Selected extracts from HSE Guidelines for the control of Head Lice infection in children

About Head Lice

(i) Head lice (pediculosis capitis) is an infectious disease, but as highlighted in the Stafford Update (2012) it is more a societal than an infectious disease problem.

(ii) The type of louse which affects the head is particularly common and anyone can catch them. They only live on humans; you cannot catch them from animals.

(iii) Head lice are small insects (about 1-3mm long, from the size of a sesame seed up to the size of a match head) with moving legs. They cannot jump, swim or fly and their presence does not reflect standards of hygiene.

(iv) The female lice lay eggs which glue to the hair shafts. The empty cases (nits) that are left when the eggs have hatched are easily visible. A nit remains on the hair shaft until the hair grows out and is cut, or falls out (which may take up to 2 years).

(v) Lice spread by direct head-to-head contact, walking along the hair from one head to another. Head lice tend to be more common in children as their play activities facilitate this type of contact.

(vi) Lice can also be passed indirectly by use of someone else's hairbrush or comb. Lice that fall from the head or amble onto bedding or hats are usually dying and harmless. Lice caught on combs can re-establish if they are combed back on again within 48 hours. Lice cannot live far away from a human; most die within 3 days.

(vii) Studies suggest that infections occur most often in primary school aged children although there is no evidence of a link with school attendance. The peak age for infection is 7-8 years.

(viii) The life cycle from egg (nit) to adult louse takes 21-27 days on the human host. Each female deposits 50-150 nits during her lifetime (Appendix I).

(ix) Head lice are not a serious problem; they rarely cause physical symptoms other than itching of the scalp. Skin on the scalp may become infected from scratching.

(x) Itching and scratching are usually the first signs of head lice; these are due to an allergic reaction and may take four to eight weeks to develop. Therefore, a person may have head lice for up to eight weeks before they notice any itching

(xi) In relation to management of head lice, regular wet-combing of the hair (once a week) with a fine-toothed comb by a parent should be encouraged at all times. The presence of nits is not an indication for treatment; treatment is only required if a living, moving louse is seen. Exclusion from pre-school or school is unnecessary

Prevention of head lice infection:

The following measures can help to reduce head lice infection in children and parents should be advised to undertake them:

(i) Wet comb children's hair once a week, using a detection comb. This will help to identify a head lice infection at the earliest possible stage and reduce the number of people in the family, or who are close to the child, who will get infected

(ii) Also, wet comb children's hair, if prolonged (>1 minute), close (head to head) contact with an infected person has occurred (e.g. 'alert' letter home from school/childcare service), or when members of a household have been named as contacts

(iii) Use an effective detection comb; this should be plastic, with rigid, flat-toothed, plastic teeth, set not more than 0.3mm apart. These are available to purchase in all pharmacies

(iv) Avoid the use of repellent sprays, alternative preventive products or electronic combs, as there is no evidence to support their use

(v) Encourage children not to share hair brushes, combs, hats or hair accessories.

(vi) Do not use treatment products as a preventive measure; they should only be used when infection is present i.e. a living, moving louse is seen. The treatments are safe, but should not be over-used. They can make the scalp flaky and itchy.

How to carry out Detection wet combing

- Buy the detection comb in a pharmacy
- Wash the hair with regular shampoo
- Put on lots of any conditioner – this makes the lice really wet and keeps them still
- Slot the teeth of the comb into the hair at the roots and draw the comb down to the ends of the hair
- Have plenty light; daylight is best
- Check the comb for lice each time
- Continue until you have worked through each section of hair and checked the whole head
- Rinse off the conditioner and repeat the combing while the hair is still wet
- If moving lice are found, check all family

Confirmation of head lice infection:

(i) Wet combing can be used to diagnose current infection

(ii) A diagnosis of head lice should not be confirmed unless you yourself have seen a living, moving louse.

(iii) Recurrent scalp problems may be missed if it is assumed without evidence that head lice are the cause of scalp irritation

(iv) The presence of nits (egg cases) is not an indication of current infection or need for treatment

(v) When a head lice infection is confirmed, parents should be advised to identify close contacts of the child with head lice (anyone living in the home/grandparents/ cousins/ close friends etc) and to inform them to inspect hair, and treat immediately if a living, moving louse is discovered.

Treatment of head lice infection:

(i) Treatment should not be used as a preventive measure and should only be used when an infection is present i.e. a living, moving louse is seen

(ii) The correct use of the recommended treatments is the scientifically confirmed way to treat head louse infection

(iii) Parents should be advised to promptly treat (at the same time) any members of the family (including adults) who are infected (living, moving louse present)

(iv) Parents should be advised to identify any other close contacts of the child (where there would have been head-to-head contact) and inform them to inspect hair, and treat immediately if a living, moving louse is discovered

(v) The course of treatment consists of two applications of one of the recommended preparations (not shampoo or mousse), seven days apart. Check hair 2 days after the repeat treatment

(vi) If infection is still present following the course of treatment, it could be because the child has been re-infected (from a close contact who was not treated), or because the treatment wasn't carried out correctly

(vii) 'Re-infections' and 'treatment failures' may not be true infections – make sure a live louse is found or produced, and assess ways in which the family may not have complied carefully with the above principles for the first treatment

(viii) Children may continue to scratch following treatment; it doesn't mean they still have an infection. Treatments can make the scalp flaky and itch. Also, some people scratch just thinking or talking about lice.

(xi) A second course of treatment should not be started without evidence of current infection

(xii) When a first treatment has definitely failed, it may be useful to try the same agent in a different formulation; as different formulations of the same active ingredient may have different efficacies. All the family should be checked, and only those with lice treated again

(xiii) Parents may suggest that a child has a 'resistant strain'. Current products have a physical, rather than chemical effect on the lice, so the lice do not get 'resistant' to them

(xiv) A third course of treatment should not be started without consulting with GP. Parents should be advised to attend GP if infection is still present. Pediculocides (chemical treatments) may sometimes be prescribed by a GP if he/she feels this is indicated.

Recommendations for Treatment of Head Lice:

(i) Products need to contain sufficient active agent and have sufficient contact time with the child's head to allow the active agent to work

(ii) Dimethicone/ Cyclomethicone /Mineral oil treatments are now considered as first-line treatment. These products have a physical, rather than chemical effect on the lice. They are sold under a few different product names

(iii) Shampoo and mousse formulations are not recommended as they contain low concentrations of the active ingredient, or don't allow for sufficient contact time.

Recommended Products (parents are advised to always have a supply available at home)

Product	Active Ingredient	Application Time	Repeat	Age Restriction
Full Marks Solution	Isopropyl myristate Dimethicone	10 minutes	7 days	2 years of age upwards
Full Marks and spray/ Solution	Isopropyl myristate 50% Cyclomethicone	10 minutes	7 days	2 years of age upwards
Hedrin Once Spray Gel	Simethicone 4%plus Penetrol	15 minutes	7 days	6 months of age upwards

The following treatments are NOT Recommended

1. Mechanical removal of head lice
- Mechanical removal of lice is less effective at treating infection than recommended treatments.

2. Mousses, shampoos or repellents
- Shampoo and mousse formulations are not recommended as they contain low concentrations of the active ingredient, or don't allow for sufficient contact time. Therefore, even if the active agent has the potential to kill lice, it is unlikely to do so.
- Repellents are sold to prevent re-infection; there is no evidence that repellents work.

3. Lyclear Rinse
- This product is not recommended as clinical trial evidence shows that the contact time is too short to be effective.

4. Alternative Products
- A number of products containing essential oils such as tea tree and eucalyptus oil are marketed as 'natural' remedies for head lice. Different products contain different concentrations of the oil.
- For many alternative products, there is a lack of an evidence base on which to assess effectiveness
- The safety of some alternative methods is unknown and therefore there is the risk that safety problems could arise

5. Other devices are available which claim to electronically aid the removal and/or killing of lice.
- These include electronic combs and dry air devices.
- The use of these devices for the treatment of head louse infections is not recommended, as evidence of effectiveness is generally absent and their incorrect use may present a safety risk.