INTRODUCTION
Children with or suspected to have head lice are often exposed to unpleasant reactions from others. The mere scratching by a child may lead to rejection and bullying on suspicion of head lice infestation, especially on occasions, when their parents are not around. Think of yourself: would you let your children play with children whom you know have lice? You would probably think twice. And so would others.

Indonesia has offered its population (by ranking in size the World’s No. 4) for decades only one registered product of a pesticide-based head lice treatment. It is important to know that head lice become immune to chemical substances intended to poison them, after they have been used extensively over longer periods of time.

The absence of alternative head lice treatment products, of published data as to such product’s efficacy vs. immunity (resistance) build-up by head lice over time, the near absence of a dedicated, credible local source of information on how to detect, treat and prevent head lice; created a void that was filled over time by stigma against those affected by head lice. Stigma borne out of fear of many uncertainties (how contracted, how to treat, will they ever go away, how will my environment respond) or the desire to protect one’s own family falsely attribute head lice infestations to social class stereotypes or hygiene routines. This adds significant additional social and psychological stress to the burden of the infestation affected population. It also created the ‘denial biotope’ as perfect breeding ground for head lice to spread successfully.

This little brochure is intended to shed some light onto head lice, give advice to Indonesian families on how to manage infestations, and to invite for dialogue on personal experiences or additional topics to be explored.
FACTS ABOUT HEAD LICE
SIZE AND LOOKS

Head lice are small (3 mm at the maximum, larvae even less than 1 mm) insects that live and breed exclusively on the scalp and in the hair of humans.

A head louse egg is around the size of a pinhead and translucent, white, yellow-brown or chocolate-brown in color. Empty egg sacs are white and shiny and may be found further along the hair shaft as the hair grows out.

LIFE CYCLE

A head louse’ life cycle lasts a maximum of 35 days from the time the egg (nit) has been laid until it perishes.

7 -10 days after a nit attached to hair is laid, a nymph will hatch leaving the empty nit shell in that very place, where it was glued to the hair.

A nymph is an adolescent / juvenile louse, which will molt (shed its skin) three times while growing into an adult louse over a period of 9-10 days.

A female adult head louse pairs with a male head louse just hours into its adult life, and it only needs to do this once in its life time, to reproduce its kind by laying between 50 and 150 nits during the rest of its life span.

Head lice live and nits are laid generally in very close proximity to the scalp (about 1 cm), commonly behind the ears and the back of the neck.
HOW AND HOW OFTEN DO HEAD LICE FEED?

Head lice (both nymphs and adult lice) can only survive on human blood. Head lice feed from the scalp every 2 to 3 hours day by piercing the scalp with their beak-like mouthparts, injecting saliva to prevent the blood from clotting while extracting blood directly from the bite through the louse’s head into its intestines.

Feeding on the blood of humans makes head lice parasites and humans their host.

A head louse will typically die of dehydration after approximately 2 days when separated from its host (depending also on other factors such as temperature and sun exposure).

HOW DO HEAD LICE MOVE AROUND?

Head lice do not have wings and thus cannot fly.

The relative size of head lice’s legs in relation to the center of its body weight does not allow head lice to jump.

Head lice have claws on each of their six legs allowing them to cling to 6 hairs at the same time. This and their generally very close proximity to the scalp makes it hard to comb head lice out from the hair.

Head lice can move fast in relation to their body size. An adult louse can crawl the distance of 23 cm in a minute.
**HOW DO HEAD LICE SPREAD?**

Head lice spread by personal contact (in particular hair-to-hair contact), as well as by sharing belongings. Lice can be transferred by brushes, combs, barrettes, headbands, headphones, hats, helmets and so forth. They can also live for a time on upholstered furniture, bedding, towels, or clothing.

It is typically female head lice after having paired with a male that spread through hair-to-hair contact. This makes children most susceptible from playing close together and sharing items which touch their heads. There is also an increased risk of head lice for family members of school aged children. Having head lice is not a sign of dirtiness or poor hygiene. The pesky little insects can be a problem for kids of all ages and socioeconomic levels, no matter how often they do — or don’t — wash their hair or bathe. It also doesn’t matter how long or short a person’s hair is. People, who work in a daycare, preschool, or elementary school share this risk. No one is immune and anyone can get head lice.

**DO HEAD LICE SPREAD DISEASES?**

Head lice spread from person to person, but do not spread disease. Head lice are a nuisance, but not considered a health risk.
COMMON SYMPTOMS OF HEAD LICE INFESTATIONS

ITCHING,
the most common symptom, is caused by a person's immune response to the saliva from head lice bites. Itching may not occur right away, depending on a person's sensitivity and history of lice infestation. The first time a person is infested with lice, it may take several weeks or months for itching to start or to be noticed. In a repeat case, a person may begin to itch within 2 days of infestation because the immune system may react more quickly when exposure had occurred before. Some people become very sensitive to lice bites and have unbearable itching. Others build up tolerance to the bites and have little or no itching, even with repeated infestations. After treatment and when the lice have gone, it may take 2-3 weeks for the itch to go fully. Nits may remain after lice have gone. Empty eggshells stick strongly to hair and will eventually fall out. A very fine-toothed comb can remove them.

CRAWLING SENSATION,
the feeling of something crawling on the hair or scalp.

SCRATCHING,
which can lead to scalp and sometimes the back of the neck becoming red and irritated.

SEEING LICE OR FINDING LICE EGGS,
Live head lice may look like light-brown sesame seeds crawling on the hair, skin, or clothing.

SWOLLEN LYMPH NODES,
(also referred to as “glands”) in the neck.

IRRITABILITY AND TROUBLE SLEEPING,
Lice are more active in the dark.
HEADLICE ARE EASY TO GET?

Lice are spread only mainly by head-to-head contact. They are much harder to get than a cold, flu, ear infection, pink eye, strep throat, food poisoning, or impetigo.

ANY NITS LEFT IN THE HAIR CAN CAUSE LICE TO COME BACK?

Any nits farther away than one quarter to one half of the hair shaft are already hatched and pose no risk to others.

PETS SPREAD LICE?

Human head lice (pediculosis humanus capitis) are species-specific. You can only get human lice from another human. You cannot get another animal’s lice.
SELFIES TRANSMIT HEAD LICE?

Yes, they may. Any activity allowing head lice to pass hair-to-hair between existing and potential hosts bears the risk of head lice infestations. Other than that, head lice have no quarrels as regards hair colour, timing of last hair wash, hair accessories or social standing of the host. Head lice treat all humans as equals, given the opportunity.

HEAD LICE PREFER DIRTY OR UNWASHED HAIR?

Head lice do not discriminate between washed and unwashed hair. Head lice seek warmth for their eggs and a place close to regular food (both being fulfilled by proximity to the scalp). Hygiene makes absolutely no difference. You get lice by close personal head-to-head contact with someone else that has lice, not by being dirty.

CAN HEAD LICE SPREAD IN THE OFFICE?

Without close enough contact for head lice to move from host to host, head lice will not spread. In the typical office, there is probably not a whole lot of hugging and pillow-sharing going on. If it is, head lice might be the least of potential concerns.
Although head lice are not killed by chlorine levels in swimming pools and can survive under water for many hours, head lice will not spread in a swimming pool. Instead, head lice will hold on tight for dear life to the human hair they are already clinging on.
CAN I CATCH HEAD LICE AT A HAIR SALON?

There is a real risk that head lice can spread from the use of towels between infested and non-infested persons at hair salons, even if the towel was washed in-between. Head lice can easily survive a washing cycle, unless at temperatures above 60 °C or the towels have been treated with a steam iron.

CAN I CATCH HEAD LICE FROM GOING BY OJEK AND ACCEPTING A BORROWED HELMET?

Sure you can and your chances are higher the busier the Ojek was before giving you a ride. If you use regularly Ojek, bring along your own helmet.

DO DIFFERENT HAIR TYPES AND STYLES MATTER?

People of all races, hair types, colors, and lengths get head lice. Certain hairstyles can also contribute to a reduced risk of head lice. For example, closely cropped hair, tight braids (especially when braided into rows where areas of the scalp are exposed) and hair extensions all have attributes that make infestation less likely. Hair styling and style maintenance are in any event not reliable ways to control head lice. Using permanents or hair coloring to control head lice can result in temporary or permanent hair damage, allergic reactions and other unwanted health effects. Relaxers, perms, and hair color should not be used on anyone with an active or recent infestation since broken skin may be painfully irritated by these chemicals.
TREATMENT

HEAD LICE
NEUROTOXIN-BASED / INSECTICIDES

Permethrin-based product

One registered product available in Indonesia, though wrongly registered as medicine. Can be bought over-the-counter at your grocery store or pharmacy. No published data on product efficacy, though Permethrin resistant head lice stems have been reported worldwide.
Permethrin is low in toxicity (to humans), but is not non-toxic. It is not known to rapidly harm most mammals or birds, but is toxic to fish and cats. In cats it may induce hyperexcitability, tremors, seizures, and death.
In 2015, a head lice study carried out by researchers of the Southern Illinois University at Edwardsville found that 104 out of 109 lice populations sampled in 30 states across the US were tested to have high levels of gene mutations linked to resistance to pyrethroids. Pyrethroids are a type of insecticide that is not only used in certain neurotoxin-based head lice products, but also in a variety of other products such as sprays against mosquitoes, cockroaches and flies. If the same chemical, whether lindane or pyrethroids, is used over and over to poison these parasites, head lice will eventually develop resistance. High responsibilities are vested in Indonesian government and research institutions to monitor and inform of the total balance of a product’s efficacy, health and environmental impact.
Various other proven formulations

Although 5% BAL is one of the most internationally tested and studied treatments, many other proven physical working mechanism-based product formulations or devices exist. Those aim typically at causing the louse’ death by asphyxiation/suffocation (through physically blocking the louse’ moisture and oxygen exchange) or by dehydration (through dissolving the waxy layer of a louse’ exoskeleton protecting it against uncontrollable moisture loss).

Nit Combs

Combing can be very time consuming and tedious, but it is a safe way to treat head lice. Wet the hair and add a little cream rinse or conditioner to make it easier to move a nit comb through the hair. This will also stop the ability of head lice to just ‘race’ through the hair and crawl out of sight. Wipe off what you comb out into a tissue or paper towel and throw it in the wastebasket or bag. Concentrate at first on removing every insect you find and always focus most on the area near the scalp. Then work on the eggs and any bugs you missed as you work your way through the hair.

PHYSICAL WORKING MECHANISM-BASED

5% Benzyl Alcohol Lotion (5% BAL)

A pioneering neurotoxic pesticide-free head lice treatment development, which very detailed working mechanism description contributed to the global breakthrough of modern, highly efficacious, health and environmental impact-friendly head lice products, which are in addition free from resistance build-up common to insecticide-based products[L1]. Used by different manufacturers under different trademarks around the world.

Enters and blocks a louse’ breathing tubes (tracheoles), which end as body openings (spiracles) through which head lice breath and excrete water.Plugs the breathing holes of nits (very small openings at the top of a nit called aeropyles), which causes the nits to suffocate too.

Safe to use on children from the age of 6 months on. Suitable for sensitive skin. Use once a week, for 3 weeks, a 10 min application.
NOT RECOMMENDED, AVOID THESE TREATMENTS!

**Hexachlorocyclohexan (Lindane) based product**

Predecessor of Permethrin by the same manufacturer, but based on a different pesticide. Lindane’s purpose is to kill adult head lice and nymphs, but not to kill eggs. The efficacy of this product against resistance risk can be questioned without the effort of any studies. Since this product was allowed to be the de-facto monopoly head lice treatment product in Indonesia for decades (respectively hundreds of millions of cumulative head lice infestations).

Unquestionable however, is that this product’s safety warnings were not designed, nor updated to appropriately address by any international benchmarks (as in not even mentioning) the potentially lethal risks of Lindane for humans.

We recommend to stay away from this substance.

**Fake and ‘look alike legitimate’ products**

Decades during which only one single head lice treatment product with product registration number was available in Indonesia, has contributed to an abundance of product offerings (mostly through the internet), which are not backed up by credible verification of their efficacy, product content formulation, manufacturing standards, health and environmental impact (‘unvalidated product’). Some of these manufacturers may be driven by the genuine desire to provide relief based on ingredient formulations believed not to be harmful. Products without registration number, but marketed as ‘head lice medicine’, or products displaying ‘more registration numbers than possible’ (e.g. pesticide registration number from Ministry of Agriculture RI together with registration numbers issued by the Food and Drug Control Agency RI as Quasi Medicine and by Directorate General of Pharmaceuticals and Medical Devices as pesticide household product) are by design misleading. Remember that head lice products are most commonly used on children. Think if it’s worth it to entrust your child’s safety to the use of an unvalidated product from a manufacturer that miscategorizes its product with intent to mislead you.
Household & Garden Pesticides (Danger: Toxic)

Never use household and garden pesticides to treat head lice. They are toxic and strictly intended for different purposes! There is a risk of serious illness, injury, or death any time household or garden pesticides are used for the treatment of head lice.

Kerosene (Danger: Flammable)

Never use kerosene to treat head lice. It is flammable! There is a risk for serious illness and injury if kerosene is used to treat head lice.

Mayonnaise

People have reported both success and failure using mayonnaise to treat head lice. This treatment requires a thick application of high-fat mayonnaise to a person’s head. Treatment times range from 12 to 24 hours. In order to keep the product from staining linens, furniture, and clothing it is recommended that a shower cap or plastic wrap be worn. It has also been recommended, by some sources, to gently heat the mayonnaise-covered scalp with a hair dryer. Since mayonnaise is an oil-based product, accidental overheating could cause scalp burns. Mayonnaise is a food product and could promote bacterial growth under the right conditions. If bacterial growth does occur, getting mayonnaise into the mouth or eyes could cause serious bacterial infection.
RECOMMENDED HOLISTIC TREATMENTS FOR
HEAD LICE
We recommend the use neurotoxic pesticide-free and efficacy-proven head lice treatment options. The effectiveness of neurotoxic insecticide-based treatment options has been undermined by the emergence of drug- / pesticide-resistant lice. Neurotoxic insecticides are also often referred to as ‘pesticides’ with reference to those insects affecting human livelihoods negatively as ‘pests’ by feeding on the food of humans or as parasites on humans themselves. ‘Neurotoxic’ explains the working mechanism of such insecticides (or pesticides) by poisoning the parasitic insects.

There are 2 major risks to be considered with pesticide-based products:

- Pesticides are potentially harmful not only to the targeted, but also to other organisms including humans; and
- Pests (and very much so head lice) have proven to be very adaptive by developing resistances (meaning survival mechanisms) against such poisons.

Asphyxiation- or suffocation-based head lice treatment products present modern, effective, health and environmentally conscious alternatives to neurotoxic pesticide-based products. These products use a physical working mechanism against which head lice cannot develop immunity (resistance).

Treat and repeat treatment of your household members at the same time.

Regularly check for re-infestation and be prepared to repeat treatment more often than just the recommended initial and past 7 to 10-days treatment.
A household with one member suffering from head lice will most likely have several or all members affected though the degree of symptoms may very much vary.

Domestic workers with close physical contact to a household’s children must be included in all treatment activities.

The more members per household, and the longer head lice infestation has persisted untreated, the more live head lice in all stages and nits, and thereby the more treatment efforts must be expected.

Encourage your friends and family, who are not household members, to treat themselves at the same time as you do.
TREATING YOUR HOUSEHOLD

Expose head lice to high heat or strong cold

Head lice perish quickly above 60 °C or below freezing temperatures (the higher or lower the temperature, the less time required to kill head lice and all nits effectively).

After treating your household, change all sheets, pillowcases, clothes, blankets, towels, clothes and wash them at 60 °C or tumble dry them. As washing machines with heating cycles or tumble dryers are less common in South East Asia, please follow alternatively the ‘Isolate’ option further below.

Soak combs, brushes and any other belongings, which may carry live head lice or nits in hot water (>60 °C) for 10 minutes.

Your favorite scarves or your child’s favorite soft toy may not be suitable for washing at high temperatures, in which case you may consider placing them in a plastic bag in a freezer for 2 hours.

The fabric of car seats or the inside fabric of helmets may be exposed to live lice depending on their exposure to head lice. An empty car will generate enough heat when standing in the sun with all windows closed to kill all head lice in it. The same can be achieved with a motorbike helmet placed in sealed black plastic bag in the sun.
Put sun light on head lice

Head lice flee from bright sun light to avoid dehydration and overheating. Larger items, which could be the source of re-infestations, such as carpets, foam mattresses (unless too big in which case please follow the ‘Isolate’ option) will not fit into black plastic bags, washing machines or freezers, but you may be able to place these items for several hours into bright sun light to kill head lice by dehydration.

Isolate head lice

Wipe the frames of beds and the surface of leather couches. Vacuum carpets and other fabrics that could have very recently been exposed to live head lice. Head lice captured in the dust bag of vacuums will not manage to find their way back to the host.

Alternatively cover couches and sofas potentially exposed recently to live head lice with plastic and a blanket on top for comfort.

Stow away favorite pillows, soft toys or other items, which cannot be washed at high temperatures or vacuumed effectively, in plastic sacks. Separate, after treating yourself and your household members, recently used clothes, unless washed at high temperatures, from clothes that you intend to use in the coming days.

Another alternative is to treat your family just before going on holidays, such as to hotels. The beddings in hotels are normally washed at temperatures that head lice do not survive. Remember, a head louse will die about 2 days after feeding (i.e., being isolated from a host). A newly laid nit may hatch a nymph 7 to 10 days later and will die without a host to feed on the same day.
CONNECT WITH US

(021) 2949 0508
(0812) 8888 2090
HELP LINE

info@krea-asia.com
krea-asia.com

facebook: @kreaasialD
twitter: @kreaasialD
instagram: @kreaasia.id

Sole and exclusive distributor in Indonesia

NeutralLice™

Bringing to you soon a complete range of toxin-free head lice products that work