

**Supplementary file 1 Database search strategies****MEDLINE ALL**

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

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

1946 to February 07, 2020

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 5141

- 1 Headache Disorders, Primary/ (771)
- 2 Headache/ (27331)
- 3 Vascular Headaches/ (1301)
- 4 Headache Disorders, Secondary/ (604)
- 5 Headache Disorders/ (2300)
- 6 (headache\$ or head ache\$).ti,ab. (81511)
- 7 LASH.ti,ab. (377)
- 8 (thunderclap\$ or thunder clap\$).ti,ab. (483)
- 9 (cephalalg\$ or cephalgi\$).ti,ab. (1088)
- 10 (cranial adj2 pain\$).ti,ab. (180)
- 11 (hemicrania or cephalea or cranialgia).ti,ab. (1015)
- 12 or/1-11 (91905)
- 13 Subarachnoid Hemorrhage/ (20706)
- 14 (Subarachnoid\$ adj2 hemorr?ag\$).ti,ab. (20324)
- 15 (Subarachnoid\$ adj2 haemorr?ag\$).ti,ab. (4429)
- 16 (Subarachnoid\$ adj2 (bleed\$ or blood)).ti,ab. (796)
- 17 (arachnoid\$ adj2 (haemorr?ag\$ or hemorr?ag\$ or bleed\$ or blood)).ti,ab. (210)
- 18 (SAH or SAHs).ti,ab. (10673)
- 19 or/13-18 (32469)
- 20 12 and 19 (2380)
- 21 Emergencies/ (39849)
- 22 Emergency Service, Hospital/ (66056)
- 23 exp Emergency Medical Services/ (136120)
- 24 Triage/ (11201)
- 25 ((emergency or emergencies or casualty) adj3 (room\$ or department\$ or service\$ or unit\$ or ward\$ or centre\$ or center\$ or hospital\$ or setting\$ or clinic or clinics or care or healthcare or medical)).ti,ab. (149559)
- 26 triage\$.ti,ab. (17352)
- 27 (accident\$ adj2 (emergency or emergencies)).ti,ab. (4771)
- 28 21 or 22 or 23 or 24 or 25 or 26 or 27 (259901)
- 29 12 and 28 (3064)
- 30 20 or 29 (5154)
- 31 exp animals/ not humans/ (4671979)
- 32 30 not 31 (5141)

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

1974 to 2020 February 07

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 13950

- 1 "headache and facial pain"/ (1630)
- 2 secondary headache/ (1161)
- 3 headache/ (208066)
- 4 vascular headache/ (574)
- 5 thunderclap headache/ (788)
- 6 exertional headache/ (102)
- 7 stabbing headache/ (226)
- 8 exp tension headache/ (7654)
- 9 (headache\$ or head ache\$).ti,ab. (129375)
- 10 LASH.ti,ab. (554)
- 11 (thunderclap\$ or thunder clap\$).ti,ab. (838)
- 12 (cephalalgi\$ or cephalgi\$).ti,ab. (1810)
- 13 (cranial adj2 pain\$).ti,ab. (250)
- 14 (hemicrania or cephalea or cranialgia).ti,ab. (1411)
- 15 or/1-14 (253856)
- 16 subarachnoid hemorrhage/ (42006)
- 17 (Subarachnoid\$ adj2 hemorr?ag\$).ti,ab. (26796)
- 18 (Subarachnoid\$ adj2 haemorr?ag\$).ti,ab. (6005)
- 19 (Subarachnoid\$ adj2 (bleed\$ or blood)).ti,ab. (1037)
- 20 (arachnoid\$ adj2 (haemorr?ag\$ or hemorr?ag\$ or bleed\$ or blood)).ti,ab. (403)
- 21 (SAH or SAHs).ti,ab. (15683)
- 22 16 or 17 or 18 or 19 or 20 or 21 (50197)
- 23 15 and 22 (5697)
- 24 Emergency/ (52475)
- 25 Emergency health service/ (94019)
- 26 Hospital emergency service/ (4243)
- 27 Emergency ward/ (138545)
- 28 Emergency care/ (43804)
- 29 Emergency patient/ (3295)
- 30 ((emergency or emergencies or casualty) adj3 (room\$ or department\$ or service\$ or unit\$ or ward\$ or centre\$ or center\$ or hospital\$ or setting\$ or clinic or clinics or care or healthcare or medical)).ti,ab. (227136)
- 31 triage\$.ti,ab. (27449)
- 32 (accident\$ adj2 (emergency or emergencies)).ti,ab. (6037)
- 33 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 (380671)
- 34 15 and 33 (8994)
- 35 23 or 34 (13959)
- 36 (rat or rats or mouse or mice).ti. (1445465)
- 37 35 not 36 (13950)

**Cochrane Central Register of Controlled Trials (CENTRAL)**via Wiley <http://onlinelibrary.wiley.com/>

Issue 2 of 12, February 2020

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 581

The strategy below was used to search both CENTRAL and CDSR.

- #1 MeSH descriptor: [Headache Disorders] this term only 135
- #2 MeSH descriptor: [Headache] this term only 2318
- #3 MeSH descriptor: [Vascular Headaches] this term only 40
- #4 MeSH descriptor: [Headache Disorders, Secondary] this term only 55
- #5 MeSH descriptor: [Headache Disorders, Primary] this term only 17
- #6 (headache\* or head next ache\*):ti,ab,kw 31430
- #7 LASH:ti,ab,kw 90
- #8 (thunderclap\* or thunder next clap\*):ti,ab,kw 4
- #9 (cephalalgi\* or cephalgi\*):ti,ab,kw 76
- #10 (cranial near/2 pain\*):ti,ab,kw 13
- #11 (hemicrania or cephalea or cranialgia):ti,ab,kw 46
- #12 #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 31574
- #13 MeSH descriptor: [Subarachnoid Hemorrhage] this term only 579
- #14 (Subarachnoid\* near/2 hemorr?ag\*):ti,ab,kw 1819
- #15 (Subarachnoid\* near/2 haemorr?ag\*):ti,ab,kw 470
- #16 (Subarachnoid\* near/2 (bleed\* or blood)):ti,ab,kw 55
- #17 (arachnoid\* near/2 (haemorr?ag\* or hemorr?ag\* or bleed\* or blood)):ti,ab,kw 32
- #18 (SAH or SAHs):ti,ab,kw 1011
- #19 #13 or #14 or #15 or #16 or #17 or #18 2336
- #20 #12 and #19 90
- #21 MeSH descriptor: [Emergencies] this term only 1318
- #22 MeSH descriptor: [Emergency Service, Hospital] this term only 2111
- #23 MeSH descriptor: [Emergency Medical Services] explode all trees 3734
- #24 MeSH descriptor: [Triage] this term only 285
- #25 ((emergency or emergencies or casualty) near/3 (room\* or department\* or service\* or unit\* or ward\* or centre\* or center\* or hospital\* or setting\* or clinic or clinics or care or healthcare or medical)):ti,ab,kw 18260
- #26 triage\*:ti,ab,kw 1717
- #27 (accident\* near/2 (emergency or emergencies)):ti,ab,kw 355
- #28 #21 or #22 or #23 or #24 or #25 or #26 or #27 20016
- #29 #12 and #28 509
- #30 #20 or #29 592
- #31 #20 or #29 in Trials 581
- #32 #20 or #29 in Cochrane Reviews, Cochrane Protocols 11

**Cochrane Database of Systematic Reviews (CDSR)**via Wiley <http://onlinelibrary.wiley.com/>

Issue 2 of 12, February 2020

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 11

See above under CENTRAL for search strategy used.

**Science Citation Index**via Web of Science, Clarivate Analytics <https://clarivate.com/>1900 – 7<sup>th</sup> February 2020Searched on: 10<sup>th</sup> February 2020

Records retrieved: 3758

# 21 3,758 #19 not #20  
# 20 1,684,685 TI=(rat or rats or mouse or mice)  
# 19 3,765 #18 OR #13  
# 18 2,204 #17 AND #6  
# 17 142,684#16 OR #15 OR #14  
# 16 3,670 TS=(accident\* NEAR/2 emergenc\*)  
# 15 16,817 TS=triage\*  
# 14 131,101TS=((emergency or emergencies or casualty) NEAR/3 (room\* or department\* or service\* or unit\* or ward\* or centre\* or center\* or hospital\* or setting\* or clinic or clinics or care or healthcare or medical))  
# 13 1,787 #12 AND #6  
# 12 32,430 #11 OR #10 OR #9 OR #8 OR #7  
# 11 9,617 TS=(SAH or SAHs)  
# 10 416 TS=(arachnoid\* NEAR/2 (haemorr\$ag\* or hemorr\$ag\* or bleed\* or blood))  
# 9 856 TS=(Subarachnoid\* NEAR/2 (bleed\* or blood))  
# 8 3,745 TS=(Subarachnoid\* NEAR/2 haemorr\$ag\*)  
# 7 26,313 TS=(Subarachnoid\* NEAR/2 hemorr\$ag\*)  
# 6 73,503 #5 OR #4 OR #3 OR #2 OR #1  
# 5 1,111 TS=(hemicrania or cephalea or cranialgia)  
# 4 219 TS=(cranial NEAR/2 pain\*)  
# 3 1,139 TS=(cephalalg\* or cephalgi\*)  
# 2 584 TS=(thunderclap\* or "thunder clap\*")  
# 1 72,669 TS=(headache\* or "head ache\*" or LASH)

**Database of Abstracts of Reviews of Effects (DARE)**via <http://www.crd.york.ac.uk/CRDWeb/>Inception – 31<sup>st</sup> March 2015Searched on: 10<sup>th</sup> February 2020

Records retrieved: 19

The strategy below was used to search all three of the CRD databases - DARE, the HTA database and NHS EED.

- 1 MeSH DESCRIPTOR Headache Disorders, Primary 1
- 2 MeSH DESCRIPTOR Headache 81
- 3 MeSH DESCRIPTOR Vascular Headaches 0
- 4 MeSH DESCRIPTOR Headache Disorders, Secondary 2
- 5 MeSH DESCRIPTOR Headache Disorders 21
- 6 (headache\* or "head ache" or "head aches") 806
- 7 (thunderclap\* or thunder clap\*) 1
- 8 (cephalalgi\* or cephalgi\*) 36
- 9 (cranial NEAR2 pain\*) 0
- 10 (pain\* NEAR2 cranial) 0
- 11 (hemicrania or cephalea or cranialgia) 2
- 12 (LASH) 3
- 13 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 819
- 14 MeSH DESCRIPTOR Subarachnoid Hemorrhage 96
- 15 (Subarachnoid\* NEAR2 (haemorrhag\* or hemorrhag\* or haemorrhag\* or hemorrhag\*)) 158
- 16 ((haemorrhag\* or hemorrhag\* or haemorrhag\* or hemorrhag\*) NEAR2 subarachnoid\*) 5
- 17 (Subarachnoid\* NEAR2 (bleed\* or blood)) 0
- 18 ((bleed\* or blood) NEAR2 Subarachnoid\*) 1
- 19 (arachnoid\* NEAR2 (haemorrhag\* or hemorrhag\* or haemorrhag\* or hemorrhag\* or bleed\* or blood)) 6
- 20 ((haemorrhag\* or hemorrhag\* or haemorrhag\* or hemorrhag\* or bleed\* or blood) NEAR2 arachnoid\*) 0
- 21 (SAH or SAHs) 44
- 22 #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 168
- 23 #13 AND #22 4
- 24 MeSH DESCRIPTOR Emergencies 86
- 25 MeSH DESCRIPTOR Emergency Service, Hospital 442
- 26 MeSH DESCRIPTOR Emergency Medical Services EXPLODE ALL TREES 825
- 27 MeSH DESCRIPTOR Triage 111
- 28 ((emergency or emergencies or casualty) NEAR3 (room\* or department\* or service\* or unit\* or ward\* or centre\* or center\* or hospital\* or setting\* or clinic or clinics or care or healthcare or medical)) 1927
- 29 ((room\* or department\* or service\* or unit\* or ward\* or centre\* or center\* or hospital\* or setting\* or clinic or clinics or care or healthcare or medical) NEAR3 (emergency or emergencies or casualty)) 727
- 30 (triage\*) 258
- 31 (accident\* NEAR2 (emergency or emergencies)) 121
- 32 ((emergency or emergencies) NEAR2 accident\*) 2
- 33 #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 2279
- 34 #13 AND #33 44
- 35 #23 OR #34 46

**Health Technology Assessment (HTA) database**

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

Inception – 31<sup>st</sup> March 2018

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 1

See above under DARE for search strategy used.

**NHS Economic Evaluations Database (NHS EED)**

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

Inception – 31<sup>st</sup> March 2015

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 26

See above under DARE for search strategy used.

**EconLit**

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

1886 to January 30, 2020

Searched on: 10<sup>th</sup> February 2020

Records retrieved: 1

- 1 (headache\$ or head ache\$).ti,ab. (57)
- 2 LASH.ti,ab. (9)
- 3 (thunderclap\$ or thunder clap\$).ti,ab. (0)
- 4 (cephalalgi\$ or cephalgi\$).ti,ab. (0)
- 5 (cranial adj2 pain\$).ti,ab. (0)
- 6 (hemicrania or cephalea or cranialgia).ti,ab. (0)
- 7 or/1-6 (66)
- 8 (Subarachnoid\$ adj2 hemorr?ag\$).ti,ab. (1)
- 9 (Subarachnoid\$ adj2 haemorr?ag\$).ti,ab. (1)
- 10 (Subarachnoid\$ adj2 (bleed\$ or blood)).ti,ab. (0)
- 11 (arachnoid\$ adj2 (haemorr?ag\$ or hemorr?ag\$ or bleed\$ or blood)).ti,ab. (0)
- 12 (SAH or SAHs).ti,ab. (52)
- 13 8 or 9 or 10 or 11 or 12 (53)
- 14 7 and 13 (0)
- 15 ((emergency or emergencies or casualty) adj3 (room\$ or department\$ or service\$ or unit\$ or ward\$ or centre\$ or center\$ or hospital\$ or setting\$ or clinic or clinics or care or healthcare or medical)).ti,ab. (667)
- 16 triage\$.ti,ab. (78)
- 17 (accident\$ adj2 (emergency or emergencies)).ti,ab. (22)
- 18 15 or 16 or 17 (732)
- 19 7 and 18 (1)
- 20 14 or 19 (1)

***On-going, unpublished or grey literature searches*****ClinicalTrials.gov**

<https://clinicaltrials.gov/>

Searched on: 11<sup>th</sup> February 2020

Records retrieved: 139

1. 20 Studies found for: headache AND (subarachnoid haemorrhage OR subarachnoid haemorrhage OR sub-arachnoid haemorrhage OR sub-arachnoid hemorrhage)
2. 1 Study found for: thunderclap AND (subarachnoid haemorrhage OR subarachnoid haemorrhage OR sub-arachnoid haemorrhage OR sub-arachnoid hemorrhage)
3. 2 Studies found for: headache AND (arachnoid haemorrhage OR arachnoid hemorrhage)
4. No Studies found for: thunderclap AND (arachnoid haemorrhage OR arachnoid hemorrhage)
5. 116 Studies found for: headache AND (emergency OR casualty OR triage)
6. No Studies found for: thunderclap AND (emergency OR casualty OR triage)

**WHO International Clinical Trials Registry Platform**

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

Searched on: 11<sup>th</sup> February 2020

Records retrieved: 84

Basic search interface used.

1. 13 records for 13 trials found for: headache AND subarachnoid
2. 1 trial found for: headache AND sub-arachnoid
3. 1 trial found for: headache AND arachnoid
4. No results were found for: thunderclap OR thunder clap
5. 68 records for 68 trials found for: headache AND emergenc\*
6. No results were found for: headache AND casualty
7. 1 trial found for: headache AND triag\*



**EU Clinical Trials Register**<https://www.clinicaltrialsregister.eu/ctr-search/search>Searched on: 11<sup>th</sup> February 2020

Records retrieved: 16

1. 3 result(s) found for: headache\* AND (subarachnoid\* haemorrhag\* OR subarachnoid\* haemorrhag\* OR sub-arachnoid\* haemorrhage\* OR sub-arachnoid\* hemorrhage\*)
2. thunderclap OR "thunder clap" – 0 results
3. 2 result(s) found for: headache\* AND (arachnoid\* haemorrhag\* OR arachnoid\* hemorrhag\*)
4. 11 result(s) found for: headache\* AND (emergenc\* OR casualty OR triag\*)

**Conference Proceedings Citation Index: Science**via Web of Science, Clarivate Analytics <https://clarivate.com/>1990 – 7<sup>th</sup> February 2020Searched on: 10<sup>th</sup> February 2020

Records retrieved: 251

- |      |        |  |
|------|--------|--|
| # 19 | 251    | #18 OR #13   |
| # 18 | 193    | #17 AND #6   |
| # 17 | 18,714 | #16 OR #15 OR #14  |
| # 16 | 511    | TS=(accident* NEAR/2 emergenc*)  |
| # 15 | 2,397  | TS=triage*   |
| # 14 | 16,654 | TS=((emergency or emergencies or casualty) NEAR/3 (room* or department* or service* or unit* or ward* or centre* or center* or hospital* or setting* or clinic or clinics or care or healthcare or medical)) |
| # 13 | 70     | #12 AND #6   |
| # 12 | 3,066  | #11 OR #10 OR #9 OR #8 OR #7   |
| # 11 | 990    | TS=(SAH or SAHs)   |
| # 10 | 22     | TS=(arachnoid* NEAR/2 (haemorr\$ag* or hemorr\$ag* or bleed* or blood))  |
| # 9  | 44     | TS=(Subarachnoid* NEAR/2 (bleed* or blood))  |
| # 8  | 388    | TS=(Subarachnoid* NEAR/2 haemorr\$ag*)   |
| # 7  | 2,317  | TS=(Subarachnoid* NEAR/2 hemorr\$ag*)  |
| # 6  | 7,771  | #5 OR #4 OR #3 OR #2 OR #1   |
| # 5  | 94     | TS=(hemicrania or cephalea or cranialgia)  |
| # 4  | 8      | TS=(cranial NEAR/2 pain*)  |
| # 3  | 92     | TS=(cephalalg* or cephalgi*)   |
| # 2  | 56     | TS=(thunderclap* or "thunder clap*")   |
| # 1  | 7,652  | TS=(headache* or "head ache*" or LASH)   |

**PROSPERO**<http://www.crd.york.ac.uk/PROSPERO/>Searched on: 11<sup>th</sup> February 2020

Records retrieved: 60

#1	MeSH DESCRIPTOR Headache Disorders, Primary	3
#2	MeSH DESCRIPTOR Headache	62
#3	MeSH DESCRIPTOR Vascular Headaches	0
#4	MeSH DESCRIPTOR Headache Disorders, Secondary	4
#5	MeSH DESCRIPTOR Headache Disorders	18
#6	headache* or (head adj1 ache*)	865
#7	headache* or "head ache" or "head aches"	865
#8	LASH	7
#9	thunderclap* or (thunder adj1 clap*)	1
#10	cephalalgia* or cephalgi*	31
#11	cranial adj2 pain*	2
#12	hemicrania or cephalgia or cranialgia	7
#13	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #8 OR #9 OR #10 OR #11 OR #12	876
#14	MeSH DESCRIPTOR Subarachnoid Hemorrhage	62
#15	Subarachnoid* adj2 (hemorrhag* or hemorrhag* or haemorrhag* or haemorrhag*)	221
#16	Subarachnoid* adj2 (bleed* or blood)	14
#17	arachnoid* adj2 (haemorrhag* or haemorrhag* or hemorrhag* or hemorrhag* or bleed* or blood)	4
#18	SAH or SAHs	95
#19	#14 OR #15 OR #16 OR #17 OR #18	247
#20	#13 AND #19	8
#21	MeSH DESCRIPTOR Emergencies	81
#22	MeSH DESCRIPTOR Emergency Service, Hospital	303
#23	MeSH DESCRIPTOR Emergency Medical Services EXPLODE ALL TREES	493
#24	MeSH DESCRIPTOR Triage	50
#25	(emergency or emergencies or casualty) adj3 (room* or department* or service* or unit* or ward* or centre* or center* or hospital* or setting* or clinic or clinics or care or healthcare or medical)	2230
#26	triage*	230
#27	accident* adj2 (emergency or emergencies)	184
#28	#21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27	2477
#29	#28 AND #13	53
#30	#20 OR #29	60

**ECRI Guidelines Trust**<https://guidelines.ecri.org/>Searched on: 17<sup>th</sup> February 2020

Records retrieved: 5

1. headache OR thunderclap OR “thunder clap” – 39 results – filtered to diagnosis – 16 results browsed for relevance – 5 potentially relevant.

**Clinical Knowledge Summaries**

<https://cks.nice.org.uk/>

Searched on: 17<sup>th</sup> February 2020

Records retrieved: 4

Browsed topic list for headache – 4 relevant records found.

**NHS Evidence**

<https://www.evidence.nhs.uk/>

Searched on: 17<sup>th</sup> February 2020

Records retrieved: 69

The following search strings were entered into the search box with the inbuilt guidance filters box checked to limit results to guidelines.

1. headache\* AND "subarachnoid haemorrhage" – filtered to guidance - 26 results
2. headache\* AND "subarachnoid hemorrhage" – filtered to guidance – 19 results
3. (intitle: headache\*) AND emergenc\* - filtered to guidance – 24 results

**Trip**

<https://www.tripdatabase.com/>

Searched on: 25<sup>th</sup> February 2020

Records retrieved: 17

1. (title:headache) AND ("subarachnoid haemorrhage" OR "subarachnoid hemorrhage") – filtered to guidance – 7 results
2. (title:headache) AND emergency – filtered to guidance – 10 results