

# New best practice guidelines for tackling head lice

## CHECK ▶ TREAT ▶ COMPLETE



A 30 minute  
training refresher  
for all members  
of the pharmacy  
team

An evidence based pharmacy training module to help ensure you are up-to-date with the latest advice and national guidelines on head lice management.

This training programme has been developed in partnership with the UK's leading head lice experts and senior representatives from the pharmacy community.

Medical Entomology Centre

**Hedrin**

Royal  
Pharmaceutical  
Society  
of Great Britain

# Tackling head lice

*“Head lice can be the cause of a great deal of frustration, upset and embarrassment for some parents and the pharmacy is often their first point of call for advice. The goal of this training module is simple; to give you all the information you need to know about head lice in a succinct, simple and memorable format. The training is based on the ‘Stafford Report’ (2008 update), by the Public Health Medicine Environmental Group, which draws on evidence based guidelines.”*

**Ian Burgess, Director of the Medical Entomology Centre and advisor to the authors of the Stafford Report**

*“We are the part of the pharmacy community that is on the treatment ‘front-line’. As such, we have an extremely important role to play in ensuring the correct advice reaches parents at the time when they need it most. So it is important that we are up to date with current evidence and best practice when we give advice and make recommendations.”*

**Graham Phillips, Manor Pharmacy Group Community Pharmacist**

## A memorable message for parents

A round-table event was held with representatives from the pharmacy community and leading head lice experts to reach a consensus on the cornerstones of effective head lice management. A simple and memorable

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slogan was devised to help parents manage this condition, so the training has been split into these clear sections to help you.

The term ‘infection’ is used throughout in order to be consistent with the view that the term ‘infestation’ has stigmatic overtones and should be avoided.



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**CHECK – This section tells you all there is to know about head lice and their impact, as well as explaining the important role of parents in managing this condition, including how and when they should be checking**

## A heads up on head lice – what are parents checking for?

- Head lice (*Pediculus capitis*) are small, six legged wingless insects
- They live on, or very close to, the scalp and don't wander far along the hair shaft unless stimulated to move to a new head
- A head louse's mouth is like a very small needle, feeding from blood on the head
- They spread through moderately prolonged head-to-head contact
- They have a maximum lifespan of a month
- They range from the size of a full stop to that of a sesame seed depending on their age – adult lice are just 3 to 4 millimetres long
- At about 10 days old a female louse will start to lay eggs after being fertilised by a male louse – she will deposit between 50 and 150 eggs during her lifetime
- It is important to note that nits are not the same thing as lice
  - Lice are the insects that move around the head. When it first hatches, a young louse (known as a nymph) is transparent but after its first blood meal, it will darken to a greyish brown colour
  - Louse eggs are translucent which makes them hard to spot – they will be close to the scalp, difficult to see and even harder to remove with a comb
  - Nits are the empty eggshells which remain glued to the hair shafts after the nymphs have emerged

## The impact of head lice

- Anyone can get head lice, although they are most common amongst children aged 4 to 11 due to the greater levels of physical contact with peers
- Approximately one in ten children in the UK – around one million – may have head lice at any one time<sup>1</sup>
- The best known symptom of head lice is the itching, which can lead to a loss of concentration and sleep, but this is not necessarily a reliable indicator as many people may not itch when they have head lice
- Not treating them can lead to a loss of self esteem and confidence, and a general feeling of being unwell
- Parents should be advised to try not to make too much of head lice – they are unpleasant but they rarely do any serious harm
- Unsupported, the problem can cause parents and children a great deal of unwarranted anxiety and distress

### Actual size of head lice in stages of growth.



They range in size from a full stop to a sesame seed depending on their age.

## The role of the parent in the battle against head lice

- Primary responsibility for head lice identification, treatment and prevention lies firmly with parents
- A vivid school memory for many people, the 'nit nurse' was phased out in the early 1980s because they were costly, intrusive, embarrassing and ultimately ineffective as a measure to tackle head lice
- Head lice are an established part of school life - as children spend so much time playing and learning together, it is an ideal opportunity for lice to spread - but it is not the school's responsibility to deal with the problem

## How to check for head lice

- A diagnosis of head lice infection cannot be made with certainty unless a living, moving louse is found – no matter how many nits are present, how many reported cases there are in school or how bad the itch is
- If somebody has nits it doesn't necessarily mean they have head lice – when you have got rid of all the lice, the nits will remain stuck to the hair until they grow out or they are combed out



The nit nurse was phased out because they were costly, intrusive, embarrassing and ultimately ineffective as a measure to tackle head lice

Good lighting when checking for head lice is important



- Parents should check their children's hair regularly, ideally once a week – a good way for parents to remember this is ONCE A WEEK, TAKE A PEEK
- Remember, the presence of head lice will not always cause people to itch straight away, it can take over a month before this symptom develops
- It is best to check for head lice using a comb made for the purpose, ideally white so they can be easily seen and with teeth no more than 0.3mm apart in order to trap head lice – research has found detection combing was nearly four times more effective than visual inspection for finding live lice<sup>2</sup>
- Combing through the hair when wet, or after applying a conditioner, may make the process more comfortable
- Good lighting is important and so is comfort
- Checking for head lice shouldn't be considered a big deal, it is just a normal part of a family's personal hygiene routine like brushing teeth or washing hair

To see a video with step-by-step instructions on how to check for head lice visit:  
[www.onceaweektakeapeek.com/Peek.aspx](http://www.onceaweektakeapeek.com/Peek.aspx)

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**TREAT** – This section provides you with information on the different treatment options available, as well as advice on effective application of treatments

## Treatment options for head lice

There are FOUR principle types of head lice treatment:

- Pesticide treatments
- Non-pesticide treatments
- Wet combing with conditioner
- Alternative treatments

The following information is extracted and adapted from the Stafford Report.

## Resistance to pesticide agents

There is now strong evidence that the head lice population already has, and continues to, develop resistance to a number of chemical agents, particularly permethrin<sup>3</sup>. In part, this is a result of inappropriate and overuse of these agents over a long period.

## Effective treatment

When advising a parent or carer on which treatment is best for their child, the following points should be taken into consideration:

- The customer's recent use of chemical treatments and the issue of resistance with (pesticide) products
- Any contraindications including asthma, skin conditions and allergies
- The age of the child concerned as treatments are not licensed for those under 6 months



## PESTICIDE TREATMENTS

The pesticide treatments available, malathion and permethrin, work by poisoning the lice. There is evidence that levels of resistance to these treatments are rising<sup>4</sup>.

### Malathion

- Products containing malathion have been used for a number of years and it has a favourable safety record
- However, there is evidence that levels of resistance to this agent are high
- One recent UK study found that malathion eradicated lice in only 33% of those treated with it<sup>5</sup>

### Permethrin

- Past evidence demonstrates eradication rates of between 19% and 67%<sup>6</sup>
- However, there is evidence that levels of resistance to this agent are high
- The preparation currently available is not recommended by the British National Formulary for the treatment of head lice<sup>7</sup>

## NON PESTICIDE TREATMENTS

Non-pesticide lotions work in a different way from conventional pesticide treatments. By coating the outside of the lice, they disrupt their ability to manage water causing them to die. This physical mode of action means there is theoretically no chance for the lice to build up a resistance. There are two main active ingredient options currently in use, dimeticone and isopropyl myristate. Based on clinical evidence, dimeticone is considered the most effective treatment of this nature and, in a recent study, was shown to be significantly more effective at eradicating lice than the pesticide alternative, malathion.

### Dimeticone

- The current evidence suggests that dimeticone is an effective agent, with lice eradication rates of 97% in a recent study<sup>8</sup>
- Dimeticone provides a promising treatment option as its mode of action is one that is likely to avoid resistance issues
- An overview published in the Drug and Therapeutics Bulletin concluded that on current evidence dimeticone should be seen as a useful alternative to products containing conventional pesticides<sup>9</sup>
- Particularly in areas where resistance appears to be an issue, dimeticone would appear to be the most favourable chemical treatment option

*"Based on the evidence currently available, I would recommend dimeticone as a first choice treatment option for head lice."*

**Ian Burgess, Director of the Medical Entomology Centre and advisor to the authors of the Stafford Report**

## Use your head with Hedrin

- Hedrin Once Liquid Gel contains dimeticone and has a physical rather than chemical mode of action and so resistance is extremely unlikely to develop
- It kills lice effectively, without the need for pesticides, by smothering the insects and disrupting their ability to manage water
- It is a pesticide-free formula and, as such, is 'kind' to the hair and scalp
- **New clinical trial data shows that Hedrin Once Liquid Gel kills 100% of lice and eggs with just one 15 minute treatment**

For further information visit [www.hedrin.co.uk](http://www.hedrin.co.uk)



## WET COMBING WITH CONDITIONER

Some parents prefer to avoid any chemical treatments. In these instances, parents may wish to use a non-chemical approach, the most established of which is wet combing with conditioner. A number of devices are also available for use on dry hair only, which claim to electronically aid the removal of lice but evidence of effectiveness of these devices is generally absent and they may even present a safety risk<sup>10</sup>.

### BugBusting® method

- There is evidence of limited effectiveness if the BugBusting regime is well adhered to, with eradication rates of between 38% and 57% reported<sup>11</sup>
- It is labour intensive and requires a high level of commitment on behalf of the parent or carer and co-operation from the child
- It is recommended that, where parents wish to use this technique, the correct equipment, particularly the fine-tooth BugBusting comb, is used

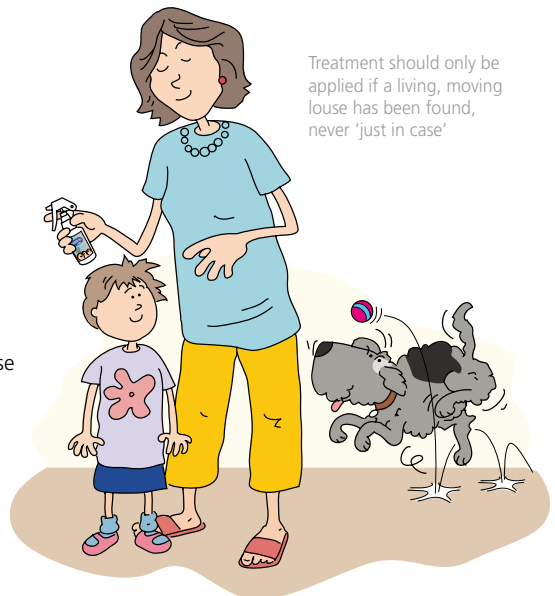
## ALTERNATIVE REMEDIES

Parental concerns over the use of chemical preparations to treat head lice are common and a number of products based on alternative approaches are currently on the market. Unfortunately many of the alternative products available lack an evidence base or product license on which to assess effectiveness. In addition, the safety of some alternative methods is unknown and there is the risk that safety problems could arise.

On the basis of the evidence available at the time of publication, two current treatments were recommended by the Stafford Report; dimeticone and malathion.

## APPLICATION OF THE TREATMENT

- Treatment should only be applied if a living, moving louse has been found – never ‘just in case’
- Follow the manufacturer’s instructions and ensure the treatment is left on for the recommended time
- When applying treatment, cover the full length of the hair if specified in the treatment instructions
- Keep the lotion out of the eyes and off the face – don’t use a hair dryer and keep away from flames, stoves, cigarettes and other sources of heat



Treatment should only be applied if a living, moving louse has been found, never ‘just in case’

# CHECK ▶ TREAT ▶ COMPLETE

**COMPLETE** – This section highlights the importance of repeating the head lice checking process once treatment has been applied, as well as what can be done if the problem won't go away

Most treatments require them to be repeated seven days after the first application to kill any nymphs which have hatched since the first treatment was applied. The checking process should be repeated a couple of days after treatment to ensure that all the head lice have been killed.

## Treatment failure or re-infection?

If the problem won't go away, the following points should be kept in mind to avoid inappropriate use of head lice treatments, particularly when considering a possible treatment failure:

- Was there in fact a true infection before application?
- Is there in fact a current active infection now?
- Has a second application been used (if specified in the pack instructions)? Are the detected lice simply those that have hatched after a first application? If this is the case any lice found should be young nymphs less than 3 millimetres long
- Did the first head lice treatment fail? If it did then why? Possible reasons might include not using enough lotion, not applying it properly or problems with resistance if it was a pesticide treatment
- Is it more likely that the first infection was cleared but re-infection has occurred? Any lice found are likely to be young adults, approximately 3 to 4 millimetres in size

It is also worth noting that some parents will seek treatment for perceived cases of head lice infection, which are not actually current infections but due to factors such as:

- Itching scalp due to other skin problems such as eczema or impetigo
- Other conditions, such as dandruff, mistaken for head lice
- Psychogenic itch on hearing of other cases in the school
- Treated infection but with nits still being found
- Treated infection but with itch persisting

**It is important to remind parents that care must be taken to accurately identify live lice and that treatments should only be used when this is definitely the case.**



The checking process should be repeated a couple of days after treatment to check that all the head lice have been killed, and then again on a regular basis

# Summary reminder

## Advice for parents and carers

### CHECK

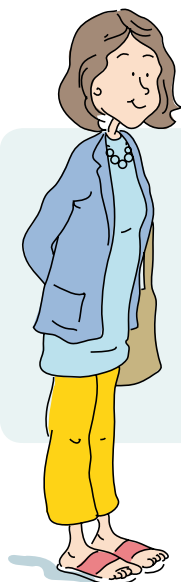
- Your child's hair once a week
- Use a proper detection comb - with teeth no more than 0.3mm apart to trap head lice and white in colour so they can easily be seen
- If you find live lice, consult a pharmacist for treatment advice
- If head lice are spotted, take a close look at all the family, including yourself, and ask close family and friends to check as well

### TREAT

- Only treat if live lice are identified
- Use a clinically proven treatment, ideally with a physical mode of action to which lice are very unlikely to build up resistance (such as dimeticone)
- Leave the treatment on for the recommended time for maximum effect – leaving it on for longer will not make it more effective

### COMPLETE

- Check that all head lice have gone within 2-3 days of the final application to complete the treatment
- If the pack instructions specify that a second application is required, repeat the treatment for a second time seven days after the first to kill any lice that may hatch from eggs during that time
- Continue to check for head lice on a regular, weekly basis



**CHECK ▶ TREAT ▶ COMPLETE**

To help reduce embarrassment, reassure the customer that head lice are a common problem experienced by many children – there's no need to resort to a disguise!



### Head lice advice for customers

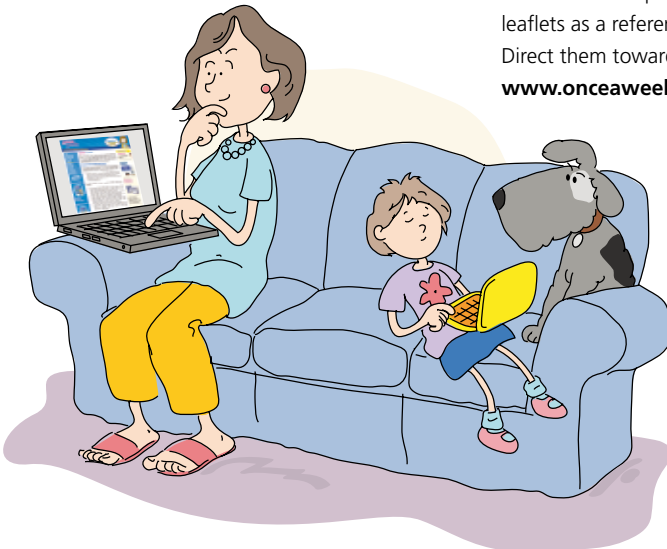
Some customers may be embarrassed when asking for advice about head lice. You should reassure the customer that head lice are a common problem and many children and their families experience them at some point during their childhood.

### Where to direct a parent or carer who wants further information

Developed in partnership with Hedrin and supported by the School and Public Health Nurses Association and the Medical Entomology Centre, the ONCE A WEEK, TAKE A PEEK campaign is a useful source of additional information for parents, offering free advice leaflets as a reference tool.

Direct them towards the following website:

**[www.onceaweektakeapeek.com](http://www.onceaweektakeapeek.com)**



The Once a Week, Take a Peek website ([www.onceaweektakeapeek.com](http://www.onceaweektakeapeek.com)) is a useful reference tool for parents

# Fact or fiction

There are many myths surrounding head lice that still exist, see below some of the more common misconceptions and the reality.

Myth	Fact
<i>“Head lice can jump from one head to another”</i>	Head lice can only be passed by direct head-to-head contact – they cannot jump, fly, hop or swim
<i>“Head lice can be caught by sharing things like hairbrushes, towels or bedding”</i>	Head lice only survive on heads, dying quickly away from their food source. Adults and nymphs can only survive for 8-24 hours without feeding or they become too dehydrated to survive. They can only be caught from human contact
<i>“Head lice prefer clean hair”</i>	Having head lice has nothing to do with personal hygiene, head lice can live on all types of hair and no preference exists between clean or dirty hair
<i>“Shaving a child’s head is the best way to get rid of head lice”</i>	Lice like to live close to the scalp and can survive on hair as short as 2mm long, so cutting hair short won’t necessarily help and can be very traumatic for the child
<i>“Animals can carry and pass on head lice”</i>	Head lice can only live on human beings, people can’t catch them from animals
<i>“Head lice are only caught from other children at school”</i>	A lot of head lice infections are caught from family and friends in the home and local community, not just at school - parents typically start to worry about lice when children go back to school so they are more likely to identify an infection and presume the lice were caught there
<i>“The return of the nit nurse would solve the problem”</i>	Routine head inspections are without value as a screening measure and should not be re-introduced – to check accurately the scale of the task is unfeasible

Cutting a child's hair short won't necessarily help and can be very traumatic for them



# Scenario case studies

## Advising different types of customer

### Scenario 1

A parent is annoyed that their children have experienced several outbreaks of head lice, blaming ineffective treatments for the reoccurrence of head lice

#### Points to discuss

- Which type of treatment has the parent used and when?
- Has the treatment been applied correctly?
- If a pesticide treatment was used, discuss resistance and recommend changing to a different type of treatment, such as dimeticone
- Has treatment been re-applied after seven days if the pack instructions require this?
- Have live lice actually been seen, or are they just seeing empty egg shells (nits) which require combing out?

### Scenario 2

A parent says there has been an outbreak of head lice at their local school and so they need a quick and easy treatment to treat their child in case they have an infection

#### Points to discuss

- Has the parent definitely found live lice on their child's head?
- Does the parent know how to check effectively for head lice?
- Is the parent aware that they should be checking regularly, ideally once a week, for head lice?

- Has the child had head lice before? If so, which treatment was used and did it work? Treatment instructions should be followed carefully. Indicate that there is resistance to pesticide treatments if this form of treatment was used
- If live head lice are found then what would be the recommended treatment option?

### Scenario 3

A parent has noticed their child scratching their head and so thinks they must have head lice, despite them having been treated several times recently

#### Points to discuss

- Is the child's scratching actually caused by live lice? If not, stop using head lice treatment as it is possible the child may have dermatitis of the scalp and would need appropriate treatment
- Does the parent know how to check effectively for head lice?
- Is there a current active head lice infection now?
- Does the parent know that live lice must be found before using a head lice treatment?
- What sort of treatment has the parent been using? Treatment instructions should be followed carefully. Indicate that there is resistance to pesticide treatments if this form of treatment was used

# Put your knowledge to the test

It's time to test how much you've learnt by giving our True or False quiz a try!

Answers at the bottom of the page



Check	True	False
1. Primary responsibility for head lice identification lies with schools	<input type="checkbox"/>	<input type="checkbox"/>
2. Parents should aim to check their children for head lice once a week	<input type="checkbox"/>	<input type="checkbox"/>
3. Head lice can jump or fly between heads that are close together	<input type="checkbox"/>	<input type="checkbox"/>
4. Adult lice are just 3 to 4 millimetres long	<input type="checkbox"/>	<input type="checkbox"/>
5. Detection combing is more effective than visual inspection for finding live lice	<input type="checkbox"/>	<input type="checkbox"/>

Treat	True	False
6. Treatment should only be used if live lice are found	<input type="checkbox"/>	<input type="checkbox"/>
7. Head lice cannot develop a resistance to pesticide chemical treatments such as malathion	<input type="checkbox"/>	<input type="checkbox"/>
8. Some treatments require a repeat application after seven days to kill any young lice which have hatched from eggs undamaged by the first treatment	<input type="checkbox"/>	<input type="checkbox"/>

Complete	True	False
9. The checking process should be repeated a couple of days after treatment to ensure that all the head lice have been killed	<input type="checkbox"/>	<input type="checkbox"/>
10. Regular weekly checking is not required for three months after you have successfully managed to treat head lice	<input type="checkbox"/>	<input type="checkbox"/>

Q1: False, Q2: True, Q3: False, Q4: True, Q5: True, Q6: True, Q7: False, Q8: True, Q9: True, Q10: False

## Record your learning

Once you have read through the training and completed the test on page 15, you can feel confident that you are providing the best possible advice for this common condition.

For pharmacists and pharmacy technicians, by reflecting on your learning and putting your knowledge into practice you should have the evidence required to make a CPD entry.

This will contribute towards the minimum of nine CPD entries per year, which reflect the context and scope of your job role. Use the questions below to help you reflect on what you have learnt and how it might affect your everyday work. Remember to record your learnings on the RPSGB website if you are registered ([www.uptodate.org.uk](http://www.uptodate.org.uk)). Otherwise, it is good practice to record it in your ongoing learning and development folder.

- What did I learn that was new?
- How have I put this into practice? Provide examples of how learning has been applied.
- Do I need to learn anything else in this area?



## Apply for certification

To receive a certificate to confirm that you have completed the training and to request a 'head lice expert here' counter top card, simply visit [www.CheckTreatComplete.co.uk](http://www.CheckTreatComplete.co.uk). Alternatively, send the following information via fax (01484 847301) or post to:

Check Treat Complete, Thornton & Ross Ltd,  
Linthwaite, Huddersfield, HD7 5QH:

- Your name
- Your pharmacy name and address
- Your job title
- Your email address
- Written confirmation that you have completed and understood the training

## References

<sup>1</sup> Welsh PHLS (Wales) 2002 10% – Downs et al. 1999 (UK) up to 19% – Burgess and Brown 1996 (Cambridge, UK) 0.6%-15%

<sup>2</sup> Balcioglu C, Burgess IF, Limoncu ME, Sahin MT, Ozbek Y, Bilac C et al. Plastic detection comb better than visual inspection for diagnosis of head louse infection. *Epidemiology and Infection* 2008

<sup>3</sup> Downs AM. Managing Head Lice in an Era of Increasing Resistance to Insecticides. *AM J Clin Dermatol* 2004; 5 (3): 169-77

<sup>4</sup> As above

<sup>5</sup> Burgess IF, Lee PN, Matlock G. Randomised, Controlled, Assessor Blind Trial Comparing 4% dimeticone lotion with malathion liquid for Head Louse Infestation. *PLoS ONE* 2007; 2

<sup>6</sup> Burgess IF, Brunton, ER & Burgess N. Clinical trial showing superiority of a coconut and anise spray over permethrin 0.43% lotion for head louse infestation, *European Journal of Pediatrics* (Vol 169) 55-62 2009

<sup>7</sup> British Medical Association and the Royal Pharmaceutical Society of Great Britain. *British National Formulary* 59. March 2010

<sup>8</sup> Kurt O, Balcioglu IC, Burgess IF, Limoncu ME, Girginkardesler N, Tabak T, Muslu H, Ermis O, Sahin MT, Bilac C, Kavur H, Ozbek Y. Treatment of head lice with dimeticone 4% lotion: comparison of two formulations in a randomised controlled trial in rural Turkey. *BMC Public Health* 2009; 9: 441

<sup>9</sup> Does dimeticone clear head lice? *Drug and Therapeutics Bulletin* 2007; 45: 52-5

<sup>10</sup> Stafford Report 2008, Public Health Medicine Environmental Group; 16

<sup>11</sup> Plastow L, Luthra M, Powell R, Wright J, Russell D, Marshall MN et al. Head lice infestation: bug busting vs. traditional treatment. *Journal of Clinical Nursing* 2001; 10: 775-83 and N Hill, G Moor, M M Cameron, A Butlin, S Preston, M S Williamson, and C Bass. Single blind, randomised, comparative study of the Bug Buster kit and over the counter pediculicide treatments against head lice in the United Kingdom. *BMJ* Aug 2005; 331: 384 – 387