



HEALTH ▸ HYGIENE ▸ HOME

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Dr Samantha Bradley, Head of Professional Relations and Medical Marketing, RB UK Ltd.

The following article has been commissioned, briefed and fully funded by RB.

Headaches in children: an unmet need

Pharmacist Christine Glover† discusses the need for greater awareness and better management of paediatric headache in community pharmacy

Introduction

Though often thought of in an adult context, headaches are a surprisingly common complaint in childhood, affecting approximately half of children by the age of 7, and three quarters of those aged 15.^{1,2} Indeed, headache is the most common type of pain reported in children over the age of 7.³

Despite this prevalence, specific guidelines for the management of headache in children are lacking: the National Institute for Clinical Excellence guidelines only apply to individuals aged 12 or over,⁴ while the British Association for the Study of Headache (BASH) 2010 guidelines recommend treating children conservatively, but ultimately in the same way as adults, barring restrictions on medications or doses.⁵ The third edition of the International Classification of Headache Disorders gives more child-specific guidance on diagnosis, but little discussion on therapy.⁶

Despite their familiarity with adult headaches, the current situation, coupled with the comparatively greater speed of symptom change in children⁷ can leave pharmacists reluctant to advise parents of children with headache. Consequently they may often recommend the child see a GP for what is usually an easily-managed and short-lived episode; and which may well pass before the child can be assessed. Guidelines that specifically focus on headache in children would be of clear benefit to pharmacists and primary care as a whole.

Following a recent meeting of experts (London, April 2016) who discussed the challenges around paediatric headache, this article aims to provide advice and guidance to pharmacists faced with the condition. It covers the information that is currently available, and highlights the points that would be useful if formal guidelines were to be developed to aid healthcare professionals in the management of headache in children.

Differentiation of headache subtypes

Like adult headaches, the vast majority of paediatric headaches are not indicative of any underlying problem;^{8,9} rather they occur in individuals with a predisposition. They can also be triggered by environmental factors such as stress or dehydration. Paediatric primary headaches fall into the same four categories as adult headaches: tension-type headaches (TTH); migraine; cluster headache (CH), and medication-overuse headache (MOH).^{5,10,11} As with adults, TTH is the most common type of headache in children, followed by migraine, and both may be episodic or chronic.^{12,13} CH is comparatively rare in children⁵ but is considered serious, and if suspected should always be referred to a GP. The data available on the prevalence of paediatric MOH is varied, but the condition may be responsible for a significant proportion of children with chronic headache.^{14,15} While many symptoms are consistent between adult and paediatric patients

with headaches, there are also important differences; of particular note is abdominal migraine, which may affect up to 4% of children.^{16*} The key similarities and differences between these headaches across adults and children are laid out in table 1.

Recognising red flags

Due to the lack of an obvious physical cause, headaches in children can cause parents great concern. It is important to reassure parents that the overwhelming majority of headaches are no cause for alarm and can be easily treated by the pharmacy. However pharmacists must be aware of the “red-flag” symptoms listed in table 2, which can indicate a more serious pathology such as concussion, meningitis or a possible tumour.^{5,17,18} A child exhibiting any of these symptoms should be referred to their GP or in more extreme cases, taken to their local A&E department.

Distinguishing TTH from migraine

Most headaches in children are either TTH or migraine - these are best managed through lifestyle changes to ameliorate symptoms and avoid triggers.⁷ TTH and migraine can also be treated with analgesics such as ibuprofen or paracetamol^{2,9,19}, however, if analgesics prove ineffective parents should always seek input from their GP or the NHS. Once the red flags for serious illness and injury, CH or MOH have been discounted, parents may gain further reassurance by categorisation of the headache into TTH or migraine. The questions laid out in figure 1 will aid differentiation between the two.

1. Does the child experience any sensory symptoms prior to, or at the start of the headache? ^{2,5,12} e.g. changes to vision, a strange taste or smell, dizziness, or feeling physically weaker than usual	Y / N
2. Is the headache very intense? ^{2,5} i.e. the child cannot be distracted by games or television	Y / N
3. Does the child experience any nausea or stomach problems along with their headache? ^{2,5,12}	Y / N
4. Does the child seem more sensitive to light or noise than usual? ^{2,5,12}	Y / N

If the answer to any of these are “yes,” headache is probable migraine. If not, tension-type headache is more likely, especially if headache is not recurring.

Figure 1: Questions for differentiation of paediatric tension-type headache and migraine

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Headache type	Similarities with adult patients	Differences in paediatric patients	Recommended approach unless red flags are present (see overleaf)
<i>Tension-type headache</i>	<ul style="list-style-type: none"> • Most common type of headache^{12,13,20} • Mild to moderate bilateral pain or “tightness”⁵ • Usually short, no more than a few hours.⁵ 	<ul style="list-style-type: none"> • Visual disturbances or nausea are rare, but marginally more common in children than in adults⁵ 	Treat in-pharmacy with analgesics and lifestyle advice. Advise parents to seek medical advice if the headache starts to recur more than once a week, becomes more severe, or if additional symptoms appear ^{20,21,22}
<i>Migraine</i>	<ul style="list-style-type: none"> • Recurring, tend to be more disabling than tension-type headache⁵ • Symptoms tend to last longer⁵ • Usually moderate to severe pain⁴ • Nausea or vomiting is more common in migraine than in tension-type headache⁵ • Patients are more likely to be photophobic or phonophobic⁵ 	<ul style="list-style-type: none"> • Hard to distinguish from tension-type headache¹⁰ • More often bilateral^{1,17} • May be shorter than adult migraine,^{1,2} and may lack the “pulsating” aspect²⁰ • Lower incidence of ‘aura’^{23,24} • Abdominal migraine more common than in adults;^{6,16} may or may not include head pain^{6,23} 	Treat in-pharmacy with analgesics and lifestyle advice. Advise parents to seek medical advice if the headache starts to recur more than once a week, becomes more severe, or if additional symptoms appear ^{20,21,22}
<i>Cluster headache</i>	<ul style="list-style-type: none"> • Intense and disabling regular headache, involving one or both eyes,^{5,6} lasting up to 3 hours²⁵ • Attacks clusters over weeks/months, separated by remission periods of months/years²⁵ • Usually associated with facial symptoms on the same side as the pain^{4,25,26} 	<ul style="list-style-type: none"> • Rare in children^{5,26} • Pain may be bilateral²⁵ • In children, symptoms such as thrashing around, and behavioural and emotional symptoms are common but not absolutely diagnostic for cluster headache²⁵ 	If suspected, do not treat. Refer to GP
<i>Medication overuse headache</i>	<ul style="list-style-type: none"> • Caused by overuse of analgesics for pre-existing recurrent headaches^{5,27} • Symptoms are highly variable, but headache usually strongest upon waking⁵ • Recognised from patient history rather than specific symptoms 	<ul style="list-style-type: none"> • Less well studied in children^{14,15,2} 	If suspected, do not treat. Refer to GP and advise parent to withdraw analgesics immediately ⁴

Table 1: Features of major primary headaches and differences between adult and paediatric patients.

Treatment of paediatric headache

Parents or carers should be advised of relief techniques and analgesic options, taking into account the child’s age, abilities and lifestyle. Intermittent oral analgesics such as ibuprofen or paracetamol are well tolerated in children, and a suitable first line treatment for both TTH and migraine;^{4,19,28,29} however BASH recommends ibuprofen over paracetamol,⁵ and ibuprofen has demonstrated superior efficacy for treatment of childhood pain,³⁰ paediatric migraine³¹ and adult TTH.³²

Asthma is not a contraindication for use of ibuprofen, but the NHS recommends that individuals with asthma use it with caution.³³ Aspirin is not recommended without prescription in children under 16 (due to risk of Reye’s Syndrome),³⁴ and codeine is not recommended for children under the age of 12.³⁵ In some cases where a child suffers migraine with nausea, a GP referral may be helpful to discuss the use of anti-emetics.²⁸

Depending on the age of the child, their lifestyle and physical ability, parents may find different analgesic formulations optimal. For example, liquids are ideally suited for very young children, but can be awkward as children grow and spend more time away from the home. Chewable capsules are suitable for pre-adolescent children and do not require administration with food or water. As children move into adolescence, they may be happy to take tablets and capsules, which they will then be able to swallow whole.

For effective relief, headaches should be treated with the recommended, age-appropriate dose of analgesic as soon as symptoms appear,^{5,7,19} and subsequent doses taken on time when required. Parents should always check the dosing recommendations for the specific product being used, and they should be encouraged to communicate any changes in their child’s symptoms to their pharmacist.

Lifestyle advice for children with paediatric headache

Acute self-help techniques

When suffering from a headache, children may find relief using the same techniques adults find useful: ensuring that the child is adequately hydrated and not suffering from low blood sugar; helping them avoid noise and light by allowing them to rest in a cool darkened room; helping them relax, breathe deeply and when appropriate, engage in stress management techniques.⁷ Sleep often speeds up recovery and in some cases, children may benefit from placing a cool, moist cloth on their forehead.⁷ These techniques can all be applied on their own or in conjunction with medication.

Prophylactic lifestyle advice

In many cases children can find relief from recurring headaches through lifestyle changes. As well as dehydration and low blood sugar, poor sleep, and/or excessive caffeine exposure are frequently associated with headache.^{7,28,36} Parents should ensure their children are getting the recommended amounts of water, calories and sleep for their age brackets, and to steer them away from sources of caffeine such as coffee, tea, cola, energy drinks or chocolate.

Some children may have specific dietary triggers for their headaches; examples include dairy, nuts, pickles, processed foods and additives such as aspartame³⁷ or monosodium glutamate (MSG).^{28,38} MSG in particular is a common trigger for headaches, and is frequently found in processed, canned and fast foods, especially snacks, sauces, broths and dressings.^{38,39} Stress and anxiety also have well-documented links with headaches in children and adolescents,⁴⁰ and extensive use of digital displays has become a common trigger for childhood



Red flag symptoms	
<i>Headache type</i>	<ul style="list-style-type: none"> • New or unexpected type of headache,⁵ or change in regular headache characteristics,⁴ especially in children under 10⁵ • Intense, sudden onset “thunderclap” headache or “worst ever headache”.^{4,5} These potentially indicate a brain haemorrhage, stroke or cardiovascular event⁴¹ • Prolonged (>1hr) or unusual (e.g. motor weakness) aura⁵ • A progressive headache that gets worse over weeks or longer⁵ • Recurring headaches (over a four-week period, particularly on waking)⁵ • Headaches that wake the child up⁹
<i>Headache with neurological or sensory symptoms</i>	<ul style="list-style-type: none"> • Headache accompanied by confusion or delirium, loss of memory, impaired consciousness, physical weakness, loss of sensation, abnormal eye movements, loss of vision, loss of balance or coordination, fits or seizures, or changes in personality.^{4,6,9,17} These may be indicative of concussion/trauma or a central nervous system mass • Headache accompanied by extreme drowsiness or difficulty waking.¹⁸ This is suggestive of concussion, meningitis or septicaemia • Headache with painful red-eye, or with blurred, double or misty vision.^{4,5} This may indicate acute narrow angle glaucoma • Headache with jaw pain plus visual disturbances.^{4,5} This may indicate giant cell arteritis • Headaches accompanied by crying, thrashing about, or banging their head which may indicate cluster headache^{5,25}
<i>Headache with physical, immunological or gastric symptoms</i>	<ul style="list-style-type: none"> • A worsening headache with fever, neck stiffness, or accompanied by a rash (anywhere on the body).^{4,5,9,18} These symptoms may indicate meningitis or septicaemia • Persistent morning headache with nausea⁵ • Headache accompanied by vomiting with no obvious cause⁴ • Headache associated with postural change^{4,5} • Headaches with abnormal head position¹⁷ • Headaches triggered by coughing, sneezing, exercising or breathing with the nose and mouth blocked⁴ • Headaches with tears, eye reddening or pain, facial sweating, pupil constriction, nasal mucous or eyelid droop. These may indicate cluster headache.^{4,25}
<i>Headache with medical history</i>	<ul style="list-style-type: none"> • Headaches following physical (especially head) trauma in the last three months⁴ • Headaches where the child has recently been taking regular analgesic medication⁵ • Headaches that fail to respond to paracetamol or ibuprofen⁵ • Headache following first use of a medication, especially with aura^{5,42} • Headaches that occur several times a week, or which appear in clusters^{5,25} • Headaches in a child who is immunocompromised, or who has a history of cancer or hydrocephaly^{4,5,43}

Table 2: “Red flag” headache symptoms that may warn of a more serious underlying cause. If you identify a red flag symptom, advise the parent to make an immediate appointment with their GP or, in more extreme cases, to take the child immediately to the nearest A&E Department.

headache.⁴⁴ Exercise can be an indirect trigger for headache (due to effects on blood pressure and dehydration)⁷, but lack of appropriate exercise can also have a negative impact on mental health and sleep.⁴⁵

Identifying triggers is often a challenging process and many children benefit from the use of a headache diary in which they can document the frequency, time of day and intensity of their headaches.^{2,4} (e.g. from Migraine Action: <http://www.migraine.org.uk>) Where dietary triggers are being considered, coupling this with a food diary may be beneficial. Similarly a reflective journal may help children identify and better process emotional stress as a trigger for their headaches.

Role of pharmacy in the management of childhood headache

In most children headaches are short-lasting, unpredictable and not of any clinical concern.^{8,9} Pharmacists are ideally placed as a point of first contact for minor childhood ailments such as headache; they are already providing valuable support for parents,⁴⁶ and their expertise is recognised by patients and the NHS alike.⁴⁷ As the role for pharmacists as a point of contact for primary care looks certain to expand in coming years,^{48,49} they will be required to give greater guidance to parents and carers on common ailments which affect their children.

In order to achieve this shift, pharmacists, GPs and other healthcare professionals must work collaboratively. This can best be achieved through providing pharmacy with practical guidance on effectively recognising and managing headache in children, with direction on when to refer on to GPs and other healthcare professionals. Furthermore, as assessing headache in a child can be challenging, partly because of communication barriers, it would also be valuable to provide pharmacy with support on how to engage and have effective conversations with parents and paediatric patients.

Conclusions

Although there are no specific guidelines for pharmacists to follow when presented with a child suffering from headache, there is a wealth of consistent material available from a number of sources. This article seeks to collate them into a single document which pharmacists can use to support their practice, and to make decisions that better serve the needs of their patients.

Through improved knowledge, pharmacists will find it easier to ask the right questions about the child’s symptoms, educate and reassure parents and children about triggers and the proper use of headache diaries, and recommend treatment with age-appropriate formulations. It is hoped that this guidance will give pharmacists the confidence and tools to assess and better manage paediatric headache in their local community.

Key points

- Headache is a poorly recognised condition in children under 12. Guidelines are lacking that support healthcare professionals to advise parents of children with headache.
- Though often similar, headaches in children can feature symptoms less commonly seen in adults, and some types of adult headaches are less common in children
- As with adults, most childhood headaches do not indicate any serious underlying condition, and can be treated with rest, hydration and other physical management techniques, as well as ibuprofen or paracetamol
- Identifying and avoiding headache triggers can reduce the frequency of headaches
- Pharmacy has an important role to play in reducing the burden of childhood headache on the NHS



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