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## Lice Love Us

Lice are parasitic insects that feed on human blood and can infest the head and body. There are three types of lice that infest humans: **head lice** (*Pediculus humanus capitis*), **body lice** (*Pediculus humanus corporis*), and **pubic lice** (*Phthirus pubis*; also called crab lice or “crabs”). The different lice are associated with different parts of the body, however, each may be found in less typical areas on occasions. Head lice are associated with the scalp, but may be found in the eyebrows, and eyelashes. Body lice are usually found in the folds of clothing and on the body when feeding, but occasionally feed from the head. Pubic lice are most often associated with the pubic or genital areas, but may also be found in the eyebrows, eyelashes, beard, mustache, armpit, perianal area, groin, trunk, and scalp. Lice move by crawling. They cannot jump or fly.

Lice have lived on humans for thousands of years, and they continue to be a problem worldwide. In the United States the incidence of pediculosis has risen steadily for the last 3 decades. Head lice are by far the more common complaint, the incidence of pubic lice is declining, but body lice still plague the homeless.



Images from the Centers for Disease Control and Prevention (CDC).

“When one has ectoparasites, one is never alone.”

- Marc Lame, Indiana University

We have featured head lice in one of our previous newsletters:  
<http://cals.arizona.edu/apmc/docs/2013SepAZSchoolIPMNewsletter.pdf>, and you may find more information on head lice at <http://www.cdc.gov/parasites/lice/head/>.

Here we are going to talk about **body lice**.

## What are body lice?

Body lice are parasitic insects that live on clothing and bedding of infested people. They frequently lay their eggs on or near the seams of clothing. Body lice must feed on human blood and usually only move to the skin to feed, remaining on clothing or bedding at other times. Body lice exist worldwide and can infest people of all races.

Head lice and body lice look similar, but while head lice are 2-3 mm in length, body lice are 2-4 mm in length. Head lice do not transmit disease-causing pathogens. However, body lice can. Although the specific diseases are not presently reported in the United States, their introduction at some point is quite possible should body lice become sufficiently prevalent. Epidemics of typhus and louse-borne relapsing fever have been caused by body lice in regions where climate, poverty, and social customs or war and social upheaval prevent regular changes and laundering of clothing. Body lice vector the pathogens that cause relapsing fever, trench fever, endocarditis, chronic lymphadenopathy and epidemic typhus.

Head lice are not a sign of unsanitary living or neglect (although chronic head lice infestations can be), but body lice are a sign of inadequate sanitation, changes of clothing, and laundering.

## How are body lice spread?

Body lice are generally spread by close person-to-person contact with an infested person or through contact with items such as clothing, beds, bed linens, or towels that have been in contact with an infested person. Body lice infestations can spread rapidly under crowded living conditions where hygiene is poor (e.g. the homeless, refugees, victims of war or natural disasters). In the United States body lice infestations are found in homeless, or transient populations who do not have access to bathing and regular changes of clean clothes. Infestation is unlikely to persist on anyone who bathes regularly and who has at least weekly access to freshly laundered clothing and bedding.

Other animals or pets, such as dogs and cats, do not spread human lice. Body lice can live on humans and on rare occasions, pigs, but lice die within ten days if they are away from a host. It is important to note that nits attached to clothing or blankets discarded by a host can survive a couple of weeks before hatching.



Pictures of two adult body lice. Credit: Public Health Images Library, CDC

## What do body lice look like?

Body lice have three stages in their life cycle: the egg (also called a nit), the nymph, and the adult.

**Nit:** Nits are lice eggs. They are generally easy to see in the seams of an infested person's clothing, particularly around the waistline and under armpits. Body lice nits occasionally also may be attached to body hair. They are oval and may be brown, yellow or white in color. Body lice nits may take 1–2 weeks to hatch.

**Nymph:** A nymph is an immature louse that hatches from the nit (egg). A nymph looks like an adult body louse, but is smaller. Nymphs mature into adults about 9–12 days after hatching. The nymph must feed on blood to live and develop.



**Adult:** The adult body louse is 2.3 – 4.0 mm in length and about the size of a sesame seed, has 6 legs, and is tan to greyish-white. Females lay eggs. Lice must feed on blood to live. If a louse falls off of a person, it will die within ten days (usually much sooner, but it depends upon the temperature and humidity in the environment).

## Where can you find body lice and how can you diagnose an infestation?

A body louse infestation is diagnosed by finding eggs on or near the seams of clothing. Sometimes they can be seen crawling or feeding on the human body. Occasionally eggs are attached to body hair. They are big enough to be seen with the naked eye, but a magnifying lens may be used to find crawling lice or eggs. If you are not sure about an infestation, consult with a health care provider and they will verify the diagnosis.

Lice found on the head and scalp are usually head lice.



Image from DiagnosisDude.com

## What are the signs and symptoms of body lice?

An infestation of body lice occurs when body lice invade the human body and clothing. The common symptoms of body lice infestation are intense itching (“pruritus”) and rash caused by an allergic reaction to body lice bites. If the body lice infestation has been present for a long time, heavily bitten areas of the skin can become thickened or darkened, usually around the midsection, near the waist, groin, and upper thighs. This condition is called “vagabond’s disease”.

As with other lice infestations, intense itching can lead to scratching which can cause sores on the body; these sores sometimes can become infected with bacteria or fungi and require medical treatment.

## How can body lice infestations be treated?

Body lice infestations are treated by improving the personal hygiene of the infested person, including assuring a regular (at least weekly) change into clean clothes. Clothing, bedding, and towels used by the infested person should be laundered using hot water (at least 130°F) and machine dried on a high heat setting.

Pesticide applications in homes or rooms are not helpful or appropriate.

Treatments on the human body with a pediculicide (a medicine that can kill lice) is not necessary if improved hygiene is maintained and items are laundered weekly.

## How to prevent and control the spread of body lice?

- Bathe regularly and change into properly laundered clothes at least once a week; launder infested clothing and bedding at least once a week.
- Machine wash and dry infested clothing and bedding using the hot water (at least 130°F) laundry cycle and most importantly **the high heat drying cycle**. Clothing and items that are not washable can be dry-cleaned OR sealed in a plastic bag and placed in a freezer for 4 - 5 days. If you can guarantee other people will not remove clothing or bedding, they could be bagged for two weeks at room temperature and all lice should be dead. Lice will die without a host within a few weeks of being abandoned. But if a person utilizes or cleans up the abandoned belongings within that time, they could become infested with the body lice themselves.
- Do not share clothing, beds, bedding, and towels used by an infested person.

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*If you find abandoned clothing or bedding and need to dispose of the items, consider using gloves, and a disposable apron. Carefully double bag the items, avoiding making contact with the items with your clothes or person.*

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For more information on body lice, please read:  
<http://www.cdc.gov/parasites/lice/body/index.html>

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## Bed Bug Battle – We Want to Hear From You

The University of Arizona and several partnering research institutions are working to battle the bed bug resurgence in the United States. Researchers hope to determine the real impact and social cost of bed bugs, the risks to individuals and society, as well as the significant causes of infestations.

We hope you will complete an online bed bug survey. This survey asks brief questions on how bed bugs affect your life, how bed bugs cause people stress, and what people do when trying to get rid of them. This voluntary survey should take about ten minutes. The survey is available in English and Spanish. There is no compensation available for your participation. Your answers are anonymous and you will be contributing to information that will help us battle the pesky parasites.

**Who should take this survey? Everyone!** We would like to hear from people who currently live with bed bugs, people who have dealt with them in the past, and people who have never experienced bed bugs. We are dedicated to helping community members who need it most, and sharing your experience will be extremely helpful to develop strategies to reduce the bed bug problems.

English version of Bed Bug survey: <http://www.surveymonkey.com/s/DGLQS52>

Spanish version of Bed Bug survey: <https://es.surveymonkey.com/s/F5NZXJK>

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## IAQ Master Class Webinar Series Continues

As part of EPA's ongoing effort to continue the momentum to create healthy school indoor environments in all our nation's schools, they are pleased to announce the launching of a new **IAQ Master Class Webinar Series**.

At the June 2014 SHIELD Summit, the SHIELD Network began work on designing ten 1-hour technical core-competency web-based training intended to build the capacity of school district staff across the country to start, improve, or sustain an IAQ management program.

The webinars will feature technical experts, industry leaders and model school districts from the SHIELD Network. CEU's are pending and certificates of completion will provide to all who complete the post training evaluation.

Mark your calendar to join the Master Class Technical Webinar Series. Schedule below.

Webinar Topic	Webinar Date
Moisture and Mold	2/12/15
Energy Efficiency and IAQ	3/12/15
Integrated Pest Management	4/16/15
Asthma Management	5/07/15
Cleaning and Maintenance	6/04/15
Materials Selection	7/16/15
Source Control	8/06/15

February 12, 2015, 1:00-2:30 p.m. Eastern / 11:00-12:30 p.m. Arizona: [Mold and Moisture: Double Trouble for Schools \(EPA\)](#)

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## Upcoming Webinars and Events

Attend Free Sessions of the [Green Strides Webinar Series](#). View archived webinars [here](#).

The [Green Strides Webinar Series](#) provides school communities the tools to reduce their schools' environmental impact and costs; improve health and wellness; and teach effective environmental literacy, including STEM, green careers, and civic engagement.

**School IPM Webinar Series:** EPA's Center of Expertise for School IPM will host a series of webinars in the coming months on pest management topics of special interest to the school community. These monthly webinars feature presentations from experts in the field. Find information about these webinars: <http://www.epa.gov/pestwise/events/sipm-webinars.html>

February 24, 2015, 2:00-3:00 p.m. Eastern / 12:00-1:00 p.m. Arizona: [Dealing with Nuisance Birds Around Schools](#)

For more information about the EPA Schools program, visit:  
<http://www.epa.gov/schools/>

For more information about the Community IPM, visit:  
<http://www.extension.org/pages/23359/urban-integrated-pest-management-community-page>



For more information about School IPM in Arizona, visit:  
<http://cals.arizona.edu/apmc/westernschoolIPM.html>

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