### 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)


1946 to February 07, 2020

Searched on: 10th 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 clamp$).ti,ab. (483)
9. (cephalalgia or cephalalgia$).ti,ab. (1088)
10. (cranial adj2 pain$).ti,ab. (180)
11. (hemicrania or cephalaea or cranialgia).ti,ab. (1015)
12. or/1-11 (91905)
13. Subarachnoid Hemorrhage/ (20706)
14. (Subarachnoid$ 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$ or hemorr$ 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 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)
Cochrane Central Register of Controlled Trials (CENTRAL)  
Issue 2 of 12, February 2020  
Searched on: 10th 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 cephalaea or cranialgia):ti,ab,kw 46  
#12 #1 or #2 or #3 or #4 or #5 or #7 or #8 or #9 or #10 or #11 31574  
#13 MeSH descriptor: [Subarachnoid Hemorrhage] this term only 579  
#14 (Subarachnoid* near/2 hemorrh?ag*):ti,ab,kw 1819  
#15 (Subarachnoid* near/2 haemorrh?ag*):ti,ab,kw 470  
#16 (Subarachnoid* near/2 (bleed* or blood)):ti,ab,kw 55  
#17 (arachnoid* near/2 (haemorrh?ag* or hemorrh?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)  
Issue 2 of 12, February 2020  
Searched on: 10th 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 – 7th February 2020
Searched on: 10th 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*
# 14 131,101#13 AND #6
# 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/](http://www.crd.york.ac.uk/CRDWeb/).

Inception – 31st March 2015

Searched on: 10th 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
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. (cephalalgia* or cephalgia*) 36
9. (cranial NEAR2 pain*) 0
10. (pain* NEAR2 cranial) 0
11. (hemicrania or cephalaea 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 haemorrag* or hemorrag*)) 158
16. ((haemorrhag* or hemorrhag* or haemorrag* or hemorrag*) NEAR2 subarachnoid*) 5
17. (Subarachnoid* NEAR2 (bleed* or blood)) 0
18. ((bleed* or blood) NEAR2 Subarachnoid*) 1
19. (arachnoid* NEAR2 (haemorrhag* or hemorrhag* or hemorrag* or bleed* or blood)) 6
20. ((haemorrhag* or hemorrhag* or haemorrag* or hemorrag* 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 – 31st March 2018
Searched on: 10th 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 – 31st March 2015
Searched on: 10th 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: 10th February 2020
Records retrieved: 1

<table>
<thead>
<tr>
<th></th>
<th>Query</th>
<th>Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(headache$ or head ache$).ti,ab.</td>
<td>57</td>
</tr>
<tr>
<td>2</td>
<td>LASH.ti,ab.</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>(thunderclap$ or thunder clap$).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>(cephalalg$i$ or cephalgi$).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>(cranial adj2 pain$).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>(hemicrania or cephalgia or cranialgia).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>or/1–6</td>
<td>66</td>
</tr>
<tr>
<td>8</td>
<td>(Subarachnoid$ adj2 hemorr?ag$).ti,ab.</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>(Subarachnoid$ adj2 haemorr?ag$).ti,ab.</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>(Subarachnoid$ adj2 (bleed$ or blood)).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>(arachnoid$ adj2 (haemorr?ag$ or hemorr?ag$ or bleed$ or blood)).ti,ab.</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>(SAH or SAHs).ti,ab.</td>
<td>52</td>
</tr>
<tr>
<td>13</td>
<td>8 or 9 or 10 or 11 or 12</td>
<td>53</td>
</tr>
<tr>
<td>14</td>
<td>7 and 13</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>((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.</td>
<td>667</td>
</tr>
<tr>
<td>16</td>
<td>triage$ .ti,ab.</td>
<td>78</td>
</tr>
<tr>
<td>17</td>
<td>(accident$ adj2 (emergency or emergencies)).ti,ab.</td>
<td>22</td>
</tr>
<tr>
<td>18</td>
<td>15 or 16 or 17</td>
<td>732</td>
</tr>
<tr>
<td>19</td>
<td>7 and 18 (1)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>14 or 19 (1)</td>
<td></td>
</tr>
</tbody>
</table>
**On-going, unpublished or grey literature searches**

**ClinicalTrials.gov**
https://clinicaltrials.gov/
Searched on: 11th 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: 11th 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: 11th 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 – 7th February 2020
Searched on: 10th 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 cephalaea or cranialgia)
# 4 8 TS=(cranial NEAR/2 pain*)
# 3 92 TS=(cephalalgia* or cephalgia*)
# 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: 11th 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 cephalalg* or cephalgi* 31
#11 cranial adj2 pain* 2
#12 hemicrania or cepheal 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 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: 17th 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: 17th February 2020
Records retrieved: 4

Browsed topic list for headache – 4 relevant records found.

NHS Evidence
https://www.evidence.nhs.uk/
Searched on: 17th 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: 25th 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