

4 PARASITIC DISEASES

a Pediculosis of the head and hair

The NICD receives frequent enquiries regarding the management of lice infestation, particularly amongst children aged 2-12 years. Lice infestation is caused by the human head louse, *Pediculus capitis*, which is thought to be genetically the same species as *Pediculus humanus*, the body louse, though they have slightly different physical appearances and different egg-laying habits. The adult head louse, which lives for around 30 days, feeds five times daily on blood meals, and lays around 7-10 eggs daily. It injects an anticoagulant and anaesthetic protein as it feeds, and 2-3 weeks after infestation, reaction to these allergens manifests as mild to moderate itchiness of the scalp and hair. *Pediculus capitis* is not known to transmit infections, unlike *Pediculus humanus*, which transmits trench fever (*Bartonella quintana*), relapsing fever (*Borrelia recurrentis*), and epidemic typhus (*Rickettsia prowazekii*).

The diagnosis of infestation is through visual inspection and identification of the characteristic appearance of adults, which are 1-3 mm long, and vary in colour from pale to light brown depending on environmental and host factors. Nits are typically deposited on the shafts of hair, usually around the

ears and nape of the neck. As hair grows, these may become visible.

Treatment is mechanical with manual removal of adults and nits, or shaving of the head, or by application of topical pediculocides. Presently in South Africa, the only permethrin-containing products that are available include Skabi-Rid®, Para Plus Lice Spray®, Para Special Lice Spray® and Spregal®. No shampoo formulations are presently available in South Africa, and only Skabi-Rid® comes as a lotion. Dimethicone oil may be applied, and acts to mechanically smother adults. It is available in a 4% solution as Controlice®. Gamma benzene hexachloride (Lindane®) is no longer available because of concerns over toxicity. International reports document increasing resistance to permethrin amongst head lice. No surveillance studies or data on resistance is available in South Africa. As no method for treatment of lice infestation is 100% effective, manual inspection and removal of nits should be repeated every 1-3 days until 10 days after the last nits were removed.

Source: Centre for Emerging Zoonotic and Parasitic Diseases; Division of Public Health, Surveillance and Response, NICD-NHLS; johnf@nicd.ac.za

Figure 5. The characteristic morphology of the human body / head louse (*Pediculus humanus* / *Pediculus capitis*, Photograph courtesy Mathison B, Pritt B, Laboratory identification of arthropod ectoparasites. Clinical Microbiology Reviews, 2017 (27) 1:48-67

