# Appendix 1. Search strategies

1 A: Embase Search 03.07.2019

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| # | Query | Results 07/2019 |
| 1 | 'shoulder pain'/exp OR 'rotator cuff injury'/exp OR 'bursitis'/exp | 28,132 |
| 2 | 'shoulder'/exp AND 'pain'/exp | 12,131 |
| 3 | shoulder NEAR/5 (bursitis OR 'adhesive capsulitis' OR periarthriti\* OR frozen OR impinge\* OR tend\*nitis OR pain\*) | 26,797 |
| 4 | 'rotator cuff' NEAR/5 (bursitis OR 'adhesive capsulitis' OR periarthriti\* OR frozen OR impinge\* OR tend\*nitis OR pain\*) | 3,309 |
| 5 | #1 OR #2 OR #3 OR #4 | 43,049 |
| 6 | 'anxiety'/mj OR 'anxiety disorder'/mj OR 'catastrophizing'/mj OR 'panic'/mj OR 'coping behavior'/mj OR 'adaptive behavior'/exp/mj OR 'illness behavior'/exp/mj OR 'attitude to illness'/exp/mj OR 'self concept'/exp/mj | 181,113 |
| 7 | (fear NEAR/3 avoid\*):ab,ti OR ((psychosocial OR psychological OR 'bio psychological') NEAR/3 (factor\* OR model\*)):ab,ti OR (coping NEAR/3 (behavi\*r OR skill\* OR pain OR strateg\* OR ability)):ab,ti OR (pain NEAR/3 (catastrophizer\* OR catastrophiser\*)):ab,ti OR (catastrophic NEAR/3 (thinking OR thought\*)):ab,ti OR catastrophizing:ab,ti OR catastrophising:ab,ti OR catastrophization:ab,ti OR catastrophisation:ab,ti OR kinesiophobia:ab,ti | 70,556 |
| 8 | #6 OR #7 | 238,308 |
| 9 | #5 AND #8 | 580 |

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Part B. Medline 03.07.2019

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| # | Query | 07/2019 |
| 1 | (MH "Shoulder Pain") OR (MH "Shoulder Impingement Syndrome") OR (MH "Rotator Cuff") OR (MH "Bursitis+") | 14,984 |
| 2 | (MH "Shoulder Joint") AND (MH "Pain+") | 2,307 |
| 3 | AB ( shoulder N5 (bursitis OR "adhesive capsulitis" OR periarthriti\* OR frozen OR impinge\* OR tend#nitis OR pain\*) ) OR TI (shoulder N5 (bursitis OR "adhesive capsulitis" OR periarthriti\* OR frozen OR impinge\* OR tend#nitis OR pain\*) ) | 13,544 |
| 4 | AB ("rotator cuff" N5 (bursitis OR "adhesive capsulitis" OR periarthriti\* OR frozen OR impinge\* OR tend#nitis OR pain\*) ) OR TI ("rotator cuff" N5 (bursitis OR "adhesive capsulitis" OR periarthriti\* OR frozen OR impinge\* OR tend#nitis OR pain\*)) | 1,525 |
| 5 | S1 OR S2 OR S3 OR S4 | 24,155 |
| 6 | (MH "Anxiety") OR (MH "Anxiety Disorders") OR (MH "Catastrophization") OR (MH "Fear") OR (MH "Panic") OR (MH "Adaptation, Psychological+") OR (MH "Illness Behavior") OR (MH "Self Efficacy") | 256,353 |
| 7 | TI (Fear N3 avoid\*) OR TI ( (Psychosocial OR psychological OR bio-psychological) N3 (factor\* OR model\*) ) OR TI ( Coping N3 (behavi#r or skill\* OR pain OR strateg\* OR ability) ) OR TI ( (pain N3 (catastrophizer\* or catastrophiser\*)) ) OR TI ( (catastrophic N3 (thinking or thought\*)) ) OR TI ((catastrophizing or catastrophising or catastrophization or catastrophisation) ) OR TI kinesiophobia OR AB (Fear N3 avoid\*) OR AB ( (Psychosocial OR psychological OR bio-psychological) N3 (factor\* OR model\*) ) OR AB ( Coping N3 (behavi#r or skill\* OR pain OR strateg\* OR ability) ) OR AB ( (pain N3 (catastrophizer\* or catastrophiser\*)) ) OR AB ( (catastrophic N3 (thinking or thought\*)) ) OR AB ((catastrophizing or catastrophising or catastrophization or catastrophisation) ) OR AB kinesiophobia | 55,863 |
| 8 | S6 OR S7 | 293,180 |
| 9 | S8 AND S5 | 430 |

Ebsco Host

Appendix 2: **SIGN Quality Assessment.** Bold font indicates high quality studies based on the SIGN review.

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| 2 A: Cohort studies |
| **Author and year** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **Overall Quality** |
| **Chester et al. 2016** | Y | NA | Y | NA | 25% | Y | Y | Y | NA | Y | Y | N | Y | Y | ++ | **9** |
| Cho et al. 2015 | Y | NA | Y | NA | 19% | N | Y | ? | N | Y | Y | N | ? | Y | + | 6 |
| Dambreville et al. 2007 | Y | NA | N | NA | 0% | NA | Y | ? | N | Y | Y | N | Y | N | + | 5 |
| **Dekker et al. 2016** | Y | Y | Y | NA | 28% | N | Y | ? | NA | Y | Y | N | Y | Y | ++ | **8** |
| **Engebretsen et al. 2010** | Y | Y | Y | NA | 10% | Y | Y | Y | NA | Y | Y | N | ? | Y | ++ | **8** |
| George et al. 2008 | Y | NA | N | NA | 19% | N | Y | ? | ? | Y | Y | N | ? | N | + | 4 |
| **George et al. 2015,2016** | Y | NA | Y | Y | 25% | N | Y | Y | ? | Y | Y | N | Y | Y | ++ | **9** |
| Henn et al. 2007 | Y | ? | N | NA | 0% | NA | Y | NA | ? | Y | Y | N | N | N | + | 3 |
| **Jain et al 2018** | Y | Y | Y | NA | 30% | N | Y | Y | NA | Y | Y | N | N | Y | ++ | **8** |
| **Karel et al 2017** | Y | Y | Y | NA | 30% | Y | Y | Y | NA | Y | Y | N | Y | Y | ++ | **10** |
| **Kennedy et al 2006** | Y | Y | N | NA | 0% | NA | Y | Y | Y | Y | Y | N | N | Y | ++ | **8** |
| **Koorevaar et al 2016** | Y | Y | Y | NA | 9% | Y | Y | Y | NA | Y | Y | N | Y | Y | ++ | **10** |
| Koorevaar et al 2018 | Y | Y | Y | NA | 22% | N | Y | Y | NA | Y | Y | N | NA | N | + | 7 |
| Kromer T.O. 2014 | Y | Y | Y | NA | 2% | N | Y | NA | NA | Y | Y | N | ? | Y | + | 7 |
| Kuijpers et al. 2006 | Y | NA | N | NA | 8% | Y | Y | Y | NA | Y | Y | N | Y | Y | + | 7 |
| **Laslett et al. 2015** | Y | Y | Y | N | 16% | Y | Y | ? | ? | Y | Y | N | ? | Y | ++ | **8** |
| **O’Malley et al, 2004** | Y | Y | N | NA | 39% | Y | Y | Y | NA | Y | Y | N | Y | N | ++ | **8** |
| **Oh et al 2012** | Y | Y | Y | NA | 26% | N | Y | Y | NA | Y | Y | N | ? | Y | ++ | 8 |
| Potter et al 2015 | Y | ? | Y | NA | 18% | N | Y | Y | NA | Y | Y | N | NA | Y | + | 7 |
| Ravindra et al. 2018 | Y | Y | N | NA | 22% | N | Y | ? | N | Y | Y | N | N | N | + | 5 |
| **Reilingh et al. 2008** | Y | Y | Y | NA | 20-8%  | Y | Y | ? | Y | Y | Y | N | Y | Y | ++ | **9** |
| **Ryall et al. 2007** | Y | Y | Y | NA | 16.5% | Y | Y | ? | N | Y | Y | N | Y | Y | ++ | **9** |
| Sindhu et al. 2012 | Y | Y | N | NA | 57-47% | N | Y | NA | ? | Y | Y | N | ? | N | + | 5 |
| **Smedbråten et al. 2018** | Y | Y | Y | NA | 31% | Y | Y | Y | N | Y | Y | N | Y | Y | ++ | **10** |
| Thorpe et al. 2018 | Y | Y | Y | NA | 10% | N | Y | ? | N | Y | Y | N | Y | N | + | 7 |
| Valencia et al. 2014 | Y | NA | N | Y | 6.5% | N | Y | ? | ? | Y | Y | Y | Y | N | + | 7 |
| **Van der Windt et al. 2007** | Y | NA | N | NA | 12% | Y | Y | Y | NA | Y | Y | N | Y | Y | ++ | **8** |
| **Wolfensberger et al., 2016** | Y | NA | Y | N | 45% | Y | Y | Y | NA | Y | Y | N | Y | Y | ++ | **9** |
| Woollard et al. 2017 | Y | Y | N | NA | 25% | N | Y | ? | N | Y | Y | N | Y | Y | + | 7 |
| Yeoman et al. 2012 | Y | NA | N | NA | 0% | NA | Y | NA | Y | Y | Y | Y | ? | N | + | 5 |

Y=yes; N=no; ?= unclear; NA=not applicable.

++, high quality, most (≥60%) of the criteria fulfilled (if <60 % fulfilled, the conclusions of the study are very unlikely to alter the findings)

+, moderate quality: some criteria fulfilled (<60%)

-, low quality, few or no criteria fulfilled

Columns in this table presenting the following questions:

1. Study question focused? 2. Included groups selected from source population that are comparable. 3. The study indicate how many who were asked to take part did so. 4. The likelihood that some eligible subjects might have the outcome at the time of the enrolment is assessed and taken into consideration. 5. What are the percentage of individuals recruited that dropped out before the study was completed. 6. Comparison is made between full participants and those lost to follow-up. 7. Outcomes clearly defined. 8. The assessment of outcome is made blind to exposure status. 9. Where blinding was not possible, there is some recognition that knowledge of the exposure status could have influenced the assessment of outcome. 10. The method of assessment of exposure is reliable? 11. Evidence from other sources is used to demonstrate that the method of outcome assessment is valid and reliable. 12. Exposure or prognostic factor assessed more than once? 13. Main potential confounders identified and taken into account in analysis. 14. Have confidence intervals been provided. 15. Overall assessment of risk of bias (++/+/-/0)

2 B: Randomized clinical trials

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author and year** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | Overall Quality |
| Berk et al. 1977 | Y | Y | ? | ? | ? | Y | Y | NA | Y | NA | +  | 5 |
| **Ekeberg et al 2010** | Y | Y | Y | Y | Y | Y | Y | 1.8% | Y | NA | ++ | **8** |
| Geraets et al. 2005 | Y | Y | Y | N | N | Y | ? | 16% | N | ? | +  | 4 |
| **Kvalvaag et al 2018** | Y | Y | Y | Y | Y | Y | Y | 10% | Y | NA | **++**  | **8** |

Y=yes; N=no; ?= unclear; NA=not applicable.

++, high quality, most (≥60%) of the criteria fulfilled (if <60 % fulfilled, the conclusions of the study are very unlikely to alter the findings)

+, moderate quality: some criteria fulfilled (<60%)

-, low quality, few or no criteria fulfilled

Columns in this table presenting the following questions:

1. Clearly and focused question. 2. The assignment of subjects to treatment groups are randomized? 3. An adequate concealment method is used? 4. The design keeps subjects and investigators ‘blind’ about treatment allocation? 5. The groups are similar at start of the trials? 6. The only difference between the groups is the treatment under investigation? 7. All relevant outcomes are measured in a standard, valid and reliable way? 8. What percentage of the subjects recruited into each treatment arm dropped out before the study was completed? 9. All the subjects are analyzed in the groups to which they were allocated (Intention to treat analysis)? 10. Where the study is carried out at more than one site, results are comparable for all sites? Overall quality of the study? (++/+/-/0)