

# Human lice and what to do about them

H. W. Homan and M. J. Klowden

**T**hroughout history, infestations of lice have been thought to be associated with unsanitary conditions brought about by poverty, wars, or other social upheavals. However, lice infestations are actually very common in the United States today, even with the relatively good sanitation found in our society. If you or your children discover you have lice, it is not a reflection of your lifestyle or of poor sanitary practices but simply a result of your having come into contact with an infested person. Problems with lice are easy to address because excellent control procedures are available, but first you have to understand how lice live.

Three species of lice commonly occur on humans. The head louse and body louse are closely related. The crab louse differs from the other two species in both appearance and behavior. All three species live only on humans and not on other animals.

Lice have sucking mouthparts and feed by piercing the skin and sucking blood. When lice feed, they inject saliva to keep the blood from clotting. The injected saliva causes an itching sensation.

The body louse transmits several diseases to humans. Fortunately, the body louse is the least common and the diseases it transmits are relatively rare.

## Description and biology

All three species of human lice have similar life histories. They have three distinct life stages: egg or nit (fig. 1), nymph, and adult. The female louse lays as many as 200 sticky eggs on her host. Head and crab lice glue their eggs close to the base of hair shafts, while body lice glue their eggs to clothing.

Nymphs emerge from the eggs about a week after they are laid. Nymphs molt three times, changing into adults in 2 to 3 weeks. Adults live about 3 to 4 weeks.

Both **head lice** and **body lice** are about 0.05 to 0.1 inch long. Both species are flattened, longer than broad, and dirty white to grayish black (fig. 2). **Head lice** are usually found on the scalp, especially over the ears and back of the head. Children develop head lice more often than adults do. Generally, infrequent washing and combing of hair encourage lice buildup. An infested person usually harbors about 10 to 20 adult head lice, but larger infestations can occur.

**Body lice** generally are found in bedding or clothing. They most frequently occur in seams of undergarments or places where the body and clothing are in close contact, such as at the waistline, crotch, and armpits. Body lice glue their eggs to clothing and only occasionally to body hairs. Body lice contact the skin only when feeding.

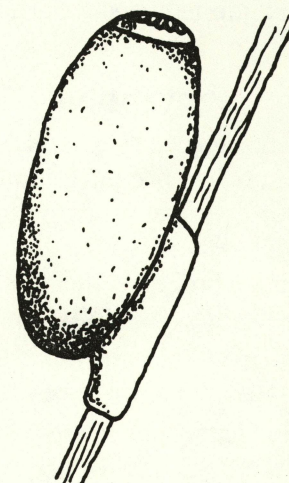


Fig. 1. Nit of head or body louse. Female lice secrete glue with which to attach their nits (eggs) to hair shafts.

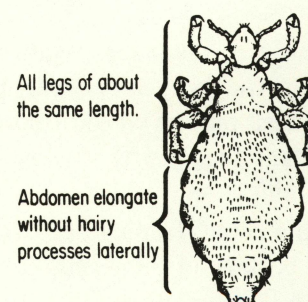


Fig. 2. Head lice and body lice are physically identical, although head lice are sometimes smaller.

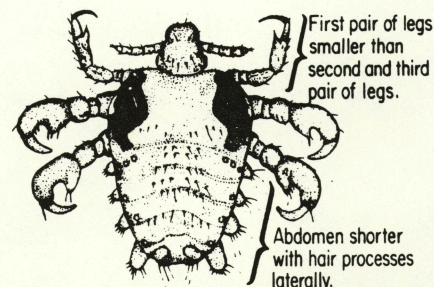


Fig. 3. Crab lice rarely appear on children.



**Crab lice** are smaller than head or body lice — about 0.04 to 0.08 inch long — and about as wide as long. They are grayish white or slightly pink and crablike in appearance (fig. 3). Crab lice are seldom found on children. They usually occur in the pubic area, sometimes in the eyebrows and eyelashes. Crab lice are usually transmitted during sexual activity, but anyone sleeping near an infested person can acquire them.

## Prevention

Practicing good hygiene is the best way to prevent lice infestations, but you can get lice while following even the best prevention programs. Prevention programs should include the following:

- Avoid close contact with individuals who are known to be infested.
- Avoid letting others use your personal articles such as hats, combs, and scarves.
- Bathe and shampoo frequently with hot water and soap. Many lice are killed or dislodged in the process.
- Change and launder clothing often, particularly underwear. Lice and their nits are killed by hot water and soap and during dry cleaning.
- Avoid using sleeping bags, beds, and bedding of people you suspect have lice.
- If head lice are suspected in a classroom or workplace, have a nurse check for lice weekly.

## Control

Look carefully to be sure lice are present before you treat. If head lice

eggs are more than  $\frac{1}{4}$  inch from the scalp they have either hatched or will not hatch.

**Washing and combing hair** can sometimes control head lice. Wash hair at least twice a week and run a hot, *fine-toothed comb* through the hair daily. Comb until you see no sign of lice. Heat the comb by dipping it in boiling water. Consider using a special louse comb, available at many pharmacies.

Eggs are cemented tightly to individual hairs and are harder to dislodge by combing than are adult lice. Combs are usually a good source of reinfestation, so take care not to use an infested comb.

**Insecticide treatment** is the only sure way of eliminating lice. **CAUTION:** None of the insecticides currently recommended will work in a single treatment. You must treat again in 7 to 10 days to control the nymphs that have hatched since the last treatment. Even if the insecticide is advertised as "single treatment," one treatment alone may not eliminate the infestation.

The active ingredients in over-the-counter products and several prescription products are pyrethrins plus a synergist called piprenyl butoxide. Pyrethrins are extracts from a daisylike plant that have good insecticidal properties. Lindane is the active ingredient of an insecticide available only by prescription.

To treat for head lice:

1. Shampoo and dry hair thoroughly.
2. Sit the infested person in a chair with head tilted backward and eyes covered with a towel to

keep the insecticide out of the eyes.

3. Apply the treatment liberally to the hair and scalp with a brush or swab. Work opposite to the directions you would normally comb the hair, touching all hairs and the whole scalp.
4. Comb the hair as usual.
5. After 10 minutes with pyrethrin or after 24 hours with lindane, shampoo the hair.
6. Dry, comb, and brush the hair to remove dead lice and loosened eggs.

Clothing, bedding, and rugs that people with lice have contacted should be treated. Spray the insecticide slowly (3 seconds per square foot of surface). Be sure to spot check for staining on a small segment before you treat. The products registered in Idaho are Blue Lustre Flea Killer for Carpets, Micro Ban Institutional X-580, Pronto Lice Killing Spray, Rid Lice Control Spray, Equate Bedding Spray, Good Neighbor Pharmacy Bedding Spray, and New Formula Rid Lice Control Spray.

---

**Trade names** — To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.

---

**The authors** — Hugh W. Homan, Extension entomologist, and Marc J. Klowden, entomologist, Department of Plant, Soil, and Entomological Sciences, University of Idaho, Moscow.