

Literature search strategies

Contents

Introduction	Search methodology
Section A.1	Standard population search strategy This population was used for all search questions unless stated
Section A.2	Study filter terms
A.2.1	Systematic reviews (SR)
A.2.2	Randomized controlled trials (RCT)
A.2.3	Observational studies
A.2.4	Qualitative studies
A.2.5	Economic studies
A.2.6	Quality of life studies
A.2.7	Excluded study designs and publication types
Section A.3	Searches for specific questions
A.3.1	Diagnostic imaging
A.3.2	Acupuncture
A.3.3	Nutraceuticals
A.3.4	Hyaluronan injections
A.3.5	Etoricoxib (30mg)
A.3.6	Fixed-dose combinations of NSAID /Cox 2 inhibitor + GPA
A.3.7	Paracetamol (efficacy)
A.3.8	Paracetamol (adverse events in osteoarthritis)
A.3.9	Paracetamol (adverse events in a general population)
A.3.10	Decision aids
A.3.11	Patient review and follow up
A.3.12	Timing of surgery
Section A.4	Economic searches
A.4.1	Economic reviews
A.4.2	Quality of life reviews

Search strategies used for updating the Osteoarthritis guideline are outlined below and were run in accordance with the methodology in the NICE Guidelines Manual 2012.⁴¹⁹

All searches were run up to 7th May 2013 unless otherwise stated. Any studies added to the databases after this date were not included unless specifically stated in the text. Where possible searches were limited to retrieve material published in English. Searches to update questions covered in the previous NICE guidance on osteoarthritis⁴¹⁶ were limited to retrieve material published since the date of the original searches for that guideline (i.e. since 2007).

Table 1: Database date parameters

Database	Dates searched
Medline	1946 – 7 th May 2013
Embase	1980 – 7 th May 2013 (week 18)
The Cochrane Library	Cochrane Reviews to 2013 Issue 4 of 12 CENTRAL to 2013 Issue 4 of 12 DARE, HTA and NHSEED to 2013 Issue 2 of 4

Clinical searches

Searches for the **clinical reviews** were run in Medline (OVID), Embase (OVID) and the Cochrane Library (Wiley) except for questions which solely considered observational studies where the Cochrane Library was omitted. For the question on acupuncture (section F.3.2) additional searches were run in AMED (OVID). Usually, searches were constructed in the following way:

- A PICO format was used for **intervention** searches where population (P) terms were combined with Intervention (I) and sometimes Comparison (C) terms. An intervention can be a drug, a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search filters were also added to the search where appropriate.
- A PEO format was used for **prognosis** searches where population (P) terms were combined with exposure (E) terms and sometimes outcomes (O). Search filters were added to the search where appropriate.

Health economics searches

Searches for the **health economic reviews** were run in Medline (OVID), Embase (OVID), the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). Searches in NHS EED and HEED were constructed only using population terms. For Medline and Embase an economic filter (instead of a study design filter) was added to the same clinical search strategy.

Searches for **quality of life** data were run in Medline (OVID) and Embase (OVID) by adding the filter in section F.2.6 to the population terms.

A.1 Population search strategies

The same population was used throughout the guideline with the exception of searches for two questions: the question on the adverse events of paracetamol in a general population (section F.3.9) where no population terms were used and the question on the use of decision aids (section F.3.10) which used an expanded population.

Medline search terms

1.	exp osteoarthritis/
2.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*).ti,ab.
3.	(degenerative adj2 arthritis).ti,ab.
4.	coxarthrosis.ti,ab.
5.	or/1-4

Embase search terms

1.	exp osteoarthritis/
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2.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*).ti,ab.
3.	(degenerative adj2 arthritis).ti,ab.
4.	coxarthrosis.ti,ab.
5.	or/1-4

Cochrane search terms

#1.	MeSH descriptor Osteoarthritis explode all trees
#2.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*):ti,ab,kw
#3.	(degenerative near/2 arthritis):ti,ab,kw
#4.	coxarthrosis:ti,ab,kw
#5.	(#1 OR #2 OR #3 OR #4)

A.2 Study filter search terms

A.2.1 Systematic review (SR) search terms

Medline search terms

1.	meta-analysis/
2.	meta-analysis as topic/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.
4.	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	cochrane.jw.
10.	or/1-9

Embase search terms

1.	systematic review/
2.	meta-analysis/
3.	(meta analy* or metanaly* or metaanaly*).ti,ab.
4.	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
5.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7.	(search* adj4 literature).ab.
8.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
9.	((pool* or combined) adj2 (data or trials or studies or results)).ab.
10.	cochrane.jw.
11.	or/1-10

A.2.2 Randomised controlled trial (RCT) search terms

Medline search terms

1.	randomized controlled trial.pt.
2.	controlled clinical trial.pt.
3.	randomi#ed.ab.
4.	placebo.ab.
5.	randomly.ab.
6.	clinical trials as topic.sh.
7.	trial.ti.
8.	or/1-7

Embase search terms

1.	random*.ti,ab.
2.	factorial*.ti,ab.
3.	(crossover* or cross over*).ti,ab.
4.	((doubl* or singl*) adj blind*).ti,ab.
5.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
6.	crossover procedure/
7.	double blind procedure/
8.	single blind procedure/
9.	randomized controlled trial/
1	or/1-9

A.2.3 Observational studies search terms

Medline search terms

1.	epidemiologic studies/
2.	exp case control studies/
3.	exp cohort studies/
4.	cross-sectional studies/
5.	case control.ti,ab.
6.	(cohort adj (study or studies or analys*)).ti,ab.
7.	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
8.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
9.	or/1-8

Embase search terms

1.	clinical study/
2.	exp case control study/
3.	family study/
4.	longitudinal study/
5.	retrospective study/

6.	prospective study/
7.	cross-sectional study/
8.	cohort analysis/
9.	follow-up/
10.	cohort*.ti,ab.
11.	9 and 10
12.	case control.ti,ab.
13.	(cohort adj (study or studies or analys*)).ti,ab.
14.	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
15.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
16.	or/1-8,11-15

A.2.4 Qualitative studies search terms

Medline and Embase search terms

1.	exp empirical research/
2.	questionnaires/
3.	(questionnaire* or survey*).ti,ab.
4.	health surveys/
5.	health care surveys/
6.	interview/
7.	exp interviews as topic/
8.	interview*.tw.
9.	grounded theory.tw.
10.	exp nursing methodology research/
11.	focus group*.tw.
12.	themes.tw.
13.	phenomenology.tw.
14.	ethnograph*.tw.
15.	qualitative research/
16.	qualitative.tw.
17.	or/1-16

A.2.5 Health economics search terms

Medline search terms

1.	economics/
2.	value of life/
3.	exp "costs and cost analysis"/
4.	exp economics, hospital/
5.	exp economics, medical/
6.	economics, nursing/
7.	economics, pharmaceutical/
8.	exp "fees and charges"/

9.	exp budgets/
10.	budget*.ti,ab.
11.	cost*.ti.
12.	(economic* or pharmaco?economic*).ti.
13.	(price* or pricing*).ti,ab.
14.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15.	(financ* or fee or fees).ti,ab.
16.	(value adj2 (money or monetary)).ti,ab.
17.	or/1-16

Embase search terms

1.	health economics/
2.	exp economic evaluation/
3.	exp health care cost/
4.	exp fee/
5.	budget/
6.	funding/
7.	budget*.ti,ab.
8.	cost*.ti.
9.	(economic* or pharmaco?economic*).ti.
10.	(price* or pricing*).ti,ab.
11.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
12.	(financ* or fee or fees).ti,ab.
13.	(value adj2 (money or monetary)).ti,ab.
14.	or/1-13

A.2.6 Quality of life search terms

Medline search terms

1.	quality-adjusted life years/
2.	sickness impact profile/
3.	(quality adj2 (wellbeing or well-being)).ti,ab.
4.	sickness impact profile.ti,ab.
5.	disability adjusted life.ti,ab.
6.	(qal* or qtime* or qwb* or daly*).ti,ab.
7.	(euroqol* or eq5d* or eq 5d*).ti,ab.
8.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9.	(health utility* or utility score* or disutilit*).ti,ab.
10.	(hui or hui1 or hui2 or hui3).ti,ab.
11.	health* year* equivalent*.ti,ab.
12.	(hye or hyes).ti,ab.
13.	rosser.ti,ab.
14.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.

16.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
18.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
19.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
20.	or/1-19

Embase search terms

1.	quality adjusted life year/
2.	"quality of life index"/
3.	short form 12/ or short form 20/ or short form 36/ or short form 8/
4.	sickness impact profile/
5.	(quality adj2 (wellbeing or well-being)).ti,ab.
6.	sickness impact profile.ti,ab.
7.	disability adjusted life.ti,ab.
8.	(qal* or qtime* or qwb* or daly*).ti,ab.
9.	(euroqol* or eq5d* or eq 5d*).ti,ab.
10.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11.	(health utility* or utility score* or disutilit*).ti,ab.
12.	(hui or hui1 or hui2 or hui3).ti,ab.
13.	health* year* equivalent*.ti,ab.
14.	(hye or hyes).ti,ab.
15.	rosser.ti,ab.
16.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
17.	(sf36 or sf 36 or short form 36 or shortform 36 or shortform36).ti,ab.
18.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19.	(sf12 or sf 12 or short form 12 or shortform 12 or shortform12).ti,ab.
20.	(sf8 or sf 8 or short form 8 or shortform 8 or shortform8).ti,ab.
21.	(sf6 or sf 6 or short form 6 or shortform 6 or shortform6).ti,ab.
22.	or/1-21

A.2.7 Excluded study designs and publication types

The following study designs and publication types were removed from retrieved results using the NOT operator.

Medline search terms

1.	letter/
2.	editorial/
3.	news/
4.	exp historical article/
5.	anecdotes as topic/
6.	comment/
7.	case report/
8.	(letter or comment*).ti.
9.	or/1-8
10.	randomized controlled trial/ or random*.ti,ab.

11.	9 not 10
12.	animals/ not humans/
13.	exp animals, laboratory/
14.	exp animal experimentation/
15.	exp models, animal/
16.	exp rodentia/
17.	(rat or rats or mouse or mice).ti.
18.	or/11-17

Embase search terms

1.	letter.pt. or letter/
2.	note.pt.
3.	editorial.pt.
4.	case report/ or case study/
5.	(letter or comment*).ti.
6.	or/1-5
7.	randomized controlled trial/ or random*.ti,ab.
8.	6 not 7
9.	animal/ not human/
10.	nonhuman/
11.	exp animal experiment/
12.	exp experimental animal/
13.	animal model/
14.	exp rodent/
15.	(rat or rats or mouse or mice).ti.
16.	or/8-15

A.3 Searches for specific questions

A.3.1 Diagnostic imaging

In a person with suspected clinical OA (including knee pain) when would the addition of imaging be indicated to confirm additional or alternative diagnoses (particularly to identify red flags) such as:

- crystal arthritis (gout or CPPD)
- inflammatory arthritis (including rheumatoid arthritis, psoriatic arthritis)
- infection
- cancer, usually secondary metastases

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Diagnostic imaging	n/a	SR, RCT, observational studies, standard exclusions (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	exp radiography/
2.	ra.fs.
3.	x-ray.ti,ab.
4.	exp magnetic resonance imaging/
5.	MRI.ti,ab.
6.	((magnetic resonance or MR or NMR) adj2 (tomogra* or imag* or scan*)).ti,ab.
7.	exp ultrasonography/
8.	(echogra* or radiogra* or radiolog* or echotomogra* or sonograph* or ultrasound or ultrasonogra*).ti,ab.
9.	(ultrasonic adj2 (tomogra* or imag* or diagnos*)).ti,ab.
10.	exp tomography, x-ray computed/
11.	((CT or CAT) adj2 (imag* or scan* or diagnos*)).ti,ab.
12.	(compute* adj3 tomogra*).ti,ab.
13.	exp radionuclide imaging/
14.	ri.fs.
15.	(scintigra* or scintiscan* or radioscintigra* or scintiphotogra*).ti,ab.
16.	radioisotope scan*.ti,ab.
17.	or/1-16
18.	exp "sensitivity and specificity"/
19.	(sensitivity or specificity).ti,ab.
20.	((pre test or pretest or post test) adj probability).ti,ab.
21.	(predictive value* or PPV or NPV).ti,ab.
22.	likelihood ratio*.ti,ab.
23.	likelihood function/
24.	(ROC curve* or AUC).ti,ab.
25.	(diagnos* adj2 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
26.	gold standard.ab.
27.	or/18-26
28.	sensitiv*.mp.
29.	diagnos*.mp.
30.	di.fs.
31.	or/28-30
32.	17 and (27 or 31)

Embase search terms

1.	exp radiography/
2.	x-ray.ti,ab.
3.	exp nuclear magnetic resonance imaging/
4.	MRI.ti,ab.
5.	((magnetic resonance or MR or NMR) adj2 (tomogra* or imag* or scan*)).ti,ab.
6.	exp echography/
7.	(echogra* or radiogra* or radiolog* or echotomogra* or sonograph* or ultrasound or ultrasonogra*).ti,ab.

8.	(ultrasonic adj2 (tomogra* or imag* or diagnos*)):ti,ab.
9.	exp computer assisted tomography/
10.	((CT or CAT) adj2 (imag* or scan* or diagnos*)):ti,ab.
11.	(compute* adj3 tomogra*):ti,ab.
12.	exp scintiscanning/
13.	(scintigra* or scintiscan* or radioscintigra* or scintiphotogra*):ti,ab.
14.	radioisotope scan*.ti,ab.
15.	or/1-14
16.	exp "sensitivity and specificity"/
17.	(sensitivity or specificity).ti,ab.
18.	((pre test or pretest or post test) adj probability).ti,ab.
19.	(predictive value* or PPV or NPV).ti,ab.
20.	likelihood ratio*.ti,ab.
21.	(ROC curve* or AUC).ti,ab.
22.	(diagnos* adj2 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)):ti,ab.
23.	diagnostic accuracy/
24.	diagnostic test accuracy study/
25.	gold standard.ab.
26.	or/16-25
27.	sensitiv*.mp.
28.	diagnos*.mp.
29.	di.fs.
30.	or/27-29
31.	15 and (26 or 30)

Cochrane search terms

#1.	((magnetic resonance or MR or NMR) near/2 (tomogra* or imag* or scan*)):ti,ab,kw
#2.	(x-ray or MRI or radiogra* or radiolog* or echogra* or echotomogra* or sonograph* or ultrasound or ultrasonogra*):ti,ab,kw
#3.	(ultrasonic near/2 (tomogra* or imag* or diagnos*)):ti,ab,kw
#4.	((CT or CAT) near/2 (imag* or scan* or diagnos*)):ti,ab,kw
#5.	(compute* near/3 tomogra*):ti,ab,kw
#6.	(radionuclide imag* or scintigra* or scintiscan* or radioscintigra* or scintiphotogra*):ti,ab,kw
#7.	radioisotope scan*:ti,ab,kw
#8.	Any MeSH descriptor with qualifier(s): [Radiography - RA] in all MeSH products
#9.	Any MeSH descriptor with qualifier(s): [Radionuclide imaging - RI] in all MeSH products
#10.	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9
#11.	((pre test or pretest or post test) next probability):ti,ab
#12.	(predictive value* or PPV or NPV):ti,ab
#13.	(likelihood function or likelihood ratio*):ti,ab,kw
#14.	(ROC curve* or AUC):ti,ab,kw
#15.	gold standard:ab

#16.	sensitiv*:ti,ab,kw
#17.	diagnos*:ti,ab,kw
#18.	Any MeSH descriptor with qualifier(s): [Diagnosis - DI] in all MeSH products
#19.	#11 or #12 or #13 or #14 or #15 or #16 or #17 or #18
#20.	#10 and #19

A.3.2 Acupuncture

What is the clinical and cost effectiveness of acupuncture versus sham treatment (placebo) and other interventions in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Acupuncture	n/a	Standard exclusions (Medline and Embase only)	2007 – 7 th May 2013

Medline search terms

1.	exp acupuncture therapy/
2.	acupuncture/
3.	(acupuncture or electroacupuncture or electro-acupuncture).ti,ab.
4.	or/1-3

Embase search terms

1.	exp acupuncture/
2.	(acupuncture or electroacupuncture or electro-acupuncture).ti,ab.
3.	or/1-2

Cochrane search terms

#1.	(acupuncture or electroacupuncture or electro-acupuncture):ti,ab,kw
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AMED search terms

1.	acupuncture/
2.	exp acupuncture therapy/
3.	(acupuncture or electroacupuncture or electro-acupuncture).ti,ab.
4.	or/1-3

A.3.3 Nutraceuticals

What is the clinical and cost effectiveness of glucosamine and chondroitin alone or in compound form versus placebo or other treatments in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Glucosamine, chondroitin	n/a	SR, RCT, standard exclusions (Medline and	2007 – 7 th May 2013

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
			Embase only)	

Medline search terms

1.	exp glucosamine/
2.	exp chondroitin/
3.	(glucosamine or acetylglucosamine or acetyl-glucosamine).ti,ab.
4.	chondroitin.ti,ab.
5.	(alateris or dolenio or glusartel).ti,ab.
6.	or/1-5

Embase search terms

1.	glucosamine/
2.	n acetylglucosamine/
3.	glucosamine sulfate/
4.	glucosamine derivative/
5.	chondroitin/
6.	chondroitin 4 sulfate/
7.	chondroitin 6 sulfate/
8.	chondroitin sulfate/
9.	chondroitin sulfate iron/
10.	(glucosamine or acetylglucosamine or acetyl-glucosamine).ti,ab.
11.	chondroitin.ti,ab.
12.	(alateris or dolenio or glusartel).ti,ab.
13.	or/1-12

Cochrane search terms

#1.	(glucosamine or acetylglucosamine or acetyl-glucosamine):ti,ab,kw
#2.	chondroitin:ti,ab,kw
#3.	(alateris or dolenio or glusartel):ti,ab,kw
#4.	(#1 OR #2 OR #3)

A.3.4 Hyaluronan injections

What is the clinical and cost effectiveness of intra-articular injections of hyaluronic acid / hyaluronans in the management of OA in the knee, hand, ankle, big toe and hip?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Hyaluronans, viscosupplementation	n/a	SR, RCT, standard exclusions (Medline and Embase only)	2007 – 7 th May 2013

Medline search terms

1.	exp hyaluronic acid/
2.	viscosupplements/

3.	viscosupplementation/
4.	viscosupplement*.ti,ab.
5.	(hyaluronic or hyaluronate* or hyaluronan*).ti,ab.
6.	(adant or arthrease or arthrum h or artz or artzal or biohy or durolane or etapharm or euflexxa or fermathron or go-on or healon or healonid or hyalflex or hyalgan or hyalurons or hylan* or hylartil or hylectin or hyruan or nasha or neovisc or nrd-101 or nuflexxa or orthovisc or ostenil or polireumin or polyreumin or replasyn or slm-10 or supartz or suplasyn or suvenyl or synject or synocrom or synvisc).ti,ab.
7.	or/1-6

Embase search terms

1.	exp hyaluronic acid/
2.	viscosupplement/
3.	viscosupplementation/
4.	viscosupplement*.ti,ab.
5.	(hyaluronic or hyaluronate* or hyaluronan*).ti,ab.
6.	(adant or arthrease or arthrum h or artz or artzal or biohy or durolane or etapharm or euflexxa or fermathron or go-on or healon or healonid or hyalflex or hyalgan or hyalurons or hylan* or hylartil or hylectin or hyruan or nasha or neovisc or nrd-101 or nuflexxa or orthovisc or ostenil or polireumin or polyreumin or replasyn or slm-10 or supartz or suplasyn or suvenyl or synject or synocrom or synvisc).ti,ab.
7.	or/1-6

Cochrane search terms

#1.	MeSH descriptor Hyaluronic Acid explode all trees
#2.	MeSH descriptor Viscosupplementation explode all trees
#3.	MeSH descriptor Viscosupplements explode all trees
#4.	viscosupplement*:ti,ab,kw
#5.	(hyaluronic or hyaluronate* or hyaluronan*):ti,ab,kw
#6.	(adant or arthrease or arthrum or artz or artzal or biohy or durolane or etapharm or euflexxa or fermathron or go-on or healon or healonid or hyalflex or hyalgan or hyalurons or hylan* or hylartil or hylectin or hyruan or nasha or neovisc or nrd-101 or nuflexxa or orthovisc or ostenil or polireumin or polyreumin or replasyn or slm-10 or supartz or suplasyn or suvenyl or synject or synocrom or synvisc):ti,ab,kw
#7.	(#1 OR #2 OR #3 OR #4 OR #5 OR #6)

A.3.5 Etoricoxib 30mg

What is the clinical and cost effectiveness of Etoricoxib 30mg in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Etoricoxib	n/a	Standard exclusions (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	(etoricoxib or arcoxia).ti,ab.
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Embase search terms

1.	*etoricoxib/
2.	(etoricoxib or arcoxia).ti,ab.
3.	or/1-2

Cochrane search terms

#1.	(etoricoxib or arcoxia):ti,ab,kw
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A.3.6 Fixed-dose combinations of NSAID /Cox 2 inhibitor + GPA

What is the clinical and cost effectiveness of fixed-dose combinations of NSAIDs/cox 2 inhibitors + GPA in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Fixed dose (single pill) NSAID + GPA	n/a	SR, RCT, standard exclusions (Embase only)	All available dates (see Table 1)

Medline search terms

1.	vimovo.ti,ab,hw.
2.	axorid.ti,ab,hw.
3.	arthrotec.ti,ab,hw.
4.	naproxen.ti,ab,hw.
5.	naproxen/
6.	(esomeprazole or omeprazole).ti,ab,hw.
7.	omeprazole/
8.	or/4-5
9.	or/6-7
10.	8 and 9
11.	ketoprofen.ti,ab,hw.
12.	ketoprofen/
13.	or/11-12
14.	9 and 13
15.	diclofenac.ti,ab,hw.
16.	diclofenac/
17.	misoprostol.ti,ab,hw.
18.	misoprostol/
19.	or/15-16
20.	or/17-18
21.	19 and 20
22.	or/1-3
23.	10 or 14 or 21 or 22

Embase search terms

1.	vimovo.ti,ab,hw.
2.	axorid.ti,ab,hw.
3.	arthrotec.ti,ab,hw.
4.	naproxen.ti,ab,hw.
5.	naproxen/
6.	(esomeprazole or omeprazole).ti,ab,hw.
7.	omeprazole/
8.	or/4-5
9.	or/6-7
10.	8 and 9
11.	ketoprofen.ti,ab,hw.
12.	ketoprofen/
13.	or/11-12
14.	9 and 13
15.	diclofenac.ti,ab,hw.
16.	diclofenac/
17.	misoprostol.ti,ab,hw.
18.	misoprostol/
19.	or/15-16
20.	or/17-18
21.	19 and 20
22.	or/1-3
23.	10 or 14 or 21 or 22

Cochrane search terms

#1.	(arthrotec or axorid or vimovo):ti,ab,kw
#2.	(esomeprazole or omeprazole):ti,ab,kw
#3.	naproxen:ti,ab,kw
#4.	(#2 AND #3)
#5.	ketoprofen:ti,ab,kw
#6.	(#2 AND #5)
#7.	(diclofenac and misoprostol):ti,ab,kw
#8.	(#1 OR #4 OR #6 OR #7)

A.3.7 Paracetamol (efficacy)

What is the efficacy and adverse events profile of acetaminophen (paracetamol) when compared to placebo in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Paracetamol	n/a	SR, RCT, standard exclusions (Medline and Embase only)	2007 – 7 th May 2013

Medline search terms

1.	exp acetaminophen/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2

Embase search terms

1.	exp paracetamol/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2

Cochrane search terms

#1.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen):ti,ab,kw
-----	---

A.3.8 Paracetamol (adverse events in osteoarthritis)

Which are the adverse events in the use of acetaminophen (paracetamol) in the management of osteoarthritis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Paracetamol	n/a	Observational, RCT, standard exclusions (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	exp acetaminophen/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2

Embase search terms

1.	exp paracetamol/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2

Cochrane search terms

#1.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen):ti,ab,kw
-----	---

A.3.9 Paracetamol (adverse effects in a general population)

The following search did not use the population terms in section F.1. Since the intention of the search was to retrieve observational studies, the Cochrane Library was not searched for this question.

Which are the adverse events in a general population with use of acetaminophen (paracetamol)?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
n/a	Adverse effects of paracetamol	n/a	Observational, standard exclusions (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	exp acetaminophen/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2
4.	(ae or co or de or po or to).fs.
5.	(side effect* or (adverse adj2 (effect* or event*)) or safety or tolerability or toxicity).ti,ab.
6.	((adverse or undesirable or harm* or serious or toxic) adj3 (effect* or reaction* or event* or outcome*)).ti,ab.
7.	or/4-6
8.	3 and 7

Embase search terms

1.	exp paracetamol/
2.	(paracetamol or acetaminophen or panadol or tylenol or acetaminophen or acamol or acephen).ti,ab.
3.	or/1-2
4.	(side effect* or (adverse adj2 (effect* or event*)) or safety or tolerability or toxicity).ti,ab.
5.	((adverse or undesirable or harm* or serious or toxic) adj3 (effect* or reaction* or event* or outcome*)).ti,ab.
6.	(ae or si or to or co).fs.
7.	or/4-6
8.	3 and 7

A.3.10 Decision aids

Searches for the following question were run to update a Cochrane review.⁵⁴¹ The population terms were expanded to ensure all relevant material was retrieved. The amended population terms are included below:

What is the clinical and cost-effectiveness of decision aids in the management of OA?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis/ Joint pain	Decision aids	n/a	RCT, standard exclusions (Medline and	2009 – 7 th May 2013

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
			Embase only)	

Medline search terms

1.	exp joints/
2.	exp pain/
3.	(joint* or pain*).ti.
4.	exp osteoarthritis/
5.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*).ti,ab.
6.	(degenerative adj2 arthritis).ti,ab.
7.	coxarthrosis.ti,ab.
8.	or/1-7
9.	choice behavior/
10.	decision making/
11.	exp decision support techniques/
12.	educational technology/
13.	decision*.tw.
14.	(choic* or preference*).tw.
15.	communication package.tw.
16.	or/9-15
17.	exp health education/
18.	health knowledge, attitudes, practice/
19.	informed consent.tw,hw.
20.	patient.tw,hw.
21.	consumer.tw,hw.
22.	or/17-21
23.	16 and 22
24.	((patient* or consumer*) adj1 (decision* or choice or preference or participation)).tw.
25.	((women or men) adj1 (decision* or choice or preference or participation)).tw.
26.	(parent* adj1 (decision* or choice or preference or participation)).tw.
27.	((personal or interpersonal or individual) adj1 (decision* or choice or preference or participation)).tw.
28.	shared decision making.tw.
29.	decision aid*.tw.
30.	informed choice.tw.
31.	or/24-30
32.	23 or 31
33.	8 and 32

Embase search terms

1.	exp joint/
2.	exp pain/
3.	(joint* or pain*).ti.
4.	exp osteoarthritis/

5.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*).ti,ab.
6.	(degenerative adj2 arthritis).ti,ab.
7.	coxarthrosis.ti,ab.
8.	or/1-7
9.	decision making/
10.	decision theory/
11.	decision*.tw.
12.	educational technology/
13.	or/9-12
14.	exp health behavior/
15.	exp patient attitude/
16.	exp health education/
17.	patient.tw,sh.
18.	consumer.tw,sh.
19.	informed consent.tw,sh.
20.	or/14-19
21.	13 and 20
22.	((patient* or consumer*) adj1 (decision* or choice or preference or participation)).tw.
23.	((women or men) adj1 (decision* or choice or preference or participation)).tw.
24.	(parent* adj1 (decision* or choice or preference or participation)).tw.
25.	((personal or interpersonal or individual) adj1 (decision* or choice or preference or participation)).tw.
26.	shared decision making.tw.
27.	decision aid*.tw.
28.	informed choice.tw.
29.	or/22-28
30.	21 or 29
31.	8 and 30

Cochrane search terms

#1.	(joint* or pain*):ti,kw
#2.	MeSH descriptor: [Osteoarthritis] explode all trees
#3.	(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*):ti,ab,kw
#4.	(degenerative near/2 arthritis):ti,ab,kw
#5.	coxarthrosis:ti,ab,kw
#6.	#1 or #2 or #3 or #4 or #5
#7.	(decision* or choic* or preference*):ti,ab,kw
#8.	(communication next package):ti,ab,kw
#9.	#7 or #8
#10.	(patient* or consumer*):ti,ab,kw
#11.	(informed next consent):ti,ab,kw
#12.	MeSH descriptor: [Health Education] explode all trees
#13.	MeSH descriptor: [Health Knowledge, Attitudes, Practice] explode all trees
#14.	#10 or #11 or #12 or #13

#15.	#9 and #14
#16.	("shared decision making" or "informed choice"):ti,ab,kw
#17.	(decision next aid*):ti,ab,kw
#18.	((patient* or consumer* or women or men or parent* or personal or interpersonal or individual) next (decision* or choice or preference or participation)):ti,ab,kw
#19.	#16 or #17 or #18
#20.	#15 or #19
#21.	#6 and #20

A.3.11 Patient review and follow up

Searches for the following two questions were run as one search:

What is the clinical and cost effectiveness of regular follow-up/review in reinforcing core treatments (information, education, exercise, weight reduction) care in the management of OA?

Which patients with OA will benefit the most from reinforcement of core treatment as part of regular follow-up/review?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Reinforcement of core treatments (information, education, exercise)	n/a	Standard exclusions (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	exp *patient education as topic/
2.	exp *health education/
3.	*learning/
4.	(selfcare or self-care or self-manag* or selfhelp or self-help).ti,ab.
5.	self care/
6.	self efficacy/
7.	health behavior/
8.	or/1-7
9.	(maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*).ti,ab.
10.	(compliance or consultation* or long-term).ti,ab.
11.	(boost* or refresh* or remind*).ti,ab.
12.	or/9-11
13.	exp exercise/
14.	exp exercise therapy/
15.	exp sports/
16.	exp exercise movement techniques/
17.	or/13-16
18.	exp body weight/
19.	or/17-18

20.	12 and 19
21.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*) adj5 (exercise or exercises or physical activit*)).ti,ab.
22.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
23.	((compliance or consultation* or long-term) adj5 (exercise or exercises or physical activit*)).ti,ab.
24.	((compliance or consultation* or long-term) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
25.	((boost* or refresh* or remind*) adj5 (exercise or exercises or physical activit*)).ti,ab.
26.	((boost* or refresh* or remind*) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
27.	or/21-26
28.	exp quality indicators, health care/
29.	(care adj4 (quality or standard or standards)).ti,ab.
30.	quality indicator*.ti,ab.
31.	or/28-30
32.	8 or 20 or 27 or 31

Embase search terms

1.	exp *patient education/
2.	exp *health education/
3.	*self care/
4.	*self help/
5.	*self concept/
6.	*health behavior/
7.	(selfcare or self-care or self-manag* or selfhelp or self-help).ti,ab.
8.	or/1-7
9.	(maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*).ti,ab.
10.	(compliance or consultation* or long-term).ti,ab.
11.	(boost* or refresh* or remind*).ti,ab.
12.	or/9-11
13.	exp *exercise/
14.	exp *kinesiotherapy/
15.	exp *sport/
16.	or/13-15
17.	exp *body weight/
18.	or/16-17
19.	12 and 18
20.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*) adj5 (exercise or exercises or physical activit*)).ti,ab.
21.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce*) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
22.	((compliance or consultation* or long-term) adj5 (exercise or exercises or physical

	activit*).ti,ab.
23.	((compliance or consultation* or long-term) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
24.	((boost* or refresh* or remind*) adj5 (exercise or exercises or physical activit*)).ti,ab.
25.	((boost* or refresh* or remind*) adj3 (weight or overweight or obese or obesity) adj3 (manag* or reduc* or loss or gain or control* or problem*)).ti,ab.
26.	or/20-25
27.	*health care quality /
28.	(care adj4 (quality or standard or standards)).ti,ab.
29.	quality indicator*.ti,ab.
30.	or/27-29
31.	8 or 19 or 26 or 30

Cochrane search terms

#1.	((patient* or health) near/2 educat*):ti,ab,kw
#2.	(selfcare or self-care or self-manag* or selfhelp or self-help or self efficacy):ti,ab,kw
#3.	(health near/2 (behavior or behaviour)):ti,ab,kw
#4.	((compliance or consultation* or long-term) near/5 (exercise or exercises or physical activit*)):ti,ab,kw
#5.	((compliance or consultation* or long-term) near/3 (weight or overweight or obese or obesity) near/3 (manag* or reduc* or loss or gain or control* or problem*)):ti,ab,kw
#6.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce* or boost* or refresh* or remind*) near/5 (exercise or exercises or physical activit*)):ti,ab,kw
#7.	((maintain* or maintenance or support* or ongoing or on-going or adherence or reinforce* or boost* or refresh* or remind*) near/3 (weight or overweight or obese or obesity) near/3 (manag* or reduc* or loss or gain or control* or problem*)):ti,ab,kw
#8.	(care near/4 (quality or standard or standards)):ti,ab,kw
#9.	quality indicator*:ti,ab,kw
#10.	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9

A.3.12 Timing of surgery

What information should people with OA receive to inform consideration of the appropriate timing of referral for surgery as part of their OA management?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis	Patient information on joint replacement surgery	n/a	Qualitative studies (Medline and Embase only)	All available dates (see Table 1)

Medline search terms

1.	((client* or patient* or user* or carer* or consumer* or customer*) adj3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience* or opinion*)).mp.
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2.	(information adj need*).mp.
3.	(information adj requirement*).mp.
4.	(information adj support*).mp.
5.	(patient* adj information*).mp.
6.	(service* adj2 acceptab*).mp.
7.	(service* adj2 unacceptab*).mp.
8.	psycho?social.mp.
9.	(patient* adj (complan* or adheren* or concordan*)).mp.
10.	patient education as topic/
11.	exp attitude to health/
12.	exp patient acceptance of health care/
13.	or/1-12
14.	exp Joint Prosthesis/
15.	exp Arthroplasty, Replacement/
16.	((joint* or hip* or knee*) adj2 (restructu* or arthroscop* or arthroplast* or surg* or replac*)).ti,ab.
17.	exp arthroscopy/
18.	exp orthopedic procedures/
19.	su.fs.
20.	or/14-19
21.	13 and 20

Embase search terms

1.	((client* or patient* or user* or carer* or consumer* or customer*) adj3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experience* or opinion*)).mp.
2.	(information adj need*).mp.
3.	(information adj requirement*).mp.
4.	(information adj support*).mp.
5.	(patient* adj information*).mp.
6.	(service* adj2 acceptab*).mp.
7.	(service* adj2 unacceptab*).mp.
8.	psycho?social.mp.
9.	(patient* adj (complan* or adheren* or concordan*)).mp.
10.	patient education/
11.	exp attitude/
12.	exp patient attitude/
13.	or/1-12
14.	((joint* or hip* or knee*) adj2 (restructu* or arthroscop* or arthroplast* or surg* or replac*)).ti,ab.
15.	su.fs.
16.	exp orthopedic surgery/
17.	exp arthroplasty/
18.	exp arthroscopy/
19.	exp joint prosthesis/

20.	or/14-19
21.	13 and 20

Cochrane search terms

#1.	((client* or patient* or user* or carer* or consumer* or customer*) near/3 (attitud* or priorit* or perception* or preferen* or expectation* or choice* or perspective* or view* or satisfact* or inform* or experiance* or opinion*)):ti,ab,kw
#2.	(information near need*):ti,ab,kw
#3.	(information near requirement*):ti,ab,kw
#4.	(information near support*):ti,ab,kw
#5.	(patient* near information*):ti,ab,kw
#6.	(service* near/2 acceptab*):ti,ab,kw
#7.	(service* near/2 unacceptab*):ti,ab,kw
#8.	(psychosocial or psycho-social):ti,ab,kw
#9.	(patient* near (complan* or adheren* or concordan*)):ti,ab,kw
#10.	MeSH descriptor: [Patient Education as Topic] explode all trees
#11.	MeSH descriptor: [Attitude to Health] explode all trees
#12.	MeSH descriptor: [Patient Acceptance of Health Care] explode all trees
#13.	{or #1-#12}
#14.	((joint* or hip* or knee*) near/2 (restructu* or arthroscop* or arthroplast* or surg* or replac*)):ti,ab,kw
#15.	Any MeSH descriptor with qualifier(s): [Surgery - SU]
#16.	MeSH descriptor: [Orthopedic Procedures] explode all trees
#17.	MeSH descriptor: [Joint Prosthesis] explode all trees
#18.	MeSH descriptor: [Arthroscopy] explode all trees
#19.	MeSH descriptor: [Arthroplasty, Replacement] explode all trees
#20.	{or #14-#19}
#21.	#13 and #20

A.4 Economics search

Economic searches were conducted in Medline, Embase, HEED and CRD for NHS EED and HTA.

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Osteoarthritis			Economic (Medline and Embase only)	Medline and Embase: 2010-7 th May 2013 CRD and HEED: 2007-7 th May 2013

CRD search terms

#	MeSH DESCRIPTOR osteoarthritis EXPLODE ALL TREES WITH QUALIFIER undefined
#	(osteoarthriti* or osteo-arthritis* or osteoarthrotic or osteoarthros*) OR (degenerative NEAR2 arthritis) OR (coxarthrosis)
#	#1 OR #2

--	--

HEED search terms

1.	AX=(osteoarthriti* or osteo-arthriti* or osteoarthrotic or osteoarthros*)
2.	AX=(degenerative AND arthritis)
3.	AX=coxarthrosis
4.	CS=1 OR 2 OR 3