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Adult Headache Pain Protocol

#ListenToPain

PM-BH-NOBR-24-00010

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ADULT HEADACHE ALGORITHM

STEP 1: ASSESS HEADACHE

ASK PATIENT ABOUT HEADACHE SYMPTOMS[1,2]

Unilateral, bilateral or occipital | Acute or gradual | Throbbing or pressing | Timing | Severity

IDENTIFY SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1]

- Worsening headache with fever
- Sudden-onset headache reaching maximum intensity within 5 minutes
- New-onset neurological deficit
- New-onset cognitive dysfunction
- Change in personality
- Impaired level of consciousness
- Recent (within the past 3 months) head trauma

- Headache triggered by cough or sneeze
- Headache triggered by exercise
- Headache that changes with posture)
- Symptoms suggestive of giant cell arteritis (inflammation of the walls of medium and large arteries.)
- Symptoms and signs of acute narrow angle glaucoma
- Substantial change in the characteristics of the headache.

STEP 2: IDENTIFY TREATMENT CONSIDERATIONS

IDENTIFY ANY CONDITIONS OR MEDICATIONS LIMITING TREATMENT OPTIONS

Medications limiting treatment[5,6,7]	Medical conditions limiting treatment[5,8-11]
• NSAIDs* – risk of bleeding, decreased antihypertensive efficacy, increased drug levels of medicines like methotrexate • Paracetamol: Increased risk of paracetamol toxicity	• Chronic kidney disease • Liver disease • Peptic ulcer disease • Cardiovascular disease

NSAIDs, non-steroidal anti-inflammatory drugs; * With oral NSAIDs only

IDENTIFY WHAT THE PATIENT HAS USED IN THE PAST TO TREAT HEADACHE

STEP 3: RECOMMEND TREATMENT

DOES THE PATIENT HAVE ANY PREFERENCE FOR TREATMENT BASED ON WHAT WAS USED IN THE PAST?

IF YES

Recommend non-pharmacological treatment[1,12-14]

- Headache diary
- Lifestyle changes
- Resting in a cool, dark, quiet room as needed
- Using relaxation strategies to reduce stress
- Applying cold compresses to the forehead or temple areas

AND

Recommend the patient's preference if possible, taking into consideration step 2

IF NO

Recommend non-pharmacological treatment[1,12-14]

- Headache diary
- Lifestyle changes
- Resting in a cool, dark, quiet room as needed
- Using relaxation strategies to reduce stress
- Applying cold compresses to the forehead or temple areas

AND

Recommend appropriate treatment [1,2,4,8,15-18, 20]

- Paracetamol 500-1000 mg
- Aspirin 500-1000 mg
- Ibuprofen 200-400 mg
- Naproxen sodium 250-500 mg
- Diclofenac 25-75 mg
- Ketoprofen 25-50 mg

ADULT HEADACHE ALGORITHM

STEP 1

ASSESS SYMPTOMS

- Questions to ask (Table 1)
- Assess Headache Type (Table 2)
  (Note: Primary headaches are headache disorders that are not due to another underlying medical condition. They include migraine, tension-type headache, cluster headache, and some less common headache disorders. Secondary headaches are headaches that are due to another definable medical disorder. (e.g. headache due to head and neck trauma.)
- Symptoms or circumstances requiring referral (Table 3)

STEP 2

IDENTIFY TREATMENT CONSIDERATIONS

- Questions to ask to customize headache treatment (Table 4)
- Conditions and medications (Tables 5 and 6)
- Assess previous treatment (Table 7)
- Questions to ask about previous treatment (Table 7)

STEP 3

RECOMMEND TREATMENT

- Non-pharmacological recommendations (Table 8)
- Pharmacological recommendation (Table 9)

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STEP 1: ASSESS SYMPTOMS

TABLE 1

QUESTIONS TO ASK
Can you tell me about your headache symptoms? • What is the frequency of the headache (episodic or daily, number of days per month)? • Where do you feel the pain? Does it radiate to any other location? • How severe is the pain intensity on a scale from 0-10 (0 being no pain and 10 being the most severe) • Can you describe the quality of pain (pressing, pulsating, stabbing, etc.)? • What is the frequency of the headache (episodic or daily, number of days per month)?
DO you have any other symptoms? • Look for symptoms that require referral to a doctor (red flag symptoms)
Have you previously been diagnosed with tension type, cluster type headaches or migraines?

TABLE 2

SUMMARY OF FEATURES DISTINGUISHING THE COMMON HEADACHE DISORDERS (NB: TWO OR MORE MAY OCCUR CONCOMITANTLY)[1,2]

Headache feature	Tension-type headache	Migraine (with or without aura)	Cluster Headache
Pain location (can be in the head, face or neck)	Bilateral	Unilateral or bilateral	Unilateral (around the eye, above the eye and along the side of the head/face)
Pain quality	Pressing/tightening (non-pulsating)	Pulsating (throbbing or banging in young people aged 12 to 17 years)	Variable (can be sharp, boring, burning, throbbing or tightening
Pain intensity	Mild or moderate	Moderate or severe	Severe or very severe
Effect on activities	Not aggravated by routine activities of daily living	Aggravated by, or causes avoidance of, routine activities of daily living	Restlessness or agitation

TABLE 2 CONT.

STEP 1: ASSESS SYMPTOMS

TABLE 2 CONT.

Other symptoms	None	Unusual sensitivity to light and/or sound or nausea and/or vomiting. Symptoms of aura can occur with or without headache and: • are fully reversible • develop over at least 5 minutes • last 5 to 60 minutes Typical aura symptoms include visual symptoms such as flickering lights, spots or lines and/or partial loss of vision; sensory symptoms such as numbness and/or pins and needles; and/or speech disturbance	On the same side as the headache: • red and/or watery eye • nasal congestion and/or runny nose • swollen eyelid • forehead and facial sweating • constricted pupil and/or drooping eyelid
Duration of headache	30 minutes to continuous	4 to 72 hours in adults 1 to 72 hours in young people aged 12 to 17 years	15 to 180 minutes
Chronic Headache			
Chronic migraine or chronic tension-type headache: At least 15 headache days per month for >3 months with the above clinical description, in the absence of medication overuse			**Chronic cluster headache:** Attacks occurring for more than 1 year without remission, or remission periods lasting <3 months
Medication overuse headache (MOH)			
Clinical syndrome of the headache exacerbated by the acute-relief medication overuse is of the migraine and/or tension-type headache Ergotamine, triptans, or opioids taken on 10 or more days per month, or 15 days for simple analgesics, for >3 months.			-

STEP 1: ASSESS SYMPTOMS

TABLE 3

SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1]
Evaluate people who present with headache and any of the following features, and consider the need for further investigations and/or referral: • Worsening headache with fever • Sudden-onset headache reaching maximum intensity within 5 minutes • New-onset neurological deficit • New-onset cognitive dysfunction • Change in personality • Impaired level of consciousness • Recent (typically within the past 3 months) head trauma • Headache triggered by cough, valsalva (trying to breathe out with nose and mouth blocked) or sneeze • Headache triggered by exercise • Orthostatic headache (headache that changes with posture) • Symptoms suggestive of giant cell arteritis *(Also known as temporal arteritis, giant cell arteritis is characterized by the inflammation of the walls of medium and large arteries. Branches of the carotid artery and the ophthalmic artery are preferentially involved, giving rise to symptoms of headache, visual disturbances and jaw claudication.)* • Symptoms and signs of acute narrow angle glaucoma *(An uncommon eye condition that results from blockage of the drainage of fluid from the eye.)* • A substantial change in the characteristics of their headache.
Consider further investigations and/or referral for people who present with new-onset headache and any of the following: • Compromised immunity, caused, for example, by HIV or immunosuppressive drugs • Age under 20 years and a history of malignancy • A history of malignancy known to metastasize to the brain • Vomiting without other obvious cause

CONSIDERATIONS

TABLE 4

QUESTIONS TO ASK TO CUSTOMIZE HEADACHE TREATMENT
• Are you taking any medication, both prescribed and over the counter? If yes, what are those and what is the dose? • Do you have any medical conditions? • What have you used before for your headache? • What are the triggers for your headache? • What are the aggravating or relieving factors? • Is there a family history of headaches?

TABLE 5

MEDICATIONS TO USE WITH CAUTION WITH PARACETAMOL OR ORAL NSAIDS[5,6,7]

Concern	Potential drug interaction
Increased risk of bleeding with oral NSAIDs	• Some Selective-Serotonin Reuptake Inhibitors (SSRI) • Some tricyclic antidepressants • Acetylsalicylic acid (ASA) • Corticosteroids • Warfarin • Ginkgo biloba
Decreased antihypertensive efficacy with oral NSAIDs	• Angiotensin converting enzyme (ACE) inhibitors • Angiotensin II receptor blockers (ARB) • Diuretics • Beta-blockers
Increased drug levels with oral NSAIDs	• Lithium • Methotrexate
Increased risk of paracetamol toxicity	• Epilepsy medications (e.g. carbamazepine) • Other P450 enzyme inducers (e.g. isoniazid, rifampin) • Alcohol

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STEP 2:
IDENTIFY TREATMENT CONSIDERATIONS

TABLE 6

CONSIDERATIONS WHEN SELECTING ANALGESICS IN PATIENTS WITH COMORBIDITIES[8-11]

Comorbidity	Notes
Chronic kidney disease[8]	• NSAIDs have proven nephrotoxic class effects and should be avoided where possible in patients with symptoms of renal impairment • Paracetamol is the preferred first-line analgesic for episodic treatment of mild pain in patients with renal dysfunction, CKD, and/or requiring dialysis. However, dose minimization may sometimes be warranted (maximum of 3 g/day has been recommended for patients with advanced kidney failure)
Liver disease[8,9]	• NSAIDs- NSAIDs can cause acute liver injury with variable severity. • Paracetamol: Not contraindicated in liver disease. Can cause liver toxicity if taken in large amounts.
Peptic-ulcer disease[8,10]	• Chronic NSAID drug use is associated with potentially serious upper gastrointestinal adverse drug reactions including peptic ulcer disease and gastrointestinal bleeding. • Paracetamol – Lesser risk of adverse effects compared to NSAIDs
Cardiovascular disease[5,8,11]	• All non-aspirin NSAIDs may be associated with a potential increase in CV thrombotic risk. • NSAIDs are contraindicated in patients who have undergone coronary artery bypass graft surgery • Use of paracetamol at recommended doses is not associated with any additional risk of major CV events.

TABLE 7

QUESTIONS TO ASK TO ABOUT PREVIOUS TREATMENT

- What have you used before to treat your headache?
  - What dose did you use?
  - Was it effective?
  - Did you have any side effects from it?
- Do you have any preference for any specific treatment?

STEP 3: RECOMMEND TREATMENT

TABLE 8

NON-PHARMACOLOGICAL RECOMMENDATIONS FOR HEADACHE (ALL TYPES)[1,12-14]
Avoiding triggers Common headache triggers include certain food items, lack of sleep, skipped meals, dehydration, secondhand smoke, strong odors like perfumes
Use of Headache Diary to record the following for a minimum of 8 weeks: • Frequency, duration and severity of headaches • Any associated symptoms • All prescribed and over the counter medications taken to relieve headaches • Possible precipitants • Relationship of headaches to menstruation
Lifestyle changes • Don't skip meals, especially breakfast. • Get at least seven hours of sleep every night. • Exercise for 30 minutes a day. (Aerobic exercise and progressive strength training) • Drink six to eight glasses of water a day. • Identify and avoid headache triggers. These may include caffeinated foods and beverages, as well as many types of chips and other "junk" food.
Resting in a cool, dark, quiet room as needed
Using relaxation strategies to reduce stress
Applying cold compresses to the forehead or temple areas

STEP 3: RECOMMEND TREATMENT CONT.

STEP 3: RECOMMEND TREATMENT

TABLE 9

MEDICATIONS FOR ACUTE THERAPY OF HEADACHE[1,2,4,8,15-24]

Medications for acute treatment of tension-type headache

Medication and single dose	Adverse effects	Drug interactions	Comments
Paracetamol 500-1000 mg (MDD 4000 mg)	Good safety profile at therapeutic levels. Can cause liver toxicity if taken in large amounts.	May potentially increase the risk of bleeding with warfarin.	Recommended as first line therapy by multiple guidelines. For individuals at a higher risk (like renal insufficiency or risk of GI bleeding), paracetamol may be considered as a preferred option instead of Ibuprofen. Can be used in pregnant women if medication cannot be avoided. (Guidelines recommendation)
Aspirin 500-1000 mg (MDD 4000 mg)	Aspirin increases bleeding risk, even at low cardioprotective doses (e.g., 75–300 mg). Hypersensitivity reactions (respiratory disease, rhinosinusitis, urticaria)	Avoidance of chronic use of NSAIDs in patients under treatment with cardioprotective aspirin is advisable.	May relieve headache pain in more people with frequent episodic tension-type headache than placebo, but good evidence is lacking

TABLE 9 CONT.

STEP 3: RECOMMEND TREATMENT

TABLE 9 CONT.

Ibuprofen 200-400 mg (MDD 2400 mg) **Naproxen sodium 250-500 mg** (MDD 1000 mg) **Diclofenac 25-75 mg** (MDD 150 mg) **Ketoprofen 25-50 mg** (MDD 300 mg)	Gastrointestinal side-effects, risk of bleeding. All non-aspirin NSAIDs may be associated with a potential increase in CV thrombotic risk. Older individuals are at a higher baseline risk of cardiovascular, GI, renal and hepatic complications. Hypersensitivity reactions have been documented especially with naproxen, diclofenac, ibuprofen.	Reduces renal clearance of methotrexate, which could lead to toxicity at least when methotrexate is used at high doses. Increased risk of GI bleeding with concomitant intake of antidepressants, steroids, antiplatelet and anticoagulant medications.	The lowest dose should be used for the shortest period of time. Simultaneous administration of anticoagulants and corticosteroids should be avoided. Diclofenac is most commonly linked to hepatotoxicity.

Combination analgesics for acute treatment of tension-type headache

- Combination analgesics containing caffeine are drugs of second choice.[4]
- Combining caffeine (65 to 200 mg) with ibuprofen and acetaminophen increases efficacy, but possibly also the risk for developing medication-overuse headache. [4,20]

Recommended medications for treatment of acute cluster headache[2]

- Sumatriptan 6mg subcutaneous injection with significant relief within 15 minutes. (maximum limit two 6mg injections a day)
- High flow oxygen 100% at 7-15 litres/minute for 15-20 minutes, using a non-rebreathable mask, is effective in aborting acute attacks of cluster headache.
- Oxygen is often used together with triptans in patients with multiple attacks

Medications for Medication overuse headache (MOH)[2]

- Patients must be advised that restricting their acute headache medications to no more than 2 days in a week minimizes the potential of developing MOH.
- Educational intervention is crucial and results in improvement in headache.
- Comparison of advice alone with a structured detoxification program in patients with MOH is similarly effective.

Medications for Migraine Headache: (Refer to the Migraine Protocol)

MDD, maximum daily dose; MOH, medication overuse headache

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