

## Guideline topic: Adult Headache

### General comments

### Search coverage

#### Patient searches

The patient search identifies literature that explores the experiences of patients with the condition of interest. This search was conducted using the search strategy outlined below in conjunction with the new patient search filters. The search was initially conducted using free-text searches in the title and abstract. However, this resulted in too many hits with too little precision. The search strategies were then amended to restrict the free-text searching to the titles only. The Embase search had to be further restricted to ensure that weighted indexing terms only were retrieved. The resultant search results were much more precise.

Databases covered: **Medline, Embase, CINAHL, PsycINFO** Dates covered: 2000-2006

Total hits: 1791 (original search retrieved 5741)

Pre-sifted result: 351  
(+ 23 alternative therapy papers)

#### Guidelines

Websites with relevant guidelines:

Agency for Health Care Research and Quality (AHRQ) <http://www.ahrq.gov/>  
ASERNIP-S <http://www.surgeons.org/Content/NavigationMenu/Research/ASERNIPS/ASERNIPSPublications/default.htm>  
Canadian Medical Association <http://mdm.ca/cpgsnew/cpgs/index.asp>  
Centre for Clinical Effectiveness (Australia) <http://www.med.monash.edu.au/healthservices/cce/>  
Health Technology Assessment <http://www.hta.nhsweb.nhs.uk/>  
NHS Centre for Reviews and Dissemination <http://www.york.ac.uk/inst/crd/welcome.htm>  
NHS Quality Improvement Scotland <http://www.nhshealthquality.org>  
National Institute for Clinical Excellence (NICE) <http://www.nice.org.uk/>  
National Electronic Library for Health <http://www.library.nhs.uk/guidelinesFinder/>  
National Guideline Clearinghouse <http://www.guideline.gov/>  
National Health and Medical Research Council (NHMRC) <http://www.health.gov.au/nhmrc/publications/index.htm>  
New Zealand Guidelines Group <http://www.nzgg.org.nz/>  
PRODIGY Knowledge <http://www.prodigy.nhs.uk/>  
Swedish Council on Technology Assessment in Health Care (SBU) <http://www.sbu.se/www/index.asp>  
TRIP Database <http://www.tripdatabase.com/>

Total hits: 30

#### Systematic reviews

Databases covered: **Medline, Embase, CINAHL, PsycINFO, Cochrane** Dates covered: 2000-October 2007  
All key questions

Pre-sifted result:

561

Sifted result:

188

#### RCTs

Databases covered: **Medline, Embase, CINAHL, PsycINFO, Cochrane, Sport Discus, AMED** Dates covered: 2000-October 2007, with some searches additionally covering earlier periods  
Key questions 1-12

### **Observational studies**

Databases covered: **Medline, Embase, CINAHL, PsycINFO, Cochrane** Dates covered: 2000-October 2007  
Key questions 1, 2, 3, 7, 10

### **Economic studies**

Databases covered: *NHS EED* Dates covered: 2000-2006

Total hits: Pre-sifted result: 69 Sifted result: 67

### **Search strategies**

The following are listings of the main Medline strategies used for this guideline. All conventions and symbols are from the Ovid implementation of Medline. Strategies used in other databases were substantially the same, though different terminology may have been used to take account of different taxonomies in non-Medline databases. These strategies were combined with the generic (patient) stem to identify studies specific to the guideline topic.

Search filters were added to identify studies of a particular type (RCT/observational). Listings of the search filters used by SIGN can be found on the SIGN Web site.

Searches for this guideline were last conducted in October Week Three 2007.

### **Patient & Generic Stem:**

1. exp headache/
2. exp headache disorders/
3. (headache\$ or (head adj (ache or aching or aches or pain\$ or hurt\$ or sore\$))).ti.
4. migraine\$.ti.
5. trigeminal neuralgia.ti.
6. or/1-5

### **Medline strategies used for specific key questions**

#### **1. In patients > 18 yrs presenting with primary or secondary headache what are the critical signs and symptoms that help determine headache diagnosis and which patients should be referred?**

1. exp "Sensitivity and Specificity"/
2. sensitivity.tw.
3. specificity.tw.
4. exp DIAGNOSIS/
5. exp PATHOLOGY/
6. ((pre test or pretest) adj probability).tw.
7. post test probability.tw.
8. predictive value\$.tw.
9. likelihood ratio\$.tw.
10. false negative\$.tw.
11. false positive\$.tw.
12. screening.tw.
13. (diagnosis or diagnostic).tw.
14. (diagnosis or diagnostic).af.
15. exp Mass Screening/
16. or/1-15

**2. In patients with migraine or chronic headache, what tools are most effective in assessing headache severity, frequency and social and economic impact? Include:**

- MIDAS (migraine disability and assessment score)
- HIT (headache impact test)
- SF36

1. economic impact.mp.
2. "cost of illness"/ or "quality of life"/
3. social impact.mp.
4. midas.mp.
5. headache impact test.mp.
6. (hit and headache).mp.
7. sf36.mp.
8. sf-36.mp.
9. ((assess\$ or score\$) and impact).mp.
10. ((assess\$ or score\$) and disability).mp.
11. Find similar to How useful is the HIT-6 for measuring headache-related disability?.
12. \*"Disability Evaluation"/
13. (migraine and disability and score).mp.
14. or/1-13

**3. In patients presenting with headache what is the evidence that the following investigations are effective in confirming diagnosis?**

- a. CT scan
- b. MRI
- c. X-ray of the cervical spine
- d. Full blood count
- e. ESR/CRP/plasma viscosity
- f. Lumbar puncture

1. (investigat\$ or test\$ or scan\$ or diagnos\$).mp.
2. exp Tomography, X-Ray Computed/ or computed tomograph\$.mp. or exp Tomography, Emission-Computed, Single-Photon/
3. exp Magnetic Resonance Imaging/ or magnetic resonance imag\$.mp.
4. exp Cervical Vertebrae/ra [Radiography]
5. (x-ray and cervical).mp.
6. exp Blood Cell Count/ or full blood count.mp. or exp Platelet Count/
7. erythrocyte sedimentation rate.mp. or exp Blood Sedimentation/
8. c reactive protein.mp. or exp C-Reactive Protein/
9. exp Blood Viscosity/ or plasma viscosity.mp.
10. lumbar puncture.mp. or Spinal Puncture/
11. or/1-10

**4. what lifestyle factors have been shown to be effective in reducing frequency and severity of acute and chronic headache?**

- a. Diet
- b. Exercise
- c. Sleep
- d. Stress management
- e. Trigger avoidance

1. exp Diet, Fat-Restricted/ or exp Diet, Macrobiotic/ or exp Diet, Protein-Restricted/ or exp Diet, Sodium-Restricted/ or exp Diet, Vegetarian/ or exp Diet Therapy/ or exp Diet, Mediterranean/ or exp Diet/ or diet.mp. or exp Diet Fads/
2. exp "food and beverages"/ or exp food/
3. (food\$ or cheese\$ or wine\$ or chocolate\$ or alcohol\$).mp.
4. exercise\$.mp. or exp Exercise/
5. tai ji/ or walking/ or yoga/
6. exp sleep/ or stress, psychological/
7. sleep\$.mp.

- 8. stress management.mp.
- 9. exp Cacao/
- 10. Self Care/
- 11. avoid\$ adj2 trigger\$.mp.
- 12. trigger avoid\$.mp.
- 13. trigger avoidance.mp.
- 14. or/1-13

**5. which pharmacological therapies for acute attack are the most effective for immediate pain freedom or pain freedom at 24 hours?**

- a. **Aspirin**
- b. **Paracetamol**
- c. **NSAIDs**
- d. **COX-2 inhibitors**
- e. **Anti-emetics**
- f. **Corticosteroids**
- g. **Triptans**
- h. **Oxygen**
- i. **Intranasal lidocaine**
- j. **Indomethacin**
- k. **Ergotamine**
- l. **Opiates**
- m. **Caffeine**

- 33 aspirin.mp. or exp Aspirin/ (14979)
- 34 acetylsalicylic acid.mp. (1894)
- 35 paracetamol.mp. or exp Acetaminophen/ (4929)
- 36 nsaid\$.mp. or exp Anti-Inflammatory Agents, Non-Steroidal/ (47308)
- 37 ibuprofen.mp. or exp Ibuprofen/ (3029)
- 38 (celecoxib or diclofenac or etodolac or etoricoxib or fenoprofen or flurbiprofen).mp. (5864)
- 39 (indometacin or ketoprofen or mefenamic or meloxicam or nabumetone or naproxen).mp. (3499)
- 40 (piroxicam or sulindac or tenoxicam).mp. (1639)
- 41 cox-2 inhibitor\$.mp. or exp Cyclooxygenase 2 Inhibitors/ (5502)
- 42 metoclopramide.mp. or exp Metoclopramide/ (1188)
- 43 exp Antiemetics/ (33155)
- 44 domperidone.mp. or exp Domperidone/ (415)
- 45 phenothiazine.mp. or exp Phenothiazines/ (5330)
- 46 (cinnarizine or cyclizine or meclizine or promethazine or chlorpromazine or perphenazine or prochlorperazine or trifluoperazine).mp. (3172)
- 47 corticosteroid\$.mp. (23253)
- 48 beclomethasone/ or exp betamethasone/ or exp dexamethasone/ or exp prednisolone/ (25576)
- 49 (prednisolone or betamethasone or cortisone or dexamethasone or hydrocortisone or methylprednisolone or triamcinolone).mp. (38329)
- 50 exp Sumatriptan/ or 5ht1 agonist.mp. (1126)
- 51 triptan\$.mp. (694)
- 52 (almotriptan or eletriptan or frovatriptan or naratriptan or rizatriptan or sumatriptan).mp. (1795)
- 53 exp Oxygen Inhalation Therapy/ or oxygen therapy.mp. (5542)
- 54 exp Administration, Intranasal/ and exp Lidocaine/ (38)
- 55 intranasal lidocaine.mp. (15)
- 56 indomethacin.mp. (9317)
- 57 ergotamine.mp. or exp Ergotamine/ (408)
- 58 opiate\$.mp. or exp Narcotics/ (22316)
- 59 (buprenorphine or codeine or fentanyl or tramadol).mp. (8446)
- 60 caffeine.mp. or exp Caffeine/ (7351)
- 61 or/33-60 (175789)
- 65 adrenergic beta-antagonists/ or metoprolol/ or nadolol/ or propranolol/ or timolol/ (13726)
- 66 antiepileptic.mp. or exp Anticonvulsants/ (36431)
- 67 (topiramate or pregabalin or valproate).mp. (3841)
- 68 pizotifen.mp. or exp Pizotyline/ (55)
- 69 methysergide.mp. or exp Methysergide/ (566)

- 70 cyproheptadine.mp. or exp Cyproheptadine/ (920)
- 71 antidepressant\$.mp. or exp Antidepressive Agents/ (33113)
- 72 amitriptyline.mp. or exp Amitriptyline/ (1517)
- 73 ace inhibitor\$.mp. or exp Angiotensin-Converting Enzyme Inhibitors/ (15832)
- 74 (captopril or cilazapril or enalapril or fosinopril or imidapril or lisinopril or perindopril or ramipril).mp. (8218)
- 75 exp Angiotensin II Type 1 Receptor Blockers/ (4478)
- 76 (losartan or candesartan or telmisartan or valsartan).mp. (6149)
- 77 33 or 34 (15580)
- 78 lithium.mp. or exp Lithium Carbonate/ or exp Lithium Compounds/ or exp Lithium/ or exp Lithium Chloride/ (7368)
- 79 exp Calcium Channel Blockers/ (21408)
- 80 (verapamil or amlodipine or felodopine or nifedipine or nimodipine).mp. (13829)
- 81 or/36-40 (49110)
- 82 or/47-49 (63154)
- 83 57 (408)
- 84 or/65-83 (236209)

**6. which prophylactic pharmacological therapies are most effective in reducing frequency and severity of headaches?**

- a. **Beta blockers**
- b. **Antiepileptics**
- c. **Serotonin antagonists (pizotifen, methysergide, cyproheptadine)**
- d. **Antidepressants**
- e. **ACE Inhibitors**
- f. **Angiotensin-II receptor antagonists**
- g. **Low dose aspirin**
- h. **Lithium**
- i. **Verapamil and other calcium channel blockers**
- j. **Indomethacin and other NSAIDs**
- k. **Corticosteroids**
- l. **Ergotamine**

See strategy for KQ 5 above, lines 65-84

**7. In patients with chronic headache are psychological therapies effective in reducing frequency and severity of headaches? Consider:**

- a. **Cognitive behavioural therapy (CBT)**
- b. **Biofeedback and relaxation**
- c. **Stress management**
- d. **Hypnotherapy**

- 1. exp Cognitive Therapy/
- 2. cognitive therapy.mp.
- 3. cognitive behavio\$ therapy.mp.
- 4. cbt.mp.
- 5. biofeedback.mp. or exp "Biofeedback (Psychology)"/
- 6. exp Adaptation, Psychological/ or exp Stress, Psychological/ or stress management.mp.
- 7. exp Hypnosis/ or hypnotherapy.mp.
- 8. (hypnosis or hypnotis\$ or hypnotiz\$ or hypnotism).mp.
- 9. or/1-8

**8. In patients with chronic headache are physical therapies effective in reducing frequency and severity of headaches? Consider:**

- a. **Cervical manual therapy (manipulation or mobilisation):**
  - **osteopathy**
  - **chiropracty**
  - **physiotherapy**

**b. Massage**

**c. Transcutaneous electrical nerve stimulation (TENS)**

**d. Postural or exercise advice**

**e. Acupuncture**

**f. Occlusal splint therapy/oral rehabilitation**

1. exp Musculoskeletal Manipulations/ or exp Cervical Vertebrae/ or exp Manipulation, Spinal/ or cervical manual therapy.mp. or exp Physical Therapy Modalities/
2. exp Manipulation, Chiropractic/ or exp Manipulation, Orthopedic/ or exp Manipulation, Osteopathic/ or exp Osteopathic Medicine/ or osteopath\$.mp.
3. (chiropract\$ or physiotherap\$).mp.
4. exp Massage/ or massage.mp.
5. TENS.mp. or Transcutaneous Electric Nerve Stimulation/
6. transcutaneous electric\$ nerve stimulation.mp.
7. postur\$.mp.
8. exp Exercise Therapy/ or exercise advice.mp.
9. exp Acupuncture Therapy/ or exp Acupuncture Analgesia/ or Acupuncture/ or acupuncture.mp.
10. exp Temporomandibular Joint Disorders/ or exp Occlusal Splints/ or occlusal splint therapy.mp.
11. exp dentistry/ or mouth rehabilitation/
12. oral\$ rehab\$.mp.
13. or/1-12

Additional search for 8f. Occlusal splint therapy/oral rehabilitation

- 24 exp Temporomandibular Joint Disorders/ (3681)
- 25 (temporomandibular and (headache\$ or migraine\$ or pain)).mp. (1810)
- 26 exp Occlusal Splints/ (693)
- 27 (occlusal and (splint\$ or appliance\$ or device\$)).mp. (1258)
- 28 tension suppression.mp. (4)
- 29 (splint\$ or device\$ or appliance\$).mp. (77478)
- 30 24 and 29 (545)
- 31 muscular suppression.mp. (1)
- 32 exp Muscle Tonus/ (1057)
- 33 24 and 32 (4)
- 34 25 or 26 or 27 or 28 or 30 or 31 or 33 (2992)

**9. In patients with chronic headache are complementary therapies effective in reducing frequency and severity of headaches? Consider**

**a. Homeopathy**

**b. Reflexology**

**c. Minerals, vitamins and herbs**

**i. Magnesium**

**ii. Riboflavin**

**iii. Butterbur**

**iv. Feverfew**

**v. Coenzyme Q**

1. exp complementary therapies/ or homeopathy/ or exp medicine, traditional/ or exp massage/ or exp naturopathy/ or exp phytotherapy/
2. exp Magnesium Deficiency/ or exp Magnesium/ or magnesium.mp. or exp Magnesium Compounds/
3. exp Riboflavin Deficiency/ or riboflavin.mp. or exp Riboflavin/
4. butterbur.mp. or exp Petasites/
5. (vitamin\$ or herbal or antioxidant\$).mp.
6. feverfew.mp. or exp Tanacetum parthenium/
7. tanacetum parthenium.mp.
8. coenzyme q.mp. or exp Ubiquinone/
9. peppermint.mp. or exp Mentha piperita/
10. mint oil.mp.
11. oleum menthae.mp.
12. reflexology.mp.
13. or/1-12

**10. In patients with medication overuse headache what management strategies are effective?**

20. Analgesics/ae [Adverse Effects]
21. headache.mp.
22. 20 and 21
23. medication overuse headache.mp.
24. analgesi\$ overuse headache.mp.
25. medication headache.mp.
26. analgesic rebound headache.mp.
27. rebound headache.mp.
28. Substance Withdrawal Syndrome/ and Headache/
29. withdrawal headache.mp.
30. medication misuse headache.mp.
31. analgesic dependent headache.mp.
32. drug induced headache.mp.
33. analgesic headache.mp.
34. Headache/ci [Chemically Induced]
35. (analges\$ or medication\$ or drug\$).mp.
36. (overuse or abuse or rebound or withdraw\$ or induced).mp.
37. 21 and 35 and 36
38. or/22-34
39. 37 or 38

**11. In women experiencing predominantly menstrual migraine what drugs are safe and effective in reducing the frequency and severity of headaches?**

- a. Combined oral contraceptives
- b. Progesterone
- c. Oestrogen supplementation
- d. Long acting implantable contraceptives
- e. Triptans
- f. Mefenamic acid and other NSAIDs

1. Menstruation Disturbances/ or Menstrual Cycle/ or Menstruation/
2. (menstru\$ or perimenstrual).mp.
3. (menstru\$ and (headache\$ or migraine\$)).mp.
4. or/1-3

**12. In women who are menopausal and experiencing migraine is hormone replacement therapy (HRT) safe and effective in reducing the frequency and severity of headaches?**

34. menopause/ or perimenopause/ or postmenopause/
35. (menopaus\$ or postmenopaus\$).mp.
36. perimenopaus\$.mp.
37. or/34-36
38. hormone replacement therapy.mp. or exp Hormone Replacement Therapy/
39. hrt.mp.
40. (estrogen or oestrogen).mp.
41. (hormon\$ adj2 therapy).mp.
42. or/38-41