

Supplementary File 1

Database Search strategies

MEDLINE (Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R))

via Ovid <http://ovidsp.ovid.com/>

1946 to present

Searched on: 4th May 2017

Records retrieved: 2713

- 1 Phantom Limb/ (1729)
- 2 (phantom adj4 limb\$).ti,ab. (1368)
- 3 (phantom adj4 (pain\$ or sensation\$)).ti,ab. (1639)
- 4 (phantom adj4 (discomfort\$ or sore\$ or ache\$ or tender\$ or irritat\$ or feel\$)).ti,ab. (22)
- 5 pseud?esthesia\$.ti,ab. (2)
- 6 pseudomelia\$.ti,ab. (0)
- 7 1 or 2 or 3 or 4 or 5 or 6 (2500)
- 8 ((amputat\$ or amputee\$) adj3 pain\$).ti,ab. (560)
- 9 ((stump or stumps) adj6 pain\$).ti,ab. (411)
- 10 ((postamputat\$ or post-amputat\$) adj6 pain\$).ti,ab. (141)
- 11 (residual adj2 (limb\$ or extremity\$) adj2 pain\$).ti,ab. (87)
- 12 8 or 9 or 10 or 11 (937)
- 13 7 or 12 (2927)
- 14 exp animals/ not humans/ (4397076)
- 15 13 not 14 (2857)
- 16 (letter or editorial).pt. (1408809)
- 17 15 not 16 (2713)

Key:

/ = indexing term (MeSH heading)

exp = exploded indexing term (MeSH heading)

\$ = truncation

? = optional wild card, stands for zero or one character

ti,ab = terms in either title or abstract fields

pt = publication type

adj4 = terms within four words of each other (any order)

AMED (Allied and Complementary Medicine)

via Ovid <http://ovidsp.ovid.com/>

1985 to April 2017

Searched on: 4th May 2017

Records retrieved: 254

- 1 phantom limb/ (117)
- 2 (phantom adj4 limb\$.ti,ab. (141)
- 3 (phantom adj4 (pain\$ or sensation\$)).ti,ab. (164)
- 4 (phantom adj4 (discomfort\$ or sore\$ or ache\$ or tender\$ or irritat\$ or feel\$)).ti,ab. (5)
- 5 pseud?esthesia\$.ti,ab. (0)
- 6 pseudomelia\$.ti,ab. (0)
- 7 1 or 2 or 3 or 4 or 5 or 6 (188)
- 8 ((amputat\$ or amputee\$) adj3 pain\$).ti,ab. (104)
- 9 ((stump or stumps) adj6 pain\$).ti,ab. (41)
- 10 ((postamputat\$ or post-amputat\$) adj6 pain\$).ti,ab. (15)
- 11 (residual adj2 (limb\$ or extremity\$) adj2 pain\$).ti,ab. (32)
- 12 8 or 9 or 10 or 11 (147)
- 13 7 or 12 (255)
- 14 (letter or editorial).pt. (12443)
- 15 13 not 14 (254)

Key:

/ = indexing term

exp = exploded indexing term

\$ = truncation

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ti,ab = terms in either title or abstract fields

pt = publication type

adj4 = terms within four words of each other (any order)

British Nursing Index

via ProQuest <http://www.proquest.com/>

1994 to present

Searched on: 4th May 2017

Records retrieved: 86

((TI,AB(phantom NEAR/4 limb*) OR TI,AB(phantom NEAR/4 (pain* OR sensation*)) OR TI,AB(phantom NEAR/4 (discomfort* OR sore* OR ache* OR tender* OR irritat* OR feel*)) OR TI,AB(pseud*esthesia*) OR TI,AB(pseudomelia*)) OR (TI,AB((amputat* OR amputee*) NEAR/3 pain*) OR TI,AB((stump OR stumps) NEAR/6 pain*) OR TI,AB((postamputat* OR post-amputat*) NEAR/6 pain*) OR TI,AB(residual NEAR/2 (limb* OR extremit*) NEAR/2 pain*))) OR (SU.EXACT("Amputation") AND (SU.EXACT.EXPLODE("Pain and Pain Management") OR SU.EXACT("Pain : Postoperative"))))

Key:

SU.EXACT = subject heading

SU.EXACT.EXPLODE = exploded subject heading

TI,AB = terms in the title or abstract fields

NEAR/4 = terms within four words of each other (any order)

* = truncation

Cochrane Central Register of Controlled Trials (CENTRAL)

via Wiley <http://onlinelibrary.wiley.com/>

Issue 4 of 12, April 2017

Searched on: 4th May 2017

Records retrieved: 181

The strategy below was used to search CENTRAL and CDSR.

- #1 MeSH descriptor: [Phantom Limb] this term only 72
- #2 (phantom near/4 limb*):ti,ab,kw 124
- #3 (phantom near/4 (pain* or sensation*)):ti,ab,kw 146
- #4 (phantom near/4 (discomfort* or sore* or ache* or tender* or irritat* or feel*)):ti,ab,kw 0
- #5 pseud*esthesia*:ti,ab,kw 1
- #6 pseudomelia*:ti,ab,kw 0
- #7 #1 or #2 or #3 or #4 or #5 or #6 158
- #8 ((amputat* or amputee*) near/3 pain*):ti,ab,kw 59
- #9 ((stump or stumps) near/6 pain*):ti,ab,kw 36
- #10 ((postamputat* or post-amputat*) near/6 pain*):ti,ab,kw 17
- #11 (residual near/2 (limb* or extremit*) near/2 pain*):ti,ab,kw 9
- #12 #8 or #9 or #10 or #11 92
- #13 #7 or #12 196
- #14 #7 or #12 in Cochrane Reviews (Reviews and Protocols) 11
- #15 #7 or #12 in Trials 181

Key:

MeSH descriptor = indexing term (MeSH heading)

* = truncation

ti,ab,kw = terms in either title or abstract or keyword fields

near/4 = terms within four words of each other (any order)

Cochrane Database of Systematic Reviews (CDSR)

via Wiley <http://onlinelibrary.wiley.com/>

Issue 5 of 12, May 2017

Searched on: 4th May 2017

Records retrieved: 11

See above under CENTRAL for search strategy used.

Cumulative Index to Nursing & Allied Health (CINAHL Plus)

via EBSCO <https://www.ebscohost.com/>

Inception to 3rd May 2017

Searched on: 5th May 2017

Records retrieved: 971

- S1 (MH "Phantom Limb") OR (MH "Phantom Pain") 733
- S2 TI (phantom N4 limb*) OR AB (phantom N4 limb*) 477
- S3 TI ((phantom N4 (pain* or sensation*))) OR AB ((phantom N4 (pain* or sensation*))) 567
- S4 TI ((phantom N4 (discomfort* or sore* or ache* or tender* or irritat* or feel*))) OR AB ((phantom N4 (discomfort* or sore* or ache* or tender* or irritat* or feel*))) 13
- S5 TI pseud#esthesia* OR AB pseud#esthesia* 0
- S6 TI pseudomelia* OR AB pseudomelia* 0
- S7 S1 OR S2 OR S3 OR S4 OR S5 OR S6 888
- S8 TI (((amputat* or amputee*) N3 pain*)) OR AB (((amputat* or amputee*) N3 pain*)) 237
- S9 TI (((stump or stumps) N6 pain*)) OR AB (((stump or stumps) N6 pain*)) 89
- S10 TI (((postamputat* or post-amputat*) N6 pain*)) OR AB (((postamputat* or post-amputat*) N6 pain*)) 58
- S11 TI ((residual N2 (limb* or extremit*) N2 pain*)) OR AB ((residual N2 (limb* or extremit*) N2 pain*)) 83
- S12 S8 OR S9 OR S10 OR S11 356
- S13 S7 OR S12 1,031
- S14 ((ZT "editorial")) or ((ZT "letter")) 443,870
- S15 S13 NOT S14 971

Key:

MH = indexing term (CINAHL heading)

* = truncation

= wildcard, stands for zero or one character

TI = terms in the title

AB = terms in the abstract

N4 = terms within four words of each other (any order)

ZT = publication type

Database of Abstracts of Reviews of Effects (DARE)

via <http://www.crd.york.ac.uk/CRDWeb/>

Inception – 31st March 2015

Searched on: 4th May 2017

Records retrieved: 20

The strategy below was used to search DARE and the HTA database.

1	MeSH DESCRIPTOR Phantom limb	3
2	(phantom ADJ4 limb*)	11
3	(limb* ADJ4 phantom)	1
4	(phantom ADJ4 (pain* or sensation*))	10
5	((pain* or sensation*) ADJ4 phantom)	6
6	(phantom ADJ4 (discomfort* or sore* or ache* or tender* or irritat* or feel*))	0
7	((discomfort* or sore* or ache* or tender* or irritat* or feel*) ADJ4 phantom)	0
8	(pseudesthesia* or pseudoesthesia*)	0
9	(pseudomelia*)	0
10	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9	13
11	((amputat* or amputee*) ADJ3 pain*)	6
12	(pain* ADJ3 (amputat* or amputee*))	6
13	((stump or stumps) ADJ6 pain*)	5
14	(pain* ADJ6 (stump or stumps))	3
15	((postamputat* or post-amputat*) ADJ6 pain*)	1
16	(pain* ADJ6 (postamputat* or post-amputat*))	0
17	((residual AND (limb* or extremity*) AND pain*))	8
18	#11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17	21
19	#10 OR #18	30

20 (*) IN DARE	45418
21 #19 AND #20	20
22 (*) IN HTA	16930
23 #19 AND #22	5

Key:

MeSH DESCRIPTOR = indexing term (MeSH heading)

* = truncation

ADJ4 = terms within four words of each other (order specified)

EMBASE

via Ovid <http://ovidsp.ovid.com/>

1974 to 2017 May 03

Searched on: 4th May 2017

Records retrieved: 3339

- 1 exp phantom limb/ (1981)
- 2 (phantom adj4 limb\$.ti,ab. (1699)
- 3 (phantom adj4 (pain\$ or sensation\$).ti,ab. (2066)
- 4 (phantom adj4 (discomfort\$ or sore\$ or ache\$ or tender\$ or irritat\$ or feel\$).ti,ab. (38)
- 5 pseud?esthesia\$.ti,ab. (2)
- 6 pseudomelia\$.ti,ab. (0)
- 7 1 or 2 or 3 or 4 or 5 or 6 (3053)
- 8 ((amputat\$ or amputee\$) adj3 pain\$.ti,ab. (686)
- 9 ((stump or stumps) adj6 pain\$.ti,ab. (508)
- 10 ((postamputat\$ or post-amputat\$) adj6 pain\$.ti,ab. (192)
- 11 (residual adj2 (limb\$ or extremity\$) adj2 pain\$.ti,ab. (125)
- 12 8 or 9 or 10 or 11 (1165)
- 13 7 or 12 (3616)
- 14 (animal/ or animal experiment/ or animal model/ or animal tissue/ or nonhuman/) not exp human/ (5566603)
- 15 13 not 14 (3528)
- 16 (letter or editorial).pt. (1494031)
- 17 15 not 16 (3339)

Key:

/ = indexing term (Emtree heading)

exp = exploded indexing term (Emtree heading)

\$ = truncation

? = optional wild card, stands for zero or one character

ti,ab = terms in either title or abstract fields

pt = publication type

adj4 = terms within four words of each other (any order)

Health Technology Assessment (HTA) database

via <http://www.crd.york.ac.uk/CRDWeb/>

Inception – 3rd May 2017

Searched on: 4th May 2017

Records retrieved: 5

See above under DARE for search strategy used.

PsycINFO

via Ovid <http://ovidsp.ovid.com/>

1967 to April Week 4 2017

Searched on: 4th May 2017

Records retrieved: 769

- 1 phantom limbs/ (483)
- 2 (phantom adj4 limb\$.ti,ab. (574)
- 3 (phantom adj4 (pain\$ or sensation\$).ti,ab. (584)
- 4 (phantom adj4 (discomfort\$ or sore\$ or ache\$ or tender\$ or irritat\$ or feel\$).ti,ab. (6)
- 5 pseud?esthesia\$.ti,ab. (1)
- 6 pseudomelia\$.ti,ab. (0)
- 7 1 or 2 or 3 or 4 or 5 or 6 (801)
- 8 ((amputat\$ or amputee\$) adj3 pain\$.ti,ab. (115)
- 9 ((stump or stumps) adj6 pain\$.ti,ab. (65)
- 10 ((postamputat\$ or post-amputat\$) adj6 pain\$.ti,ab. (40)
- 11 (residual adj2 (limb\$ or extremity\$) adj2 pain\$.ti,ab. (21)
- 12 8 or 9 or 10 or 11 (181)
- 13 7 or 12 (840)
- 14 (rat or rats or mouse or mice or hamster or hamsters or animal or animals or dog or dogs or cat or cats or bovine or sheep).ti,ab,sh. (283382)
- 15 13 not 14 (789)
- 16 (editorial or letter).dt. (58683)
- 17 15 not 16 (769)

Key:

/ = indexing term

\$ = truncation

? = optional wild card, stands for zero or one character

ti,ab = terms in either title or abstract fields

dt = publication type

sh = subject heading

adj4 = terms within four words of each other (any order)

PubMed

<http://www.ncbi.nlm.nih.gov/pubmed/>

Searched on: 4th May 2017

Records retrieved: 567

((((((((((((((("Phantom Limb"[Mesh]) OR ((phantom[Title/Abstract] AND limb*[Title/Abstract]))) OR ((phantom[Title/Abstract] AND (pain*[Title/Abstract] OR sensation*[Title/Abstract]))) OR ((phantom[Title/Abstract] AND (discomfort*[Title/Abstract] OR sore*[Title/Abstract] OR ache*[Title/Abstract] OR tender*[Title/Abstract] OR irritat*[Title/Abstract] OR feel*[Title/Abstract]))) OR ((pseudesthesia*[Title/Abstract] OR pseudoesthesia*[Title/Abstract]) OR pseudomelia*[Title/Abstract])) OR (((((((amputat*[Title/Abstract] OR amputee*[Title/Abstract])) AND pain*[Title/Abstract])) OR ((stump[Title/Abstract] OR stumps[Title/Abstract])) AND pain*[Title/Abstract])) OR (((postamputat*[Title/Abstract] OR post-amputat*[Title/Abstract])) AND pain*[Title/Abstract])) OR (((residual[Title/Abstract] AND limb*[Title/Abstract] AND pain*[Title/Abstract])) OR (((residual[Title/Abstract] AND extremit*[Title/Abstract] AND pain*[Title/Abstract]))) NOT ((animals[mh] NOT humans[mh]))) AND ((pubstatusaheadofprint OR publisher[sb] OR pubmednotmedline[sb]))) NOT ("letter"[Publication Type]) OR "editorial"[Publication Type])

The above search strategy incorporates the following search line to limit to studies found in PubMed but not available in Ovid MEDLINE: (pubstatusaheadofprint OR publisher[sb] OR pubmednotmedline[sb]).¹

Key:

[Mesh] = exploded indexing term (MeSH heading)

[Mesh:noexp] = indexing term (MeSH heading) not exploded

* = truncation

[Title/Abstract] = terms in either title or abstract fields

Science Citation Index

via Web of Science, Thomson Reuters

<http://thomsonreuters.com/thomson-reuters-web-of-science/>

1900 – 29th April 2017

Searched on: 4th May 2017

Records retrieved: 2239

16 2,239 #14 not #15
15 1,998,281 DT=(editorial or letter)
14 2,388 #12 not #13
13 4,459,956 TS=(rat or rats or mouse or mice or murine or hamster or hamsters or animal
or animals or dogs or dog or pig or pigs or cats or bovine or cow or sheep or ovine or porcine or
monkey)
12 2,734 #11 OR #6
11 802 #10 OR #9 OR #8 OR #7
10 107 TS=(residual NEAR/2 (limb* or extremity*) NEAR/2 pain*)
9 128 TS=((postamputat* or post-amputat*) NEAR/6 pain*)
8 336 TS=((stump or stumps) NEAR/6 pain*)
7 500 TS=((amputat* or amputee*) NEAR/3 pain*)
6 2,377 #5 OR #4 OR #3 OR #2 OR #1
5 0 TS=pseudomelia*
4 1 TS=pseud\$esthesia*
3 26 TS=(phantom NEAR/4 (discomfort* or sore* or ache* or tender* or irritat* or feel*))
2 1,949 TS=(phantom NEAR/4 (pain* or sensation*))
1 1,897 TS=(phantom NEAR/4 limb*)

Key:

TS= topic tag; searches terms in title, abstract, author keywords and keywords plus fields

* = truncation

\$ = wildcard, stands for zero or one character

DT = publication type

NEAR/4 = terms within 4 words of each other (any order)

Ongoing, unpublished or grey literature search strategies

ClinicalTrials.gov

<https://clinicaltrials.gov/>

Searched on: 4th May 2017

Records retrieved: 81

"phantom limb" OR "phantom pain" OR "amputation pain" OR "postamputation pain" OR "post-amputation pain" OR "stump pain" OR "residual limb pain"

Conference Proceedings Citation Index: Science

via Web of Science, Thomson Reuters

<http://thomsonreuters.com/thomson-reuters-web-of-science/>

1990 – 29th April 2017

Searched on: 4th May 2017

Records retrieved: 225

14 225 #12 not #13

13 366,304 TS=(rat or rats or mouse or mice or murine or hamster or hamsters or animal or animals or dogs or dog or pig or pigs or cats or bovine or cow or sheep or ovine or porcine or monkey)

12 252 #11 OR #6

11 61 #10 OR #9 OR #8 OR #7

10 4 TS=(residual NEAR/2 (limb* or extremity*) NEAR/2 pain*)

9 6 TS=((postamputat* or post-amputat*) NEAR/6 pain*)

8 18 TS=((stump or stumps) NEAR/6 pain*)

7 48 TS=((amputat* or amputee*) NEAR/3 pain*)

6 228 #5 OR #4 OR #3 OR #2 OR #1

5 0 TS=pseudomelia*

4 0 TS=pseud\$esthesia*

3 5 TS=(phantom NEAR/4 (discomfort* or sore* or ache* or tender* or irritat* or feel*))

2 167 TS=(phantom NEAR/4 (pain* or sensation*))

1 171 TS=(phantom NEAR/4 limb*)

Key:

TS= topic tag; searches terms in title, abstract, author keywords and keywords plus fields

* = truncation

\$ = wildcard, stands for zero or one character

NEAR/4 = terms within 4 words of each other (any order)

EU Clinical Trials Register

<https://www.clinicaltrialsregister.eu/ctr-search/search>

Searched on: 4th May 2017

Records retrieved: 12

"phantom limb" OR "phantom pain" OR "amputation pain" OR "post-amputation pain" OR "postamputation pain" OR "stump pain" OR "residual limb pain"

PROSPERO

<http://www.crd.york.ac.uk/PROSPERO/>

Searched on: 4th May 2017

Records retrieved: 39

- #1 MeSH DESCRIPTOR phantom limb 5
- #2 phantom ADJ4 limb* 32
- #3 phantom ADJ4 (pain* or sensation*) 37
- #4 phantom ADJ4 (discomfort* or sore* or ache* or tender* or irritat* or feel*) 0
- #5 pseudesthesia* OR pseudoesthesia* 0
- #6 pseudomelia* 1
- #7 #1 OR #2 OR #3 OR #4 OR #5 OR #6 38
- #8 (amputat* OR amputee*) ADJ3 pain* 4
- #9 (stump or stumps) ADJ6 pain* 2
- #10 (postamputat* or post-amputat*) ADJ6 pain* 0
- #11 residual ADJ2 (limb* OR extremity*) ADJ2 pain* 3
- #12 #8 OR #9 OR #10 OR #11 6
- #13 #7 OR #12 39

Key:

MeSH DESCRIPTOR = indexing term (MeSH heading)

* = truncation

ADJ4 = terms within four words of each other (order specified)

WHO International Clinical Trials Registry Platform

<http://www.who.int/ictrp/search/en/>

Searched on: 4th May 2017

Records retrieved: 45

Advanced search interface used. Following terms searched in the Condition field: phantom limb OR phantom pain OR amputation pain OR post-amputation pain OR postamputation pain OR stump pain OR residual limb pain

Reference

1. Duffy S, de Kock S, Misso K, Noake C, Ross J, Stirk L. Supplementary searches of PubMed to improve currency of MEDLINE and MEDLINE In-Process searches via Ovid. *J Med Libr Assoc* 2016;**104**:309-12.