Greater Manchester Shared Services

Greater Manchester EUR Policy Statement on:

Arthroscopic sub-acromial decompression for shoulder impingement

GM Ref: GM032
Version: 0.2 (17 Jan 2018)

Greater Manchester Shared Services
Hosted by NHS Oldham CCG
on behalf of the Greater Manchester CCGs

Best Care • Best Health • Best Value

Commissioning Statement

Arthroscopic sub-acromial decompression for shoulder impingement	
Policy Exclusions	Treatment/procedures undertaken as part of an externally funded trial or as a part of locally agreed contracts / or pathways of care are excluded from this policy, i.e. locally agreed pathways take precedent over this policy (the EUR Team should be informed of any local pathway for this exclusion to take effect).
Policy Inclusion Criteria	**Prior to referral** Prior to referral for consideration for arthroscopic sub-acromial decompression the following should have been tried: **Non-invasive management** • A positive impingement test should be demonstrated **AND** • Patients should be provided with information to enable them to understand their condition **AND** • All methods of conservative management should be tried first: (analgesia, rest, and appropriate physiotherapy) **Steroid injection** If **ALL** of the following apply, then a steroid injection into the joint should be tried with conservative management continuing post injection: • The patient has been compliant with conservative management which was given for at least 6 weeks **AND** • Patient has been symptomatic for at least 3 months from the start of conservative treatment **AND** • Symptoms interfere with daily living or employment (for example waking several times a night, pain when dressing) **NOTE:** Steroid injections should be managed in line with any GMMMG recommendations and should be carried out by a practitioner trained in the technique in an appropriate setting. **Referral for consideration of surgical management** Consider referral for arthroscopic sub-acromial decompression if: • Steroid injections have been tried and have failed to relieve symptoms **OR** • The patient has initially responded positively to a steroid injection but symptoms have returned despite compliance with post injection conservative management **AND** • The referral is at least 8 weeks after the last steroid injection **AND**

	• The patient has confirmed that they wish to have surgery **AND** • The presence of findings on X-ray or MRI are consistent with impingement **NOTE:** Open surgery for sub-acromial decompression is NOT commissioned unless part of a wider surgical procedure. **Funding Mechanism** Individual prior approval provided the patient meets the above criteria. Requests must be submitted with all relevant supporting evidence.
Clinical Exceptionality	Clinicians can submit an Individual Funding Request (IFR) outside of this guidance if they feel there is a good case for exceptionality. Exceptionality means 'a person to which the general rule is not applicable'. Greater Manchester sets out the following guidance in terms of determining exceptionality; however the over-riding question which the IFR process must answer is whether each patient applying for exceptional funding has demonstrated that his/her circumstances are exceptional. A patient may be able to demonstrate exceptionality by showing that s/he is: • Significantly different to the general population of patients with the condition in question. ***and as a result of that difference*** • They are likely to gain significantly more benefit from the intervention than might be expected from the average patient with the condition.

Contents

Policy Statement

Greater Manchester Shared Services (GMSS) Effective Use of Resources (EUR) Policy Team, in conjunction with the GM EUR Steering Group, have developed this policy on behalf of Clinical Commissioning Groups (CCGs) within Greater Manchester, who will commission treatments/procedures in accordance with the criteria outlined in this document.

In creating this policy GMSS/GM EUR Steering Group have reviewed this clinical condition and the options for its treatment. It has considered the place of this treatment in current clinical practice, whether scientific research has shown the treatment to be of benefit to patients, (including how any benefit is balanced against possible risks) and whether its use represents the best use of NHS resources.

This policy document outlines the arrangements for funding of this treatment for the population of Greater Manchester.

This policy follows the principles set out in the ethical framework that govern the commissioning of NHS healthcare and those policies dealing with the approach to experimental treatments and processes for the management of individual funding requests (IFR).

Equality & Equity Statement

GMSS/CCGs have a duty to have regard to the need to reduce health inequalities in access to health services and health outcomes achieved, as enshrined in the Health and Social Care Act 2012. GMSS/CCGs are committed to ensuring equality of access and non-discrimination, irrespective of age, gender, disability (including learning disability), gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, gender or sexual orientation. In carrying out its functions, GMSS/CCGs will have due regard to the different needs of protected characteristic groups, in line with the Equality Act 2010. This document is compliant with the NHS Constitution and the Human Rights Act 1998. This applies to all activities for which they are responsible, including policy development, review and implementation.

In developing policy the GMSS EUR Policy Team will ensure that equity is considered as well as equality. Equity means providing greater resource for those groups of the population with greater needs without disadvantage to any vulnerable group.

The Equality Act 2010 states that we must treat disabled people as *more equal* than any other protected characteristic group. This is because their 'starting point' is considered to be further back than any other group. This will be reflected in GMSS evidencing taking 'due regard' for fair access to healthcare information, services and premises.

An Equality Analysis has been carried out on the policy. For more information about the Equality Analysis, please contact policyfeedback.gmscu@nhs.net.

Governance Arrangements

Greater Manchester EUR policy statements will be ratified by the Greater Manchester Association Governing Group (GMAGG) prior to formal ratification through CCG Governing Bodies. Further details of the governance arrangements can be found in the GM EUR Operational Policy.

Aims and Objectives

This policy document aims to ensure equity, consistency and clarity in the commissioning of treatments/procedures by CCGs in Greater Manchester by:

- reducing the variation in access to treatments/procedures.

- ensuring that treatments/procedures are commissioned where there is acceptable evidence of clinical benefit and cost-effectiveness.
- reducing unacceptable variation in the commissioning of treatments/procedures across Greater Manchester.
- promoting the cost-effective use of healthcare resources.

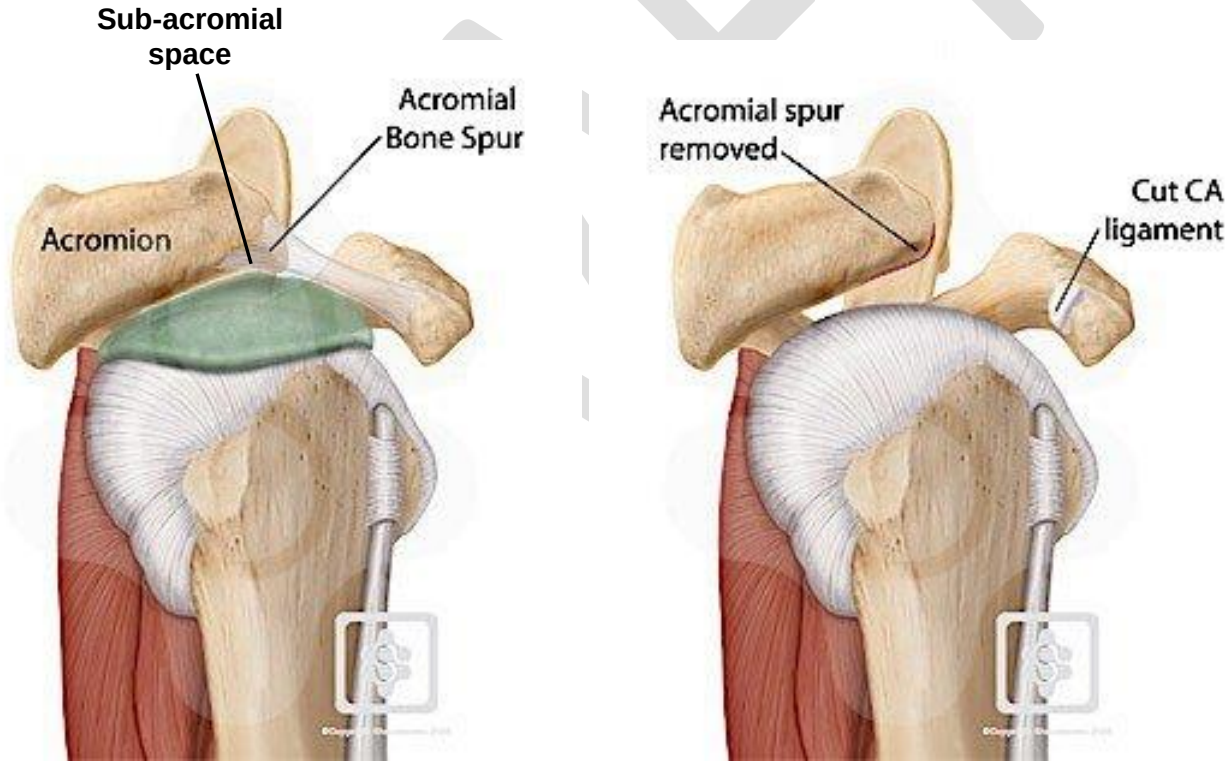
Rationale behind the policy statement

Arthroscopic sub-acromial decompression for shoulder impingement is considered to be a treatment of low clinical value but the activity in this area is high. This review was carried out to assess the role of arthroscopic sub-acromial decompression for the effective management of shoulder impingement and to determine when and for whom it should be used.

Treatment / Procedure

Sub-acromial decompression

The procedure carried out using an arthroscope aims to increase the size of the sub-acromial area and reduce the pressure on the muscle. It involves cutting the ligament and shaving away the bone spur on the acromion bone. This allows the muscle to heal. This is less painful with a shorter recovery time than open surgical decompression.



Shoulder Impingement

Shoulder impingement is a very common cause of shoulder pain, where a tendon (band of tissue) inside the shoulder rubs or catches on nearby tissue and bone as the arm is lifted. It affects the rotator cuff tendon, which is the rubbery tissue that connects the muscles around the shoulder joint to the top of the arm. Shoulder impingement can start suddenly or come on gradually. Symptoms include:

- pain in the top and outer side of your shoulder
- pain that's worse when you lift your arm, especially when you lift it above your head
- pain or aching at night, which can affect your sleep

- weakness in your arm

Epidemiology and Need

Shoulder pain is common[2]. In a Dutch study the incidence of new cases of rotator cuff tendonitis in general practice was found to be around 3.2 to 4.2 per 1000 person–years, and the corresponding incidence of shoulder pain (all causes) was 11.2 per 1000 person–years[2]

Rotator cuff disease with sub-acromial impingement has been graded in three stages: stage 1, acute inflammation, and either tendonitis or bursitis; stage 2, chronic inflammation with or without degeneration; stage 3, full rupture of the cuff. The anatomical basis for impingement is a mismatch between the structures in the sub-acromial space. This aggravates or provokes pain. The main idea of the treatments given is to control pain and remedy the mechanical problem in order to preserve or improve function. Improved function can be obtained through reduction of inflammatory oedema, strengthening of the muscles, which act as depressors and stabilisers of the humeral head, or by removing fibrotic tissue in the sub-acromial bursa and a part of the acromion itself. The condition is often treated conservatively in primary care sector by general practitioners or physiotherapists.

Adherence to NICE Guidance

There is currently no NICE Guidance for this procedure but there is a NICE Clinical Knowledge Summary for Shoulder pain in general.

Audit Requirements

There is currently no national database. Service providers will be expected to collect and provide audit data on request.

Date of Review

One year from the date of approval by Greater Manchester Association Governing Group and thereafter at a date agreed by the Greater Manchester EUR Steering Group, unless new evidence or technology is available sooner.

The evidence base for the policy will be reviewed and any recommendations within the policy will be checked against any new evidence. Any operational issues will also be considered at this time. All available additional data on outcomes will be included in the review and the policy updated accordingly. The policy will be continued, amended or withdrawn subject to the outcome of that review.

Glossary

Term	Meaning
Acromion	The acromion (from Greek: akros, "highest", ōmos, "shoulder", plural: acromia) is a bony process on the scapula (shoulder blade). It extends to the side over the shoulder joint and hooks over towards the front.
Arthroscope	An arthroscope is an endoscope (a long, thin, flexible tube that has a light source and camera at one end) that is inserted into the joint through a small incision.
Arthroscopic sub-acromial decompression	Sub-acromial decompression carried out using an arthroscope (see section on Treatment / Procedure for a description of sub-acromial decompression).
Bone spur	Bony projections that develop along the edges of bones. Bone spurs (osteophytes) often form where bones meet each other.

Chronic inflammation	Inflammation that may have a rapid or slow onset but is characterized primarily by its persistence and lack of clear resolution; it occurs when the tissues are unable to overcome the effects of the injuring agent.
Conservative management	Management of a condition that does not require any form of invasive treatment.
Degeneration	Deterioration of tissues over time.
Depressors	A muscle whose contraction pulls down a part of the body.
Fibrotic tissue	Fibrosis is the formation of excess fibrous connective tissue (bundles of collagenous white fibers between which are rows of connective tissue cells) in an organ or tissue in a reparative or reactive process.
Humeral head	The upper or proximal extremity of the humerus consists of the bone's large rounded head.
Impingement test	Methods that specifically move the shoulder joint to find out if the pain is due to shoulder impingement syndrome.
Inflammatory oedema	Swelling due to fluid in the tissues as a result of inflammation.
Ligament	A short band of tough, flexible fibrous connective tissue which connects two bones or cartilages or holds together a joint.
Non-invasive management	Also known as conservative management (see above).
Open surgical decompression	Sub-acromial decompression carried out using open surgery rather than an arthroscope.
Rotator cuff disease	Injury or disease specific to the rotator cuff.
Rotator cuff tendon	The rubbery tissue that connects the muscles around the shoulder joint to the top of the arm.
Rupture	When a ligament, muscle or other tissue “breaks” suddenly.
Shoulder impingement	Pain in the shoulder due to pressure in the sub-acromial space (see diagram on page 6).
Stabilisers	Tissues that keep a joint steady or stable.
Sub-acromial bursa	A fluid-filled sac forming in the sub-acromial space.
Sub-acromial space	See diagram on page 6.
Symptomatic	An abnormal condition e.g. Pain caused by disease or other changes in a body part.
Tendon	Band of tissue.

References

1. Greater Manchester Effective Use of Resources Operational Policy
2. Exercises versus arthroscopic decompression in patients with subacromial impingement: a randomised, controlled study in 90 cases with a one year follow up, J P Haahr et al, Ann Rheum Dis 2005;64:760–764. doi: 10.1136/ard.2004.021188

Governance Approvals

Name	Date Approved
Greater Manchester Effective Use of Resources Steering Group	
Greater Manchester Chief Finance Officers / Greater Manchester Directors of Commissioning	
Greater Manchester Association Governing Group	
Bury Clinical Commissioning Group	
Bolton Clinical Commissioning Group	
Heywood, Middleton & Rochdale Clinical Commissioning Group	
Manchester Clinical Commissioning Group	
Oldham Clinical Commissioning Group	
Salford Clinical Commissioning Group	
Stockport Clinical Commissioning Group	
Tameside & Glossop Clinical Commissioning Group	
Trafford Clinical Commissioning Group	
Wigan Borough Clinical Commissioning Group	

Appendix 1 – Evidence Review

Arthroscopic sub-acromial decompression for shoulder impingement
GM032

Search Strategy

The following databases are routinely searched: NICE Clinical Guidance and full website search; NHS Evidence and NICE CKS; SIGN; Cochrane; York; and the relevant Royal College and any other relevant bespoke sites. A Medline / Open Athens search is undertaken where indicated and a general google search for key terms may also be undertaken. The results from these and any other sources are included in the table below. If nothing is found on a particular website it will not appear in the table below:

Database	Result
NHS Evidence	• Effectiveness of conservative interventions including exercise, manual therapy and medical management in adults with shoulder impingement: a systematic review and meta-analysis of RCTs, Steuri R et al., Br J Sports Med. 2017 Sep;51(18):1340-1347. doi: 10.1136/bjsports-2016-096515. Epub 2017 Jun 19. • Arthroscopic surgery compared with supervised exercises in patients with rotator cuff disease (stage II impingement syndrome), J I Brox et al. BMJ. 1993 Oct 9; 307(6909): 899–903. • Exercises versus arthroscopic decompression in patients with subacromial impingement: a randomised, controlled study in 90 cases with a one year follow up, J P Haahr et al, Ann Rheum Dis 2005;64:760–764. doi: 10.1136/ard.2004.021188
Cochrane Database of Systematic Reviews	Cochrane Database of Systematic Reviews 2016: Manual therapy and exercise for rotator cuff disease, Page MJ, Green S, McBain B, Surace SJ, Deitch J, Lyttle N, Mrocki MA, Buchbinder R. (Published: 10 June 2016)
Open Athens	Does arthroscopic acromioplasty provide any additional value in the treatment of shoulder impingement syndrome? A two-year randomised controlled trial, S. Ketola et al, J Bone Joint Surg [Br] 2009;91-B:1326-34. doi: 10.1302/0301-620X.91B10.22094.
Royal College websites	Commissioning Guide 2014: Subacromial Shoulder Pain, British Elbow & Shoulder Society (BESS), British Orthopaedic Association (BOA), Royal College of Surgeons for England (RCSEng), Publication date: MMM 2014

Summary of the evidence

For most individuals with symptoms from shoulder impingement arthroscopic sub acromial decompression does not appear to be any more effective than conservative management with the correct exercise and medication.

Where surgery is required arthroscopic surgery appears to be preferable to open surgery

There are two large randomised clinical trials that are currently being carried out in the United Kingdom to evaluate the effectiveness of rotator cuff repair (UKUFF) and arthroscopic subacromial decompression (CSAW). This policy will be reviewed when the results of these are available.

The evidence

Levels of evidence	
Level 1	Meta-analyses, systematic reviews of randomised controlled trials
Level 2	Randomised controlled trials
Level 3	Case-control or cohort studies
Level 4	Non-analytic studies e.g. case reports, case series
Level 5	Expert opinion

1. LEVEL 1: SYSTEMATIC REVIEW

Effectiveness of conservative interventions including exercise, manual therapy and medical management in adults with shoulder impingement: a systematic review and meta-analysis of RCTs, Steuri R et al., Br J Sports Med. 2017 Sep;51(18):1340-1347. doi: 10.1136/bjsports-2016-096515. Epub 2017 Jun 19.

ABSTRACT

Objective To investigate the effectiveness of conservative interventions for pain, function and range of motion in adults with shoulder impingement.

Design Systematic review and meta-analysis of randomised trials.

Data sources Medline, CENTRAL, CINAHL, Embase and PEDro were searched from inception to January 2017.

Study selection criteria Randomised controlled trials including participants with shoulder impingement and evaluating at least one conservative intervention against sham or other treatments.

Results For pain, exercise was superior to non-exercise control interventions (standardised mean difference (SMD) −0.94, 95% CI −1.69 to −0.19). Specific exercises were superior to generic exercises (SMD −0.65, 95% CI −0.99 to −0.32). Corticosteroid injections were superior to no treatment (SMD −0.65, 95% CI −1.04 to −0.26), and ultrasound guided injections were superior to non-guided injections (SMD −0.51, 95% CI −0.89 to −0.13). Nonsteroidal anti-inflammatory drugs (NSAIDS) had a small to moderate SMD of −0.29 (95% CI −0.53 to −0.05) compared with placebo. Manual therapy was superior to placebo (SMD −0.35, 95% CI −0.69 to −0.01). When combined with exercise, manual therapy was superior to exercise alone, but only at the shortest follow-up (SMD −0.32, 95% CI −0.62 to −0.01). Laser was superior to sham laser (SMD −0.88, 95% CI −1.48 to −0.27). Extracorporeal shockwave therapy (ECSWT) was superior to sham (−0.39, 95% CI −0.78 to –0.01) and tape was superior to sham (−0.64, 95% CI −1.16 to −0.12), with small to moderate SMDs.

Conclusion Although there was only very low quality evidence, exercise should be considered for patients ith shoulder impingement symptoms and tape, ECSWT, laser or manual therapy might be added. NSAIDS and corticosteroids are superior to placebo, but it is unclear how these treatments compare to exercise.

2. LEVEL 2: RANDOMISED CONTROLLED TRIAL

Arthroscopic surgery compared with supervised exercises in patients with rotator cuff disease (stage II impingement syndrome), J I Brox et al. BMJ. 1993 Oct 9; 307(6909): 899–903.

ABSTRACT

Objective: To compare the effectiveness of arthroscopic surgery, a supervised exercise regimen, and placebo soft laser treatment in patients with rotator cuff disease (stage II impingement syndrome).

Design: Randomised clinical trial.

Setting: Hospital departments of orthopaedics and of physical medicine and rehabilitation.

Patients: 125 patients aged 18-66 who had had rotator cuff disease for at least three months and whose condition was resistant to treatment.

Interventions: Arthroscopic subacromial decompression performed by two experienced surgeons; exercise regimen over three to six months supervised by one experienced physiotherapist; or 12 sessions of detuned soft laser treatment over six weeks.

Main outcome measures: Change in the overall Neer shoulder score (pain during previous week and blinded evaluation of function and range of movement by one clinician) after six months.

Results: No differences were found between the three groups in duration of sick leave and daily intake of analgesics. After six months the difference in improvement in overall Neer score between surgery and supervised exercises was 4 0 (95% confidence interval -2 to 11) and 2-0 (-1.4 to 5 4) after adjustment for sex. The condition improved significantly compared with placebo in both groups given the active treatments. Treatment costs were higher for those given surgery (£720 v £390).

Conclusions: Surgery or a supervised exercise regimen significantly, and equally, improved rotator cuff disease compared with placebo.

3. LEVEL 2: RANDOMISED CONTROLLED TRIAL

Exercises versus arthroscopic decompression in patients with subacromial impingement: a randomised, controlled study in 90 cases with a one year follow up, J P Haahr et al, Ann Rheum Dis 2005;64:760–764. doi: 10.1136/ard.2004.021188

ABSTRACT

Objectives: To compare the effect of graded physiotherapeutic training of the rotator cuff versus arthroscopic subacromial decompression in patients with subacromial impingement.

Methods: Randomised controlled trial with 12 months' follow up in a hospital setting. Ninety consecutive patients aged 18 to 55 years were enrolled. Symptom duration was between six months and three years. All fulfilled a set of diagnostic criteria for rotator cuff disease, including a positive impingement sign. Patients were randomised either to arthroscopic subacromial decompression, or to physiotherapy with exercises aiming at strengthening the stabilisers and decompressors of the shoulder.

Outcome was shoulder function as measured by the Constant score and a pain and dysfunction score. ''Intention to treat'' analysis was used, with comparison of means and control of confounding variables by general equation estimation analysis.

Results: Of 90 patients enrolled, 84 completed follow up (41 in the surgery group, 43 in the training group). The mean Constant score at baseline was 34.8 in the training group and 33.7 in the surgery group. After 12 months the mean scores improved to 57.0 and 52.7, respectively, the difference being non-significant. No group differences in mean pain and dysfunction score improvement were found.

Conclusions: Surgical treatment of rotator cuff syndrome with subacromial impingement was not superior to physiotherapy with training. Further studies are needed to qualify treatment choice decisions, and it is recommended that samples are stratified according to disability level.

Extended report: Shoulder pain is common. In a Dutch study the incidence of new cases of rotator cuff tendonitis in general practice was found to be around 3.2 to 4.2 per 1000 person–years, and the corresponding incidence of shoulder pain (all causes) was 11.2 per 1000 person–years.

Rotator cuff disease with subacromial impingement has been graded in three stages: stage 1, acute inflammation, and either tendonitis or bursitis; stage 2, chronic inflammation with or without degeneration; stage 3, full rupture of the cuff. The anatomical basis for impingement is a mismatch between the structures in the subacromial space. This aggravates or provokes pain. The main idea of the treatments given is to control pain and remedy the mechanical problem in order to preserve or improve function. Improved function can be obtained through reduction of inflammatory oedema, strengthening of the muscles, which act as depressors and stabilisers of the humeral head, or by removing fibrotic tissue in the subacromial bursa and a part of the acromion itself. The condition is often treated conservatively in the primary health care sector by general practitioners or physiotherapists.

4. LEVEL 1: SYSTEMATIC COCHRANE REVIEW

Cochrane Database of Systematic Reviews 2016: Manual therapy and exercise for rotator cuff disease, Page MJ, Green S, McBain B, Surace SJ, Deitch J, Lyttle N, Mrocki MA, Buchbinder R. (Published: 10 June 2016)

ABSTRACT

Background: Management of rotator cuff disease often includes manual therapy and exercise, usually delivered together as components of a physical therapy intervention. This review is one of a series of reviews that form an update of the Cochrane review, 'Physiotherapy interventions for shoulder pain'.

Objectives: To synthesise available evidence regarding the benefits and harms of manual therapy and exercise, alone or in combination, for the treatment of people with rotator cuff disease.

Search methods: We searched the Cochrane Central Register of Controlled Trials (CENTRAL; 2015, Issue 3),OvidMEDLINE (January 1966 toMarch 2015), Ovid EMBASE (January 1980 to March 2015), CINAHL Plus (EBSCO, January 1937 to March 2015), ClinicalTrials.gov and the WHO ICTRP clinical trials registries up to March 2015, unrestricted by language, and reviewed the reference lists of review articles and retrieved trials, to identify potentially relevant trials.

Selection criteria: We included randomised and quasi-randomised trials, including adults with rotator cuff disease, and comparing any manual therapy or exercise intervention with placebo, no intervention, a different type of manual therapy or exercise or any other intervention (e.g. glucocorticoid injection). Interventions included mobilisation, manipulation and supervised or home exercises. Trials investigating the primary or add-on effect of manual therapy and exercise were the main comparisons of interest. Main outcomes of interest were overall pain, function, pain on motion, patient-reported global assessment of treatment success, quality of life and the number of participants experiencing adverse events.

Data collection and analysis: Two review authors independently selected trials for inclusion, extracted the data, performed a risk of bias assessment and assessed the quality of the body of evidence for the main outcomes using the GRADE approach.

Main results: We included 60 trials (3620 participants), although only 10 addressed the main comparisons of interest. Overall risk of bias was low in three, unclear in 14 and high in 43 trials. We were unable to perform any meta-analyses because of clinical heterogeneity or incomplete outcome reporting. One trial compared manual therapy and exercise with placebo (inactive ultrasound therapy) in 120 participants with chronic rotator cuff disease (high quality evidence). At 22 weeks, the mean change in overall pain with placebo was 17.3 points on a 100-point scale, and 24.8 points with manual therapy and exercise (adjusted mean difference (MD) 6.8 points, 95% confidence interval (CI) -0.70 to 14.30 points; absolute risk difference 7%, 1% fewer to 14% more). Mean change in function with placebo was 15.6 points on a 100-point scale, and 22.4 points with manual therapy and exercise (adjusted MD 7.1 points, 95% CI 0.30 to 13.90 points; absolute risk difference 7%, 1% to 14% more). Fifty-seven per cent (31/54) of participants reported treatment success with manual therapy and exercise compared with 41% (24/58) of participants receiving placebo (risk ratio (RR) 1.39, 95% CI 0.94 to 2.03; absolute risk difference 16% (2% fewer to 34% more). Thirty-one per cent (17/55) of participants reported adverse events with manual therapy and exercise compared with 8% (5/61) of participants receiving placebo (RR 3.77, 95% CI 1.49 to 9.54; absolute risk difference 23% (9% to 37% more). However adverse events were mild (short-term pain following treatment).

Five trials (low quality evidence) found no important differences between manual therapy and exercise compared with glucocorticoid injection with respect to overall pain, function, active shoulder abduction and quality of life from four weeks up to 12 months. However, global treatment success was more common up to 11 weeks in people receiving glucocorticoid injection (low quality evidence). One trial (low quality evidence) showed no important differences between manual therapy and exercise and arthroscopic subacromial decompression with respect to overall pain, function, active range of motion and strength at six and 12 months, or global treatment success at four to eight years. One trial (low quality evidence) found that manual therapy and exercise may not be as effective as acupuncture plus dietary counselling and Phlogenzym supplement with respect to overall pain, function, active shoulder abduction and quality life at 12 weeks. We are uncertain whether manual therapy and exercise improves function more than oral non-steroidal anti-inflammatory drugs (NSAID), or whether combining manual

therapy and exercise with glucocorticoid injection provides additional benefit in function over glucocorticoid injection alone, because of the very low quality evidence in these two trials.

Fifty-two trials investigated effects of manual therapy alone or exercise alone, and the evidence was mostly very low quality. There was little or no difference in patient-important outcomes between manual therapy alone and placebo, no treatment, therapeutic ultrasound and kinesiotaping, although manual therapy alone was less effective than glucocorticoid injection. Exercise alone led to less improvement in overall pain, but not function, when compared with surgical repair for rotator cuff tear. There was little or no difference in patient-important outcomes between exercise alone and placebo, radial extracorporeal shockwave treatment, glucocorticoid injection, arthroscopic subacromial decompression and functional brace. Further, manual therapy or exercise provided few or no additional benefits when combined with other physical therapy interventions, and one type of manual therapy or exercise was rarely more effective than another.

Authors' conclusions: Despite identifying 60 eligible trials, only one trial compared a combination of manual therapy and exercise reflective of common current practice to placebo. We judged it to be of high quality and found no clinically important differences between groups in any outcome. Effects of manual therapy and exercise may be similar to those of glucocorticoid injection and arthroscopic subacromial decompression, but this is based on low quality evidence. Adverse events associated with manual therapy and exercise are relatively more frequent than placebo but mild in nature. Novel combinations of manual therapy and exercise should be compared with a realistic placebo in future trials. Further trials of manual therapy alone or exercise alone for rotator cuff disease should be based upon a strong rationale and consideration of whether or not they would alter the conclusions of this review.

5. LEVEL 3: COHORT STUDY

Does arthroscopic sub-acromial decompression really work for sub-acromial impingement syndrome: a cohort study, Bhattacharyya et al., BMC Musculoskelet Disord. 2014 Sep 29;15:324. doi: 10.1186/1471-2474-15-324.

ABSTRACT

Background: Health Economists in Denmark have reported poor outcomes and low and delayed return to work for patients treated for Sub-Acromial Impingement syndrome (SAIS) by Arthroscopic Sub-Acromial Decompression (ASAD). In this setting it is important to evaluate outcomes following this commonly performed operation to justify undertaking it on our patients. The purpose of the study was to evaluate the effectiveness of ASAD for patients with SAIS and correlate clinical outcome with rate of return to work.

Methods: Prospective cohort study and retrospective review of data from the Nottingham Shoulder database. Inclusion criteria: Patients diagnosed clinically with SAIS by an experienced shoulder surgeon, who have failed conservative treatment (physiotherapy and sub-acromial injection), undergoing ASAD. Pre-operative and 6-month post-operative Oxford Shoulder Score (OSS) and Constant Score (CS) were compared. The rates of return to pre-operative work and hobbies were also analysed. Statistical analysis was carried out using the Wilcoxon signed rank test.

Results: 73 patients with OSS (51 also with CS documentation) were included. The improvement in median OSS between pre-operative (24) and 6-month follow-up (39) was +15 ($Z = -6.726$, $p < 0.0001$, $T = 6$, $r = 0.55$). The difference in median CS between pre-operative (39) and 6-month follow-up (67) was +28 ($Z = -5.435$, $p < 0.0001$,$T = 6$, $r = 0.59$). Improvement in median pain score was +5 (7,12, $p < 0.0001$) median ADL was +5.5 (10.5,16, $p < 0.0001$) median ROM was +13 (18,31, $p < 0.0001$) and median strength was +4 (3,7, $p < 0.0001$). 76% returned to their pre-operative level of work (mean time = 11.5 weeks post surgery). 79% returned to pre-operative hobbies at a mean of 11.8 weeks after surgery.

Conclusion: There is a significant improvement in both subjective and objective outcome 6 months after ASAD in patients with SAIS who have had previous failed conservative treatment. The rate of return to work was good for these patients in contrast to that reported for Danish patients. ASAD is a successful method of treatment for patients with SAIS who have had an initial trial of failed conservative treatment.

6. LEVEL 2: RANDOMISED CONTROLLED TRIAL

Does arthroscopic acromioplasty provide any additional value in the treatment of shoulder impingement syndrome? A two-year randomised controlled trial, S. Ketola et al, J Bone Joint Surg [Br] 2009;91-B:1326-34. doi: 10.1302/0301-620X.91B10.22094.

We report a randomised controlled trial to examine the effectiveness and cost-effectiveness of arthroscopic acromioplasty in the treatment of stage II shoulder impingement syndrome. A total of 140 patients were randomly divided into two treatment groups: supervised exercise programme (n = 70, exercise group) and arthroscopic acromioplasty followed by a similar exercise programme (n = 70, combined treatment group). The main outcome measure was self-reported pain on a visual analogue scale of 0 to 10 at 24 months, measured on the 134 patients (66 in the exercise group and 68 in the combined treatment group) for whom endpoint data were available. An intention-to-treat analysis disclosed an improvement in both groups but without statistically significant difference in outcome between the groups (p = 0.65). The combined treatment was considerably more costly. Arthroscopic acromioplasty provides no clinically important effects over a structured and supervised exercise programme alone in terms of subjective outcome or cost-effectiveness when measured at 24 months. Structured exercise treatment should be the basis for treatment of shoulder impingement syndrome, with operative treatment offered judiciously until its true merit is proven.

7. LEVEL N/A: EVIDENCE BASED GUIDELINES

Commissioning Guide 2014: Subacromial Shoulder Pain, British Elbow & Shoulder Society (BESS), British Orthopaedic Association (BOA), Royal College of Surgeons for England (RCSEng), Publication date: MMM 2014

1.1 Primary Care

Assessment:

- Diagnosis is based on History and Examination
- Correct early diagnosis helps streamline patient care, avoiding delays and incorrect treatment advice
- Primary Care and intermediate clinicians can work through the Algorithm (found in Appendix 1 of the RCS - Commissioning Guide 2014: Subacromial Shoulder Pain), if they arrive at the section highlighted in yellow, then a diagnosis of rotator cuff tendinopathy/impingement is highly likely.
- Check for RED FLAGS
- Ultrasound and MRI are rarely needed to initially manage this disorder but radiographs are helpful in primary care

Emergency referral - same day:

- Acutely painful red warm joint– e.g. suspected infected joint
- Trauma leading to loss of rotation and abnormal shape - unreduced shoulder dislocation

Urgent referral (<2/52) to secondary care:

- Shoulder mass or swelling - suspected malignancy
- Sudden loss of ability to actively raise the arm (with or without trauma) - acute cuff tear
- New symptoms of inflammation in several joints - systemic inflammatory joint disease (rheumatology referral)

For management of rotator cuff tendinopathy/ impingement the following measures should be tried

- Education, rest, NSAIDs, simple analgesia
- Appropriate structured physiotherapy with goal setting for 6 weeks to include postural correction and motor control retraining, stretching, strengthening of the rotator cuff and scapula muscles and manual therapy
- Do not consider further physiotherapy unless there is improvement during the first 6 weeks of treatment
- Injection of corticosteroid into the subacromial space. Normally, only one injection should be considered as repeated injections may cause tendon damage

- A second injection is occasionally appropriate after 6 weeks, but should only be administered in patients who received good initial benefit from their first injection and who need further pain relief to facilitate their structured physiotherapy treatment

Referral to secondary care:

- Use shared decision making
- Persistent pain and disability not responding to at least 6 weeks of non-surgical treatment, unless red flag identified (use Appendix 1 of the RCS - Commissioning Guide 2014: Subacromial Shoulder Pain)
- Consider optimisation of modifiable systemic or local risk factors that may delay surgical treatment prior to referral (e.g. investigation and treatment of diabetes)

1.2 Intermediate Care

This may be provided by certified healthcare professionals in a number of different settings including Integrated Clinical Assessment and Treatment Services (ICATS) and can provide: assessment, non-surgical treatment programmes, referral to secondary care and postoperative care.

They should form part of an integrated care programme with close links to primary and secondary care using protocols agreed with the secondary care provider.

Assessment

- Assessment identical to that in primary care
- Ensure the correct diagnosis has been made
- Re-assess for urgent referral to secondary care

Management of rotator cuff tendinopathy/ impingement

- Treatment should only be introduced if it did not take place in primary care and the likelihood of helping patients is high. If not refer to secondary care to avoid introducing delay in diagnosis and treatment
- If patients have improved with 6 weeks of physiotherapy in primary care, consider a second 6 weeks of evidence based physiotherapy to include postural correction and motor control retraining, stretching, strengthening of the rotator cuff and scapular muscles and manual therapy
- Injection of corticosteroids into the subacromial space and/or the acromio-clavicular joint if indicated and ONLY if not already given in primary care

Refer to secondary care provider

- Use shared decision making
- Persistent pain and functional impairment not responding to at least 6 weeks of evidence based non-surgical treatments with goal setting; this timeline should include any treatment received in primary care
- Patients who are medically unfit for surgery or have decided not to have surgery should be offered an appropriate care package

1.3 Secondary Care

Assessment

- Reassess for Red Flags
- History – location, radiation and onset of pain, duration of symptoms, history of trauma, exacerbating and relieving factors, involvement of other joints, systemic illness, co morbidities, occupation, hand dominance, level of activity/ sports, patient expectation
- Examination
- Radiographs (if not performed in primary care) and, if appropriate, US/ MRI to assess the integrity and state of rotator cuff muscles and tendons.

Surgery is indicated for persistent or significant pain and loss of function despite appropriate non-operative treatment.

A shared decision making model should be adopted, defining treatment goals and taking into account personal circumstances.

Patients should be informed that the decision to have surgery can be a dynamic process and a decision to not undergo surgery does not exclude them from having surgery at a future time point.

Ensure a multidisciplinary approach to care with availability of trained shoulder physiotherapists and shoulder surgeons.

Some patients who need surgery are unfit for anaesthesia or choose not to have surgery. A complex care package should be considered for these patients. This usually includes further non-operative measures such as subacromial injections, suprascapular nerve block and ablation, specialist physiotherapy, and pain clinic referral.

Appendix 2 – Diagnostic and Procedure Codes

Arthroscopic sub-acromial decompression for shoulder impingement
GM032

(All codes have been verified by Mersey Internal Audit's Clinical Coding Academy)

[To add when final policy approved]

Appendix 3 – Version History

Arthroscopic sub-acromial decompression for shoulder impingement
GM032

The latest version of this policy can be found here [To add link when final policy approved]

Version	Date	Summary of Changes
0.1	01/11/2017	Initial draft
0.2	15/11/2017 & 17/01/2018	Policy Inclusion Criteria • Layout of the policy inclusion criteria was separated out into sections: *'Prior to referral'* and *'Referral for consideration of surgical management'*. • Non- invasive management: *'AND'* entered between bullet points • Steroid Injection: *'AND'* entered between bullet points and note and link added around GMMMG recommendations. • 'All methods of' added to start of third bullet point • Referral for consideration of surgical management: First bullet point amended to read: 'Steroid injections have been tried and have failed to relieve symptoms'; bullet point added to read: *'The patient has initially responded positively to a steroid injection but symptoms have returned despite compliance with post injection conservative management'*; *'OR'* added between first two bullet points and *'AND'* entered between the rest, bullet point added stating *'The presence of findings on X-ray or MRI consistent with impingement'* and note added to state: *'Open surgery for sub-acromial decompression is NOT commissioned unless part of a wider surgical procedure.'* • Funding mechanism added for individual prior approval