fasciectomy for Dupuytren's disease in diabetic patients are not different from results obtained in non-diabetic patients. Diabetes is not independently predictive of surgical outcomes. Female gender and non-smoking status are independent predictors of a better outcome following fasciectomy.

Database: Medline

4. Effectiveness of conservative, surgical, and post-surgical interventions for Trigger finger, Dupuytren's disease, and De Quervain's disease. A systematic review.

Author(s): Huisstede, Bionka M; Gladdines, Saskia; Randsdorp, Manon S; Koes, Bart W

Source: Archives of physical medicine and rehabilitation; Aug 2017

Publication Date: Aug 2017

Publication Type(s): Journal Article Review

PubMedID: 28860097

Abstract:OBJECTIVESTo provide an evidence-based overview of the effectiveness of conservative and (post)-surgical interventions for trigger finger, Dupuytren's -, and De Quervain's disease.DATA SOURCESThe Cochrane Library, PEDro, PubMed, Embase and CINAHL were searched to identify relevant systematic reviews and RCTs.DATA SELECTION AND EXTRACTIONTwo reviewers independently extracted the data, and assessed the methodological quality.DATA SYNTHESISA best-evidence synthesis was performed to summarize the results.RESULTSTwo reviews (trigger finger,

Quervain's) and 37 RCTs (trigger finger(8), Dupuytren's(14), Quervain's (15)) were included. The trials reported on oral medication (Dupuytren's), physiotherapy (Quervain's) injections and surgical treatment (trigger finger, Dupuytren's, Quervain's), other conservative (Quervain's), and postsurgical treatment (Dupuytren's). Moderate evidence was found for the effect of corticosteroid injection on the very short-term for trigger finger, De Quervain's disease, and for injections with Collagenase on the very short-term (30 days) when looking at all joints, no evidence was found when looking at the PIP joint for Dupuytren's disease. A thumb-splint as additive to a corticosteroid injections seem to be effective (moderate evidence) for De Quervain's diseae (short-, midterm). For Dupuytren's disease use of a corticosteroid injection within a Percutaneous Needle Aponeurotomy in midterm, and Tamoxifen versus a placebo before/after a fasciectomy seems to promising (moderate evidence). We also found moderate evidence for splinting after Dupuytren's surgery in short-term.CONCLUSIONSIn recent years more and more RCTs have been conducted to study treatment of the above-mentioned hand disorders. However, more high-quality RCTs are still needed in order to further stimulate evidence-based practice for patients with trigger finger, Dupuytren's disease, and De Quervain's disease.

HAND REHAB ⁄ Mallet Finger/Thumb Deformity

1. The Role of High Frequency Ultrasonography in Diagnosis of Acute Closed Mallet Finger Injury.

Author(s): Wang, Tiezheng; Qi, Hengtao; Teng, Jianbo; Wang, Zengtao; Zhao, Bin

Source: Scientific reports; Sep 2017; vol. 7 (no. 1); p. 11049

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28887523

Available at Scientific reports - from Nature Publishing Group - Open Access

Available at Scientific reports - from Europe PubMed Central - Open Access

Abstract: To evaluate the role of high frequency ultrasonography in diagnosis of acute closed mallet finger injury. 36 patients diagnosed with mallet finger were included in this study. All patients underwent ultrasonography, magnetic resonance imaging(MRI) and X-ray examinations. A new kind of classification of acute mallet finger injury based on ultrasonography findings was described. The difference in terms of extensor tendon injury and bony fragment identification ability among the three types of examinations were described respectively. Either an injury of extensor digital tendon or an avulsion fracture of distal phalangeal base was identified clearly on ultrasonography. Among the 36 cases, avulsion fracture of the distal phalangeal base was found without extensor tendon rupture in Type A, complete rupture of the extensor tendon was found without avulsion fracture in Type B, and contusion of the extensor tendon was found in Type C. Compared with X-ray, ultrasonography and MRI could show the extensor tendon injury clearly. While compared with MRI, ultrasonography and X-ray was more sensitive in showing bony fragment. High frequency ultrasonography could be an accurate, reliable, and non-invasive diagnostic imaging method in diagnosis of acute close mallet finger injury.

Database: Medline

HAND REHAB ⁄ Flexor and Tendon Injuries

1. Does tendon firing quicken time to recovery for superficial digital flexor tendon injury?

Author(s):

Source: The Veterinary record; Sep 2017; vol. 181 (no. 11); p. 295-296

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28916692

Database: Medline

2. Intramuscular tendon involvement on MRI has limited value for predicting time to return to play following acute hamstring injury.

Author(s): van der Made, Anne D; Almusa, Emad; Whiteley, Rod; Hamilton, Bruce; Eirale, Cristiano; van Hellemondt, Frank; Tol, Johannes L

Source: British journal of sports medicine; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article

PubMedID: 28903949

Available at British journal of sports medicine - from BMJ Journals - NHS

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Abstract:BACKGROUNDHamstring injury with intramuscular tendon involvement is regarded as a serious injury with a delay in return to play (RTP) of more than 50 days and reinjury rates up to 63%. However, this reputation is based on retrospective case series with high risk of bias.OBJECTIVEDetermine whether intramuscular tendon involvement is associated with delayed RTP and elevated rates of reinjury.METHODSMRI of male athletes with an acute hamstring injury was obtained within 5 days of injury. Evaluation included standardised MRI scoring and scoring of intramuscular tendon involvement. Time to RTP and reinjury rate were prospectively recorded.RESULTSOut of 70 included participants, intramuscular tendon disruption was present in 29 (41.4%) injuries. Injuries without intramuscular tendon disruption had a mean time to RTP of 22.2±7.4 days. Injuries with <50%, 50%-99% and 100% disruption of tendon cross-sectional area had a mean time to RTP of 24.0±9.7, 25.3±8.6 and 31.6±10.9 days, respectively. Injuries with full-thickness disruption took longer to RTP compared with injuries without disruption (p=0.025). Longitudinal intramuscular tendon disruption was not significantly associated with time to RTP. Waviness was present in 17 (24.3%) injuries. Mean time to RTP for injuries without and with waviness was 22.6±7.5 and 30.2±10.8 days (p=0.014). There were 11 (15.7%) reinjuries within 12 months, five (17.2%) in the group with intramuscular tendon disruption and six (14.6%) in the group without intramuscular tendon disruption.CONCLUSIONTime to RTP for injuries with full-thickness disruption of the intramuscular tendon and waviness is significantly longer (by slightly more than 1 week) compared with injuries without intramuscular tendon involvement. However, due to the considerable overlap in time to RTP between groups with and without intramuscular tendon involvement, its clinical significance for the individual athlete is limited.

Database: Medline

3. Tendon injury and repair - A perspective on the basic mechanisms of tendon disease and future clinical therapy.

Author(s): Snedeker, Jess G; Foolen, Jasper

Source: Acta biomaterialia; Sep 2017

Publication Date: Sep 2017

Publication Type(s): Journal Article Review

PubMedID: 28867648

Abstract: Tendon is an intricately organized connective tissue that efficiently transfers muscle force to the bony skeleton. Its structure, function, and physiology reflect the extreme, repetitive mechanical stresses that tendon tissues bear. These mechanical demands also lie beneath high clinical rates of tendon disorders, and present daunting challenges for clinical treatment of these ailments. This article aims to provide perspective on the most urgent frontiers of tendon research and therapeutic development. We start by broadly introducing essential elements of current understanding about tendon structure, function, physiology, damage, and repair. We then introduce and describe a novel paradigm explaining tendon disease progression from initial accumulation of damage in the tendon core to eventual vascular recruitment from the surrounding synovial tissues. We conclude with a perspective on the important role that biomaterials will play in translating research discoveries to the patient.STATEMENT OF SIGNIFICANCETendon and ligament problems represent the most frequent musculoskeletal complaints for which patients seek medical attention. Current therapeutic options for addressing tendon disorders are often ineffective, and the need for improved understanding of tendon physiology is urgent. This perspective article summarizes essential elements of our current knowledge on tendon structure, function, physiology, damage, and repair. It also describes a novel framework to understand tendon physiology and pathophysiology that may be useful in pushing the field forward.

Database: Medline

4. Genetic Factors in Tendon Injury: A Systematic Review of the Literature.

Author(s): Vaughn, Natalie H; Stepanyan, Hayk; Gallo, Robert A; Dhawan, Aman

Source: Orthopaedic journal of sports medicine; Aug 2017; vol. 5 (no. 8); p. 2325967117724416

Publication Date: Aug 2017

Publication Type(s): Journal Article Review

PubMedID: 28856171

Available at Orthopaedic journal of sports medicine - from Europe PubMed Central - Open Access

Abstract:BACKGROUNDTendon injury such as tendinopathy or rupture is common and has multiple etiologies, including both intrinsic and extrinsic factors. The genetic influence on susceptibility to tendon injury is not well understood.PURPOSETo analyze the published literature regarding genetic factors associated with tendon injury.STUDY DESIGNSystematic review; Level of evidence, 3.METHODSA systematic review of published literature was performed in concordance with the Preferred Reporting Items of Systematic Reviews and Meta-analysis (PRISMA) guidelines to identify current evidence for genetic predisposition to tendon injury. PubMed, Ovid, and ScienceDirect databases were searched. Studies were included for review if they specifically addressed genetic factors and tendon injuries in humans. Reviews, animal studies, or studies evaluating the influence of posttranscription factors and modifications (eg, proteins) were excluded.RESULTSOverall, 460 studies were available for initial review. After application of inclusion and exclusion criteria, 11 articles were ultimately included for qualitative synthesis. Upon screening of references of these 11 articles, an additional 15 studies were included in the final review, for a total of 26 studies. The genetic factors with the strongest evidence of association with tendon injury were those involving type V collagen A1, tenascin-C, matrix metalloproteinase-3, and estrogen-related receptor beta.CONCLUSIONThe published literature is limited to relatively homogenous populations, with only level 3 and level 4 data. Additional research is needed to make further conclusions about the genetic factors involved in tendon injury.

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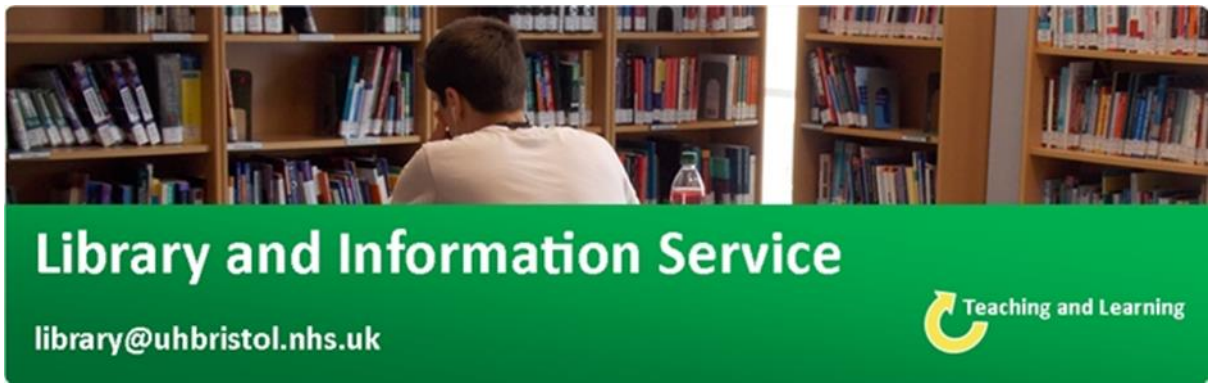

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