**Supplementary file 1: Inclusion and exclusion of studies (as summarized in Figure 1)**

**EULAR recommendations for the health professional’s approach to pain management in inflammatory arthritis and osteoarthritis**

Rinie Geenen, Cécile L Overman, Robin Christensen, Pernilla Åsenlöf, Susana Capela, Karen L Huisinga, Mai Elin P Husebø, Albère J A Köke, Zoe Paskins, Irene A Pitsillidou, Carine Savel, Judith Austin, Afton L Hassett, Guy Severijns, Michaela Stoffer-Marx, Johan W S Vlaeyen, César Fernández-de-las-Peñas, Sarah J Ryan, Stefan Bergman

**Search key for each database leading to inclusion of studies to be screened for inclusion and exclusion criteria**

**Cochrane Library**

(Osteoarthr\* or arthrosis\* or "degenerative joint disease" or "arthritis psoriatica" or "arthropathic psoriasis" or "psoriatic arthropathy" or "ankylosing spondylitis" or ankylosi\* or spondyloarthr\* or spondylarthr\* or Bechterew or "Marie-Strumpell"):ti or (degenerative or inflammatory or rheum\* or psoriatic and arthr\*):ti and pain:ti,ab,kw and (management or therap\* or strateg\* or treat\* or care or intervention\* or exercise or educat\* or support\* or train\*):ti,ab,kw

**Embase** (European counterpart of Medline; searches also in Medline)

osteoarthr\*:ti OR arthrosis\*:ti OR 'degenerative joint disease':ti OR 'arthritis psoriatica':ti OR 'arthropathic psoriasis':ti OR 'psoriatic arthropathy':ti OR 'ankylosing spondylitis':ti OR ankylosi\*:ti OR spondyloarthr\*:ti OR spondylarthr\*:ti OR bechterew:ti OR 'marie-strumpell':ti OR (degenerative:ti OR inflammatory:ti OR rheum\*:ti OR psoriatic:ti AND arthr\*:ti) AND pain:de,ab,ti AND (management:de,ab,ti OR therap\*:de,ab,ti OR strateg\*:de,ab,ti OR treat\*:de,ab,ti OR care:de,ab,ti OR intervention\*:de,ab,ti OR exercise:de,ab,ti OR educat\*:de,ab,ti OR support\*:de,ab,ti OR train\*:de,ab,ti) AND ([cochrane review]/lim OR [systematic review]/lim OR [meta analysis]/lim)

**PsycINFO**

#1 (Osteoarthr\* or arthrosis\* or "degenerative joint disease" or "arthritis psoriatica" or "arthropathic psoriasis" or "psoriatic arthropathy" or "ankylosing spondylitis" or ankylosi\* or spondyloarthr\* or spondylarthr\* or Bechterew or "Marie-Strumpell" or ((degenerative or inflammatory or rheum\* or psoriatic) and arthr\*)).ti. and pain.ab,id,ti. and (management or therap\* or strateg\* or treat\* or care or intervention\* or exercise or educat\* or support\* or train\*).ab,id,ti.

#2 limit 1 to ("0800 literature review" or "0830 systematic review" or 1200 meta analysis)

**PubMed**

(Osteoarthr\*[Title] OR arthrosis[Title] OR "degenerative joint disease"[Title] OR "arthritis psoriatica"[Title] OR "arthropathic psoriasis"[Title] OR "psoriatic arthropathy"[Title] OR "ankylosing spondylitis"[Title] OR ankylosi\*[Title] OR spondyloarthr\*[Title] OR spondylarthr\*[Title] OR Bechterew[Title] OR "Marie-Strumpell"[Title]) OR (degenerative[Title] OR inflammatory[Title] OR rheum\*[Title] OR psoriatic[Title] AND arthr\*[Title]) AND (pain[Title/Abstract] OR pain[MeSH Terms]) AND (management[Title/Abstract] OR therap\*[Title/Abstract] OR strateg\*[Title/Abstract] OR treat\*[Title/Abstract] OR care[Title/Abstract] OR intervention\*[Title/Abstract] OR exercise[Title/Abstract] OR educat\*[Title/Abstract] OR support\*[Title/Abstract] OR train[Title/Abstract] OR management[Other Term] OR therap\*[Other Term] OR strateg\*[Other Term] OR treat\*[Other Term] OR care[Other Term] OR intervention\*[Other Term] OR exercise[Other Term] OR educat\*[Other Term] OR support\*[Other Term] OR train\*[Other Term])  AND ( systematic[sb] OR Practice Guideline[ptyp] OR Meta-Analysis[ptyp] OR Guideline[ptyp] )

**Scopus**

TITLE (Osteoarthr\* OR arthrosis\* OR "degenerative joint disease" OR "arthritis psoriatica" OR "arthropathic psoriasis" OR "psoriatic arthropathy" OR "ankylosing spondylitis" OR ankylosi\* OR spondyloarthr\* OR spondylarthr\* OR Bechterew OR "Marie-Strumpell") OR TITLE (degenerative OR inflammatory OR rheum\* OR psoriatic AND arthr\*) AND TITLE-ABS-KEY (pain) AND TITLE-ABS-KEY (management OR therap\* OR strateg\* OR treat\* OR care OR intervention\* OR exercise OR educat\* OR support\* OR train\*) AND TITLE ("systematic review" OR meta-analysis OR guideline OR recommendation)

**Web of Science**

TI=((Osteoarthr\* OR arthrosis\* OR "degenerative joint disease" OR "arthritis psoriatica" OR "arthropathic psoriasis" OR "psoriatic arthropathy" OR "ankylosing spondylitis" OR ankylosi\* OR spondyloarthr\* OR spondylarthr\* OR Bechterew OR "Marie-Strumpell") OR (degenerative OR inflammatory OR rheum\* OR psoriatic AND arthr\*)) AND TS=(pain) AND TS=(management OR therap\* OR strateg\* OR treat\* OR care OR intervention\* OR exercise OR educat\* OR support\* OR train\*) AND TI=("systematic review" OR meta-analysis OR guideline OR recommendation)

**Application of exclusion criteria (see figure 1)**



**Figure 1**. Flow chart of the systematic literature review of reviews

On October 19th, 2015, Cochrane, Embase, PsycINFo, PubMed, Scopus, and Web of Science were searched for records of systematic reviews, meta-analyses, (practice) guidelines and recommendation articles with the search key including the name of one or more of the diseases of interest in the title, the word “pain” in the title, abstract or key words, and also a word referring to a mode of intervention or care in the title, abstract or key words (see the supplemental files for the exact search key syntaxes used per search system). No time restriction was applied.

This resulted in 2914 records from all search systems together, which were imported into RefWorks. After excluding the records that RefWorks identified as “exact duplicates”, 2336 records remained. After excluding records that were identified by RefWorks as “close duplicates” and that were then confirmed to be actual duplicates after screening them, 1569 records remained in the RefWorks database. Reference and abstract information of these 1569 records were screened and a selection was made using the following exclusion criteria:

1. Records that were an exact duplicate or had the same SLR with the same analyses and text of another previous record were excluded.
2. Records of articles that were withdrawn were excluded.
3. Records of articles that were not written in English were excluded.
4. Records of abstracts-only (e.g. conference abstracts) were excluded.
5. Records of articles that were not a systematic review, meta-analysis, (practice) guideline, or recommendation article were excluded (e.g. reports of single studies such as a single randomized controlled trial or observational study, commentaries, letters to the editor, reports with research-highlights of one year, and non-systematic narrative reviews were excluded)
6. Records of guidelines and recommendation articles that did not include information of a systematic review and/or meta-analysis were excluded.
7. Records of articles that were not the last version of a series of the same systematic review, meta-analysis performed every “x” years were excluded in favor of the last version (Cochrane reviews).
8. Records of articles that were about care, intervention or treatment of animals, not humans, were excluded.
9. Records of articles that did not contain separate results for patients with osteoarthritis, rheumatoid arthritis, ankylosing spondylitis, and/or psoriatic arthritis were excluded (e.g. articles that were only about fibromyalgia or forms of inflammatory arthritis that were not part of our definition of inflammatory arthritis such as lupus or Sjögren were excluded).
10. Records of articles that did not have pain as an outcome variable were excluded.
11. Records of articles that did not have as the aim/topic to discuss and/or compare the results of a form or multiple forms of management were excluded (e.g. articles that only discussed predictors of pain / correlations between pain and patient characteristics; articles that discussed how a certain type of treatment may work on pain; articles that compared pain questionnaires; articles that compared different types of placebos; articles that focused not on effects but on side effects were excluded).
12. Records of articles that only discussed and/or compared a form or multiple forms of care as a form of revalidation after surgery were excluded.

After these checks, 451 records remained. In the next step, we excluded interventions that involve pharmacological (including alternative, herbal and nutraceuticals) or surgical treatment. This decision led to the exclusion of an additional 237 records; the full-texts of the remaining 214 records were searched and 197 records could be obtained full-text and included in the SLR. Seventeen articles could not be obtained full text. Thirteen articles were excluded on further inspection during data extraction because of the following reasons: non-systematic narrative review (3x), pain not an outcome (4x), guideline without SLR (1x), duplicate SLR (2x), aim/topic is not about treatment effect on pain (2x), involved only pharmacological treatment results (1x). Two additional meta-analyses were included after scanning the reference list of the selected articles.

Finally, 186 articles remained for review.