

What's Eating You? Body Lice (*Pediculus humanus var corporis*)

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A 45-year-old man residing in a group home facility presented with an intensely pruritic rash on his trunk and extremities. The lesions had been present for 2 weeks and other residents exhibited similar symptoms. On physical examination, the patient was noted to have diffuse erythematous maculae, papules, hemorrhagic linear erosions, and honey-colored crusted plaques (Figure 1). Numerous nits, nymphs, and adult insects were observed in the seams of his clothing (Figures 2–4).

Pediculosis corporis (presence of body lice living in the seams of clothing, *Pediculus vestimenti*, *Pediculus humanus var corporis*, vagabond's disease) is caused by the arthropod *Pediculus humanus humanus* (Figure 4). In developed countries, infestation occurs most commonly among homeless individuals in urban areas and has been linked to *Bartonella quintana*-mediated endocarditis.¹ Worldwide, the body louse is a vector for diseases such as relapsing fever due to *Borrelia recurrentis*, trench fever due to *B quintana*, and epidemic typhus caused by *Rickettsia prowazekii*.²

The body louse ranges from 2 to 4 mm in length; is wingless, dorsoventrally flattened, and elongated; and has narrow, sucking mouthparts concealed within the structure of the head, short antennae, and 3 pairs of clawed legs.¹ Female body lice lay 270 to 300 ova in their lifetime, each packaged in a translucent chitinous case called a nit. After the nits incubate for 8 to 10 days, nymphs hatch and mature into adults in approximately 2 weeks. The life cycle then repeats every 3 weeks. The body louse can survive in the seams of clothing without a blood meal for up to 3 days.¹

Clinically, patients present with pruritic, erythematous, and copper-colored maculae; wheals; linear erosions that may be secondarily impetiginized; and lichenification.³ Early infestation may resemble atopic

dermatitis, contact dermatitis, a drug reaction, or a viral exanthema. The diagnosis is made by finding body lice or nits in the seams of clothing, commonly in areas of higher body temperature, such as waistbands.¹

Other lice that infest humans are the head louse (*Pediculus humanus var capitis*) and the pubic louse



Figure 1. Hemorrhagic linear erosions and honey-colored crusted plaques on the extremity.



Figure 2. Body lice in the seam of the pants (A and B).

Accepted for publication January 2, 2007.

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The authors report no conflict of interest.

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Figure 3. Nits, nymphs, and adult insects in the seam of the pants.

(*Pthirus pubis*). Head lice generally affect children aged 5 to 11 years.⁴ The head louse is identical in appearance to the body louse but smaller (usually 1–2 mm in length). Clinically, patients present with intense pruritus of the scalp that is often associated with cervical lymphadenopathy.³ Lice may be present throughout the scalp but are most commonly found in the postauricular and occipital areas. Nits adhere to hairs within 3 to 4 mm of the scalp in order to obtain warmth required for incubation.⁵ Although direct head-to-head contact is the most common mode of transmission, lice also may be transmitted by sharing head gear or hairbrushes.^{1,4}

Pediculosis pubis generally is transmitted by sexual contact, though it may be acquired from contaminated bedding.³ Pubic lice and nits usually can be easily seen attached at acute angles to hairs of the pubic region, legs, abdomen, chest, and axillae, as well as the eyelashes and scalp. Maculae ceruleae may be seen in established infections. Pubic lice are about 0.8 to 1.2 mm in length with 3 pairs of legs—one shortened vestigial pair followed by two clawed pairs. In contrast to the elongated habitus of the body or head louse, the pubic louse is about as wide as it is long, allowing it to grasp widely spaced pubic hairs.¹

Treatment of body lice is primarily environmental, while treatment of head and pubic lice requires both environmental modifications and pediculicides. Environmental eradication of body lice infestations requires that all bedding and clothing that may harbor lice or nits be disposed of or, if this is not a feasible option, laundered and dried for 30 minutes at 65°C (149°F). Pressing fabrics, especially at the seams, with a hot iron also is effective.³ Permethrin spray 0.5% or malathion powder 4.0% can be used to treat clothing and reduce the rate of reinfection. Head lice may be treated by mechanical or chemical removal. Mechanical removal techniques to eradicate lice include shaving of parasitized hair or wet combing, a technique that involves combing of wet hair with a specially designed comb every 3 to 4 days for 2 weeks. Lice are temporarily immobilized when exposed to water and are therefore easier to comb out.^{6,7}



Figure 4. The adult insect responsible for the cutaneous eruption of pediculosis corporis in a patient.

Chemical pediculicides include agents that rely on neurotoxicity to kill lice. In the United States, approved pediculicides for the treatment of head lice are permethrin cream rinse 1%, lindane shampoo 1%, pyrethrin 0.33% synergized with piperonyl butoxide 4% shampoo or mousse, and malathion lotion 0.5%.¹ A recently described nontoxic alternative is the application of a dry-on, suffocation-based, pediculicide lotion; minimal household cleaning measures; and physical removal of nits with wet combing.⁸

Of the 3 varieties of lice infestation, pediculosis corporis typically affects urban homeless individuals and is a major vector of diseases such as relapsing fever, trench fever, and epidemic typhus. An eruption of pruritic papules, wheals, linear erosions, and lichenification in this patient population should warrant careful examination of clothing for diagnostic identification of lice or nits within the seams.

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