

F04: Headache

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Introduction

Headache is a generalized term given to any pain in the region of the head above eye level. Pain from headaches can be acute or chronic, generalized or localized, and can range from mild to severe. The pain may occur on one or both sides of the head, be isolated to a single location, or extend as a band across the skull. Paramedic and EMR/FR assessment of a patient with a headache should include a detailed history followed by a thorough general and neurological examination. The underlying cause of the pain cannot be diagnosed in the out-of-hospital setting and conveyance to hospital is usually required.

Essentials

- Acetaminophen is an effective first-line analgesic for managing headaches in the out-of-hospital environment.
- Nitrous oxide is considered safe and may be effective for managing headaches.
- Treat nausea and vomiting as required.
- Paramedics and EMRs are not to administer acetylsalicylic acid for headache.
- Opioids are of limited benefit in the treatment of migraines. MORPHine may not be effective and may be associated with delayed recovery. FentaNYL should only be used to treat severe headache where other measures have failed and where conveyance to the treating facility is prolonged.

Additional Treatment Information

- Severe dehydration may cause headaches. IV fluid replacement may be beneficial in these cases.
- Analgesia may not be effective in patients who suffer from previously diagnosed cluster headaches. High flow oxygen may be beneficial in these cases.

Referral Information

Headache management depends upon in-hospital diagnosis; this cannot take place in the out-of-hospital environment. Paramedics and EMRs must provide interim symptom relief until a definitive diagnosis can be made and appropriate management plan developed. Patients who suffer from migraine or chronic headaches may have a pre-defined treatment plan and will seek care only when that plan has failed or the presentation of the headache is new or unusual.

General Information

- The common types of headache include:
 - Vascular
 - Migraines and cluster headaches
 - Can last from minutes to days
 - Characterized by intense/throbbing pain, photosensitivity, nausea, vomiting, and sweating
 - Sudden onset/most severe ever headache (thunderclap) may indicate subarachnoid hemorrhage
 - Tension
 - Often starts in the morning as mild and worsens throughout the day
 - Characterized by a dull, achy pain
 - Organic
 - Less common
 - Caused by tumours, infection, or other diseases of the brain
- Headaches can be a minor inconvenience or may be debilitating. Occasionally a serious medical emergency may present with headache as a symptom. These include:

- Subarachnoid hemorrhage
 - Sudden onset, severe, instantaneously peaking headache (a 'thunderclap' headache)
- Hemorrhagic strokes
 - Onset of a sudden and severe headache
- Other vascular etiologies
 - Giant cell arteritis, carotid or vertebral artery dissection, venous thrombosis
- Meningitis
 - Continuous throbbing headache (usually in occiput) with sudden onset of fever, nausea, vomiting, confusion, and stiff neck
 - Frequently associated with a rash which may be maculopapular, petechial, or urticarial
 - A decreased headache secondary to the administration of metoclopramide is not diagnostic in nature; do not make further treatment or conveyance decisions based solely on a response to the medication
 - Paramedics and EMRs/FRs should use droplet precautions if meningitis is suspected
- Acute angle-closure glaucoma
 - Headache with severe pain to ipsilateral eye with associated visual changes or visual loss
- Carbon monoxide toxicity

Interventions

First Responder

- Place patient in position of comfort; the patient may be more comfortable if the environment can be made dark/dim and quiet
- Manage airway as required
 - → [B01: Airway Management](#)
- Supplemental oxygen as required
 - → [A07: Oxygen Administration](#)

Emergency Medical Responder – All FR interventions, plus:

- Consider analgesia
 - → [E08: Pain Management](#)

Primary Care Paramedic – All FR and EMR interventions, plus:

- Obtain vascular access:
 - → [D03: Vascular Access](#)
 - Consider volume replacement for dehydration
- Consider analgesia for symptom relief:
 - [Nitrous oxide](#)
 - [Acetaminophen](#)
- Consider antiemetic for symptom relief:
 - [Dimenhydrinate](#)

Advanced Care Paramedic – All FR, EMR, and PCP interventions, plus:

- Consider analgesia for severe pain:
 - [FentaNYL](#)

Critical Care Paramedic – All FR, EMR, PCP, and ACP interventions, plus:

- Investigations to address and treat underlying etiology
- Consider NSAIDS
 - Ketorolac
 - Acetaminophen
- Consider opioid

- Hydromorphone
- Morphine
- Other medications (Ondansetron, Metoclopramide)

Evidence Based Practice

Headache-Migraine

Supportive

- [Ketamine](#)
- [Metoclopramide](#)
- [Metoclopramide plus diphenhydramine](#)
- [Nitrous Oxide](#)
- [NSAIDs](#)

Neutral

- [Acetaminophen IV](#)
- [Oxygen](#)
- [Fluid Bolus](#)

Against

References

1. Alberta Health Services. AHS Medical Control Protocols. 2020. [[Link](#)]
2. Ambulance Victoria. Clinical Practice Guidelines: Ambulance and MICA Paramedics. 2018. [[Link](#)]
3. Queensland Ambulance Service. Clinical practice guidelines: Neurological/headache. 2017. [[Link](#)]

