Headache – Emergency management in children – Flowchart

Child presents to ED with a headache

Assessment
(careful history and neurological examination including gait, EOM, visual fields and fundoscopy)

Red flags? (Box A#)

Yes

Primary headache disorder or secondary to benign underlying disease

- Paracetamol + Ibuprofen
- +/- Ondansetron
- Avoid opiates

Possible migraine (Box B#)?

No

Yes

Responded to treatment?

Yes

Aged ≤ 12 years?

No

Sumatriptan (intranasal)

Yes

• Prochlorperazine IV
• Monitor +/- manage side effects:
  - hypotension – slow/cease infusion, fluid bolus
  - acute dystonia - Benztropine (IV/IM)
  - acute akathisia - Diazepam (Oral)

Period of observation
Sumatriptan can be repeated once at least two hours after first dose if symptoms recur

Yes

No

Reconsider diagnosis

Responded to treatment?

Yes

No

Consider discharge
+/- advice re future migraine management
+/- advice re dopamine antagonists side effects

Refer to inpatient service

Refer as indicated by findings

No

Yes

No

No

No

No

Yes

Yes

Yes

Yes

Seek senior emergency/paediatric advice as per local practices

Consider seeking senior emergency/paediatric advice as per local practices

# See next page for Box A and B

For more information refer to CHQ-GDL-60017 - Headache – Emergency management in children

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Headache – Emergency management in children – Medications

Box A: Red flags suggestive of serious underlying pathology

- worsening headache with fever
- sudden onset headache reaching maximum intensity within five minutes
- new-onset neurological deficit (transient or sustained)
- new-onset cognitive dysfunction or personality change
- impaired level of consciousness
- head trauma in previous three months
- headache triggered by cough, valsalva, or sneeze
- headache causing night waking
- early morning headache +/- vomiting
- headache triggered by exercise
- headache that changes with posture
- clinical features of glaucoma
- significant change in characteristics of headache
- atypical aura
- compromised immunity (e.g. HIV)
- history of malignancy
- vomiting without other obvious cause

Simple analgesia dosing in children

| Paracetamol (Oral) | 15 mg/kg to maximum of 1 gm every four hours, maximum 4 doses in 24 hours |
| Ibuprofen (Oral)   | 10 mg/kg to maximum of 400 mg every six to eight hours, maximum 3 doses in 24 hours |

Sumatriptan dosing for the acute abortive management of a migraine in children over 12 years

| Sumatriptan (intrasanal) | 20 mg (maximum 40 mg in 24 hours) |
| Contraindications        | Ergotamine, cardiac disease, SSRIs |

Dopamine antagonist dosing for the acute abortive management of a migraine in children

| Prochlorperazine (Stemetil) (IV) | 0.15 mg/kg to maximum of 12.5 mg in 20 mL/kg sodium chloride 0.9% up to maximum of 1 L administered over one hour. |
| OR Chlorpromazine (Largactil) (IV) | 0.25 mg/kg in 20 mL/kg sodium chloride 0.9% up to maximum of 1 L administered over one hour. |
| OR Metoclopramide (Maxolon) (IV) | 0.2 mg/kg to maximum 10 mg |
| Side effects               | Extrapyramidal symptoms such as akathisia and dystonic reactions |

Benztropine dosing for the treatment of acute dystonia in children

| Benztropine (IV/IM) | 0.02 mg/kg (to maximum adult dose of 1 mg) in children aged more than 3 years. May repeat in 15 minutes. |

Diazepam dosing for the treatment of acute akathisia in children

| Diazepam (PO) | 0.04 – 0.2 mg/kg (to maximum adult dose of 2-10 mg) every eight to twelve hours |

Box B: Migraine description

<table>
<thead>
<tr>
<th>Migraine without aura</th>
<th>Migraine with aura</th>
</tr>
</thead>
<tbody>
<tr>
<td>at least two of the following:</td>
<td>Aura (occurring seconds to an hour prior to onset of headache) may consist of:</td>
</tr>
<tr>
<td>- bilateral or unilateral location</td>
<td>- visual disturbance (scintillations, gleam of light, blurred vision, blind spots)</td>
</tr>
<tr>
<td>- pulsating</td>
<td>- an odour</td>
</tr>
<tr>
<td>- moderate to severe pain</td>
<td>- paraesthesia in the hand or face.</td>
</tr>
<tr>
<td>- made worse with activity</td>
<td></td>
</tr>
<tr>
<td>at least one associated symptom (nausea, vomiting, photophobia or phonophobia</td>
<td></td>
</tr>
</tbody>
</table>

For more information refer to CHQ-GDL-60017 – Headache – Emergency management in children