

# The Facts Of Lice.



## 1. History

Head lice (Pediculosis) has been documented for thousands of years. Head lice and nits have been found on human mummies, and lice are mentioned in ancient writings, including the Bible. Not all civilizations viewed these parasites in a negative light. The Aztecs, for example, collected their head lice in bags and offered them to their emperor as a token of respect. Young women in northern Siberia once threw lice at men as a sign of affection, as if to say, "My louse is thy louse." Our lice removal technicians express their affection by removing your lice and throwing them in the trash can as quickly as possible. Today, most societies consider lice undesirable and spend billions of dollars on head lice treatment. Despite the efforts of parents, health providers, and school authorities, infestation with head lice is a persistent growing problem. Head lice affect up to 25% of school-aged children in the United States. Incidence appears to be on the rise, with lice becoming increasingly resistant to many commonly used OTC (Over counter) pediculicide products.

## 2. Biological Characteristics

The head louse, *Pediculus Capitis*, is one of three species of lice that infect humans. The other two are *Pediculus humanus*, the body or clothing louse, and *Pthirus pubis*, the pubic or "crab" louse. Unfortunately, body lice, which are associated with poor hygiene, have given head lice a bad reputation. Body lice live on clothing and go to the body only to feed. Therefore, they are most found among refugees, victims of disaster or war, homeless individuals, and others who are unable to wash or change their clothes. Head lice, in contrast, spend their entire lives on the human scalp, clinging to the hair while feeding, mating, and laying eggs. They are not linked to poor living conditions and are most found in individuals with good hygiene and grooming habits.

## 3. Lifecycle

Twenty-four hours after mating, the female head louse lays her eggs, more commonly referred to as a nit. Under optimum conditions, a healthy female lays approximately 240 eggs during her lifetime of about 30 days. The eggs are coated with a fixative that cements them to the hair shaft. Because the chemical structure of this fixative substance is very similar to that of the hair shaft, researchers have yet to develop a product that will dissolve the fixative without damaging the hair. Like many ectoparasites (external parasites) that can endure starvation and extremes of temperature, lice, and their eggs can survive only under a relatively narrow set of environmental conditions. From their first blood meal to their last, head lice prefer to feed every four to six hours and cannot survive if they miss several consecutive meals. Therefore, although a louse may fall or climb onto other surfaces, it cannot live on these and must return to a human head within 24 hours if it is to survive.

## 4. Stages

Newly laid viable eggs are plump and shiny and have a tan or coffee color. Eggs that have hatched are clear, white, or light in color and may appear shrunken or indented. On the end of the nit facing away from the scalp is the "operculum," a tiny cap with several holes in it that allow air and moisture into the egg for the development of the embryo. After a 7-to-10-day incubation period, the baby louse, commonly referred to as a nymph or instar, uses its mouthparts to cut a hole in the operculum. The nymph then sucks in air and rapidly expels it, causing the operculum to pop off. The newly emerged nymph closely resembles an adult louse but much smaller and not yet capable of reproducing. It is flesh-colored and no larger than a pinhead, making it almost impossible to see with the naked eye. The nymph emerges, effective and mobile, and must feed on human blood shortly after hatching or it will rapidly succumb to dehydration and starvation.

## 5. Conventional Treatments

Effective head lice removal involves the manual removal of nits and lice with combing, controlled heated air natural products, or the use of OTC pesticides. We strongly suggest a more natural approach. The natural products in the store work, okay, but leave most of the work up to you in the form of lice combing. Dimethicone oil is now the champion of non-toxic products along with a good com-out goes a long way.

## 6. Alternative Treatments

Reluctant to continue applying pesticides to children's heads, many desperate and frustrated parents and health professionals are turning to alternative therapies to battle head lice. Some claim to have successfully cured their infestations by using inexpensive, non-pesticide products including petroleum jelly, hair pomade, olive oil, mayonnaise, vegetable shortening, vinegar, mineral oil, and essential oils sold at health food stores. There is no doubt that oily alternatives such as petroleum jelly, olive oil, or mayonnaise slow down the lice, making them easier to find and comb out and even killing some. Unfortunately, because they are not as effective as the currently available pediculicide products, they usually require repeated overnight treatments and many hours of painstaking combing. The need for repeated overnight treatments, in turn, can delay a child's return to school.