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**Literature search results**

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**Search details**

Postoperative management of trapeziectomy. Rehabilitation, hand therapy, occupational therapy.

**Resources searched**

NHS Evidence; TRIP Database; Cochrane Library; AMED; CINAHL; MEDLINE; Google Scholar

**Database search terms:** trapeziectomy, trapeziometacarpal, (surgery OR surgical OR operate* OR operation), arthroscop*, (postoperative OR post-operative OR "post operative"), "thumb carpometacarpal", carpometacarpal, thumb*, trapezium, (therap* OR rehabilitat*)

**Evidence search string(s):** (arthroscopy OR surgery) (trapeziometacarpal OR "thumb carpometacarpal") (rehabilitation OR therapy)

**Google search string(s):** (arthroscopy OR surgery) (trapeziometacarpal OR "thumb carpometacarpal") (rehabilitation OR therapy)

**Guidelines and Policy**

Nothing found

**Evidence-based reviews**

Nothing found
Published research – Databases

The impact of a hand therapy screening and management clinic for patients referred for surgical opinion in an Australian public hospital.

Author(s): O’Brien L, Hardman A, Goldby S

Citation: Journal of Hand Therapy, October 2013, vol./is. 26/4(318-22; quiz 322), 0894-1130;1545-004X (2013 Oct-Dec)

Publication Date: October 2013

Abstract: STUDY DESIGN: Retrospective cohort study. PURPOSE: To measure the impact of initial treatment by a hand therapist of people referred to a hand surgeon for common hand conditions. METHODS: This retrospective cohort study included 224 patients with Carpal Tunnel Syndrome, Trigger Finger/Thumb, de Quervain's tenosynovitis, and trapeziometacarpal osteoarthritis. All were invited to attend for assessment and non-operative treatment and were followed up for at least one year. Between groups comparisons for who attended (N = 164) and those who did not (N = 60) were conducted. RESULTS: 40.8% of the non-operative treatment group and 65% of the no treatment group underwent surgery, which was statistically significant (p = 0.02). Univariate analysis found that the variable "attending non-operative treatment" was able to predict those who did not have surgery (p = 0.02). Multivariate analysis using logistic regression also showed that this was the only significant predictor of not progressing to surgery (p = 0.001). CONCLUSIONS: Assessment and treatment by a non-operative provider were associated with a decrease in the rate of operative treatment. Prospective, randomized studies could help determine if this observed difference is related to the treatment approach. Crown Copyright 2013. Published by Elsevier Inc. All rights reserved.

Source: Medline
Available in fulltext at Journal of Hand Therapy; Collection notes: On first login to a ProQuest journal you will need to select 'Athens (OpenAthens Federation)' from Select Region, and then 'NHS England' from Choose your Library.

The effectiveness of a manual therapy and exercise protocol in patients with thumb carpometacarpal osteoarthritis: A randomized controlled trial

Author(s): Villafane JH, Cleland JA, Fernandez-De-Las-Penas C

Citation: Journal of Orthopaedic and Sports Physical Therapy, April 2013, vol./is. 43/4(204-13), 0190-6011 (2013 Apr)

Publication Date: April 2013

Abstract: STUDY DESIGN: Double-blind, randomized controlled trial. OBJECTIVE: To examine the effectiveness of a therapy and exercise approach relative to a placebo intervention in individuals with carpometacarpal (CMC) joint osteoarthritis (OA). BACKGROUND: Recent studies have reported the outcome of exercise, joint mobilization, and neural mobilization interventions used in isolation patients with CMC joint OA. However, it is not known if using a combination of these interventions as a multimodal approach to treatment would further improve outcomes in this patient population. METHODS: Sixty patients, 90% female (mean +/- SD age, 82 +/- 6 years), with CMC joint OA were randomly assigned to receive a multimodal manual treatment approach that included joint neural mobilization, and exercise, or a sham intervention, for 12 sessions over 4 weeks. The primary outcome measure was pain. Secondary outcome measures included pressure pain threshold over the first CMC joint, scaphoid, and hamate, as well a pinch and strength measurements. All outcome measures were collected at baseline, immediately following the intervention, and at 1 and 2 months following the end of the intervention. Mixed model analyses of variance were used to examine the
effects of the intervention on each outcome, with group as the between subject variable and time as the within subject variable. RESULTS: The mixed model analysis of variance revealed a group-by-time interaction ($F = 47.58, P<.001$) for pain intensity, with the patient receiving the multimodal intervention experiencing a greater reduction in pain compared to those receiving the placebo intervention at the end of the intervention, as well as at 1 and 2 months after the intervention ($P<.001$; all group differences greater than 3.0 cm, which is greater than the minimal clinically important difference of 2.0 cm). A significant group-by-time interaction ($F = 3.19, P=.025$) was found for pressure pain threshold over the hamate bone immediately after the intervention; however, the interaction was no longer significant at 1 and 2 months post-intervention. CONCLUSION: This clinical trial provides evidence that a combination of joint mobilization, neural mobilization, and exercise is more beneficial in treating pain than a sham intervention in patient with CMC joint OA. However, the treatment approach has limited value in improving pressure pain thresholds, as well as pinch and grip strength. Future studies should include several therapists, a measure of function, and long term outcomes.

Source: AMED

Rehabilitation following thumb CMC, radiocarpal, and DRUJ arthroplasty.

Author(s) Crosby CA, Reitz JL, Mester EA, Grenier ML

Citation: Hand Clinics, February 2013, vol./is. 29/1(123-42), 0749-0712;1558-1969 (2013 Feb)

Publication Date: February 2013

Abstract: Hand therapy is essential after arthroplasty around the wrist. This article includes therapy guidelines and goals after surgical reconstruction of the thumb carpometacarpal joint, radiocarpal joint, and distal radioulnar joint. Typical concerns and treatment options are addressed. Tables and figures are included to guide the hand therapist in the process of returning this patient population to pain-free function. Copyright 2013 Elsevier Inc. All rights reserved.

Source: Medline

Rehabilitation protocol after suspension arthroplasty of thumb carpometacarpal joint osteoarthritis.

Author(s) Ataker Y, Gudemez E, Ece SC, Canbulat N, Gulgonen A

Citation: Journal of Hand Therapy, October 2012, vol./is. 25/4(374-82; quiz 383), 0894-1130;1545-004X (2012 Oct-Dec)

Publication Date: October 2012

Abstract: STUDY DESIGN: Retrospective case series. INTRODUCTION: When conservative modalities and therapies fail to control symptoms of thumb carpometacarpal (CMC) joint osteoarthritis, surgery may be indicated. PURPOSE OF THE STUDY: To present a rehabilitation protocol used in a series of patient cases after suspension arthroplasty and to evaluate outcomes. METHODS: Twenty-seven patients with CMC osteoarthrosis were treated by the same arthroplasty technique and the same rehabilitation program. Patients were evaluated before and 12th week after surgery, and at the last follow-up using a visual analog scale; the Disability of the Arm, Shoulder, and Hand questionnaire; strength measurements; range of motion evaluations; and radiographic assessment. RESULTS: Average follow-up period was 31.5 months. There was a decreasing trend in both subjective scores during follow-ups ($p=0.0001$). Thirty-three percent and 30% improvements on radial and palmar abductions, respectively, and 29% improvement on pinch strengths were recorded at the final follow-up. Postoperative grip improvement was not preserved at the last follow-up. CONCLUSIONS: The results demonstrate a high degree of patient satisfaction suggesting the efficacy of this surgical technique.
Patient satisfaction with postoperative follow-up by a hand therapist.

Author(s) Elnikety S, El-Husseiny M, Kamal T, Talawadekar GD, Richards H, Smith AM

Citation: Musculoskeletal Care, March 2012, vol./is. 10/1(39-42), 1478-2189;1557-0681 (2012 Mar)

Publication Date: March 2012

Abstract: PURPOSE: There has been a move to reduce and, indeed, stop postoperative appointments for uncomplicated surgical procedures within the National Health Service. The purpose of this study was to measure patient satisfaction with postoperative follow-up conducted by a hand therapist, with no routine postoperative follow-up by the surgeon.METHODS: A total of 124 patients were recruited over two years. Fifty patients post-simple trapeziectomy and 74 patients post-single-digit Dupuytren's fasciectomy were prospectively surveyed for their opinion on their postoperative care and whether or not they would have liked to be reviewed by the surgeon in a routine postoperative follow-up appointment. All patients included in this study had their operations performed by one surgeon in one hospital. All patients were reviewed by a hand therapist within two weeks of surgery.RESULTS: A total of 116 patients completed the study, of whom 106 patients (91%) were satisfied with their postoperative management and 99 patients (85%) did not want to be reviewed by the surgeon in a postoperative outpatient follow-up appointment.DISCUSSION: This study reflects the successful application of postoperative follow-up by a hand therapist. Copyright 2011 John Wiley & Sons, Ltd.

Source: Medline
Available in fulltext from Musculoskeletal Care at EBSCOhost

A pilot study comparing of two therapy regimens following carpometacarpal joint arthroplasty

Author(s) Poole JL, Heeter Walenta M, Alonzo V, Coe A, Moneim M

Citation: Physical and Occupational Therapy in Geriatrics, 2011, vol./is. 29/4(327-36), 0270-3181 (2011)

Publication Date: 2011

Abstract: Purpose. The purpose of this pilot study was to compare two occupational therapy regimens following arthroplasty: thumb splint plus home program and thumb splint plus occupational therapy. Methods. Nine participants who underwent a ligament reconstruction and tendon interposition surgery of the carpometacarpal (CMC) joint of the thumb were randomly assigned to either receive a splint and occupational therapy intervention or receive a splint and a home exercise program. Participants were assessed preoperatively and 6 months postoperatively using standardized assessments of joint motion, hand function, strength, and self-reports of pain and functional ability. Results. In each group, participants improved on all measures after surgery but there were no significant differences between the groups. Conclusion. The results suggest that either occupational therapy regimen postsurgery is effective but because of the small sample size, the results should be interpreted with caution.

Source: AMED
Does postoperative hand elevation reduce swelling? A randomized study.

Author(s) Baker RP, Field J, Gozzard C, Wyatt MC, Robertson Y

Citation: Journal of Hand Surgery: European Volume, March 2010, vol./is. 35/3(192-4), 0266-7681;2043-6289 (2010 Mar)

Publication Date: March 2010

Abstract: The purpose of this study was to assess the effect of limb elevation on hand swelling after surgery. We prospectively randomized 113 patients undergoing fasciectomy or a trapeziectomy into one of two groups. The first group had the hand elevated postoperatively and the hands of the second group were not elevated. Hand swelling was assessed using a volumetric method. Although the swelling was less in the elevated group this did not reach statistical significance. Subgroup analysis revealed no further significant differences. There were no complications in patients who did not have limb elevation. This study does not support the routine use of elevation for 24 hours after fasciectomy for Dupuytren's disease and trapeziectomy to reduce hand swelling.

Source: Medline

Prognostic factors for the recovery of hand function following trapeziectomy with ligamentoplasty stabilisation.

Author(s) Moineau G, Richou J, Liot M, Le Nen D

Citation: Orthopaedics & traumatology, surgery & research, September 2009, vol./is. 95/5(352-8), 1877-0568;1877-0568 (2009 Sep)

Publication Date: September 2009

Abstract: INTRODUCTION: Numerous procedures are in use to treat trapeziometacarpal osteoarthritis. Most of these techniques impair hand function. In a series of trapeziectomies stabilized by ligament reconstruction with tendon suspension, we investigated whether eventual parameters influenced hand function and dexterity. HYPOTHESIS: Some parameters influence hand function recovery following trapeziectomy combined to ligamento-tendinous stabilization. MATERIALS AND METHODS: This is a continuous, retrospective, single surgeon series; 60 cases of thumb trapeziometacarpal osteoarthritis were treated with trapeziectomy and ligament reconstruction (40 palmaris longus, and 20 half flexor carpi radialis) with no additional metacarpophalangeal (MCP) joint surgery. Besides assessing classical clinical outcome criteria (pain, mobility, force), we analyzed hand function: this was obtained with a questionnaire about different everyday movements. Five types of grip were included in this analysis: spherical, pinch grasp, key pinch, power grip, and precision pinch. RESULTS: Fifty-one trapeziectomies (85%) were evaluated at an average follow-up of 7.5 years (5-11.5). Ninety-four percent of patients had good results for pain. The average Kapandji score for mobility was 9.6 (6-10) with a mean web angle at 36.5 degrees. Hyperextension of the MCP joint occurred in 36 cases and measured an average of 26 degrees (5 degrees-50 degrees). Compared to the contralateral side average strength was 97% with the Jamar dynamometer and 88% for the key pinch. The rate of satisfaction was 96%. Collapse of trapezial height was constant, and at last follow-up, the trapezial index was 50% of its preoperative initial value. The results relative to hand function assessment were good in 58% of patients. The spherical grip was the most difficult to restore. The analysis of the 42% of patients with average or poor hand function showed five prognostic factors for a poor outcome: young age at surgery, persisting postoperative pain, postoperative hyperextension of the MCP joint, reduced postoperative web angle and trapezial space collapse. LEVEL OF EVIDENCE: Level IV. Therapeutic study. 2009 Elsevier Masson SAS. All rights reserved.
An investigation into therapists' management of osteoarthritis of the carpometacarpal joint of the thumb in the UK

Author(s) Davenport BJ

Citation: Hand Ther, March 2009, vol./is. 14/1(2-9), 1758-9983 (2009 Mar)

Abstract: Objective. Osteoarthritis (OA) of the first carpometacarpal (CMC) joint is common and causes pain and loss of function. Conservative management is widely used to manage this condition and this study aimed to investigate the current conservative management employed by therapists in the UK. Methods. A survey design was selected using a self-completed questionnaire as the data collection tool. The questionnaire was designed by the author and distributed to therapists by post to a range of therapy departments and to delegates attending a hand therapy course. Results. A total of 115 out of 330 therapists (35%) responded with a completed questionnaire and the majority of the sample (97%) treated OA of the first CMC joint. Therapists used a variety of treatments for OA of the first CMC joint and the severity of the OA influenced the treatments used. Advice on activities of daily living, ergonomic advice, splints and exercise were the most commonly used treatment modalities. Therapists varied greatly in how effective they felt the different treatment modalities were in treating OA of the first CMC joint and how strong they felt the evidence base was to support their use. Most therapists used outcome measures, but many different ones were in use. Few therapists were aware of a classification system to grade the severity of OA of the first CMC joint. Conclusions. There is a need for further research into the conservative management of this condition in order to establish the most effective treatments for each stage of the disease process.

Management of the basal joint of the thumb following interposition arthroplasty for pain and instability.

Author(s) Beatus J, Beatus RA

Citation: Physiotherapy Theory & Practice, July 2008, vol./is. 24/4(299-309), 0959-3985;1532-5040 (2008 Jul-Aug)

Abstract: Derangement of the carpometacarpal (CMC) joint of the thumb secondary to osteoarthritis (OA) or rheumatoid arthritis (RA) is a source of pain and disability in many postmenopausal women. If surgery becomes necessary, the goals of postsurgical management are directed to relief of pain, joint protection and rest, and restoration of functional activity. This article describes the successful postsurgical rehabilitation of two patients with CMC joint arthritis of differing etiologies, and medical complexity, OA and RA, respectively, and different levels of medical complexity. Basal joint protection, passive range of motion, and gentle active exercise resulted in rapid functional recovery for these two patients.

Early functional improvement after a modified ligament reconstruction tendon interposition arthroplasty for thumb basal joint arthritis.

Author(s) Miura T, Osuka K, Itoh S, Nakagawa T, Kawano H, Nakamura K

Citation: Hand Surgery, 2008, vol./is. 13/3(153-8), 0218-8104;0218-8104 (2008)

Abstract: Many modifications to trapeziectomy have been proposed for the
treatment of thumb basal joint arthritis. Their final outcomes have been discussed intensively, whereas functional changes in the early post-operative period have not been fully documented. The purpose of the present study is to evaluate an early functional change following our modified ligament reconstruction with tendon interposition (LRTI) arthroplasty. Nine patients (ten thumbs) were included in this study. Pain levels, strength, and mobility were assessed before and after surgery at intervals of two months. Pain level significantly improved at two months after surgery. Grip and pinch strengths had increased gradually after a temporal decrease at two-month follow-up, and were significantly stronger at six months after surgery. Palmar abduction improved significantly at six months after surgery, whereas opposition did not change significantly. A modified LRTI is an effective procedure in terms of early functional improvement of pain, strength, and mobility.

Source: Medline
Available in fulltext from Hand Surgery at EBSCOhost

Early versus late mobilisation after simple excision of the trapezium

Author(s) Horlock N, Belcher HJ
Citation: Journal of Bone and Joint Surgery (British), November 2002, vol./is. 84/8(1111-5), 0301-620X (2002 Nov)
Publication Date: November 2002
Abstract: We randomly selected 39 patients undergoing excision of the trapezium for osteoarthritis of the first carpometacarpal joint into two groups, with mobilisation either at one or at four weeks after operation. The patients were reviewed at a median of six months (6 to 8). The clinical details, the severity of the disease and the preoperative clinical measurements of both groups were similar. Excision of the trapezium resulted in significant improvement in objective and subjective function. Comparison of the outcomes of the two groups showed no differences except that patients found early mobilisation significantly more convenient. Although there was no significant difference in the range of movement between the groups, there was a small loss of movement at the metacarpophalangeal joint in the late mobilisation group. Our findings show that simple excision of the trapezium is an effective procedure for patients with carpometacarpal osteoarthritis of the thumb and that prolonged splintage is neither necessary nor desirable.

Source: AMED
Available in print at Grantham Hospital Staff Library
Available in print at Pilgrim Hospital Staff Library
Available in fulltext from Journal of Bone and Joint Surgery - British (now Bone and Joint Journal) at the ULHT Library and Knowledge Services’ eJournal collection

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