

Under the *Educational Childcare Regulation*, insect repellent may be applied without medical authorization to a child receiving childcare, provided it is applied in accordance with this Protocol and that a parent has given written consent.

A parent is not required to agree to the administration of the Protocol. However, if a parent does not sign the authorization form, the insect repellent may not be applied to a child unless the parent and a member of the Collège des médecins du Québec give written authorization.

BASIC RULES TO BE OBSERVED

The insect repellent used must contain a maximum concentration of DEET (N,N-diethyl-m-toluamide) of 10%; read the product label carefully because the concentration of DEET varies significantly from product to product. Other insect repellents such as citronella grass and lavender are not recommended.

Childcare providers may have their own insect repellent container; the brand name, the form (lotion, cream, gel, liquid, non-aerosol or aerosol spray) and the concentration of the active ingredient DEET must be indicated on the authorization form. When you purchase an insect repellent, be sure to avoid confusing the desired product with insecticides used to eliminate insects and that must not under any circumstances be applied to the body. Use only personal insect repellents that have a Pest Control Product registration number and are labelled as insect repellents for use on humans by Health Canada. Lastly, the use of all "2-in-1" products that act as both an insect repellent and a sunscreen is prohibited. To adequately protect the children from the harmful effects of the sun, sunscreen must be applied generously to exposed skin and under clothing while insect repellent must be applied sparingly and never under clothing. For this reason, "2-in-1" products are not recommended.

To avoid confusion, only one form of insect repellent should be kept on hand. The insect repellent must be stored in a place out of the children's reach and under lock and key. During outings, ensure that the insect repellent is always kept out of the children's reach.

Repeated or excessive applications of insect repellent are unnecessary for effectiveness; it is recommended that the repellent be applied to the skin or clothing sparingly. The products should not be used for extended periods of time.

Under no circumstances should insect repellent be applied:

- to the eyes or mucous membranes;
- to open wounds or broken skin;
- to irritated or sunburned skin;
- under clothing;
- to the hands;
- to the face;
- in excessive amounts.

In the event of contact with the eyes, immediately, thoroughly rinse with water.

Insect repellent may not be used on children under 6 months of age without written authorization from a parent and a physician. At this age, children must be protected from mosquitoes through precautionary measures (see the precautionary measures for children under 6 months of age).

It is recommended insect repellent be applied only once a day to children between 6 months and 2 years of age and a maximum of 3 times a day to children over 2 years of age.

Before mosquitoes appear in the spring, DEET-based products used by the childcare service should first be tested by applying a small amount to a small area of the child's skin, to avoid undesirable reactions when the product is applied to a bigger area. To this end, apply a small amount of insect repellent

to an area of the child's skin the size of a coin, preferably on the inside of the forearm, and wait 24 hours. It is suggested that testing be done in the morning to ensure that the children fully tolerate the product and observe the result the following day. It is important to let parents know that the test will be done on that day. If a reaction such as redness or inflammation occurs, immediately wash the skin treated, inform the parent and suggest that he consult a physician. Make sure to give the physician a list of the product's ingredients. The result of the test must be recorded in the child's file. If a child reacts during the test, do not reuse the insect repellent on the child unless a physician recommends in writing doing so.

It is possible to use an insect repellent and a sunscreen if they are not combined in the same product. When a sunscreen and an insect repellent are used, it is recommended a cream with a sun protection factor (SPF) of 30 be used and the insect repellent be applied at least 20 minutes after the sunscreen. Sunscreens lose over 30% of their effectiveness when DEET is applied.

Insect repellent must be applied in well-ventilated areas away from food.

Any application of insect repellent must be recorded in the register of medications prescribed by the Regulation and the parent must be informed of the number of daily applications.

PRECAUTIONARY MEASURES

Insect repellent should be used only during periods when mosquitoes are abundant or if the area around the childcare service provides a breeding ground for mosquitoes, and only after the precautionary measures below have been taken.

To avoid insect bites when outside, the children should:

- wear a long-sleeved sweater and long pants that ideally fit tightly at the wrists and ankles;
- wear loose-fitting, light-coloured clothes made of a tightly woven fabric;
- wear shoes and socks;
- avoid using perfumed products;
- avoid going outside at times of the day when mosquitoes are most abundant, such as early morning or late afternoon.

To prevent mosquitoes from multiplying in the area around the childcare service:

- eliminate any source of standing water, which is conducive to mosquito breeding;
- turn over any objects that are not stored indoors, such as boats, wading pools, gardening containers and children's toys;
- cover outdoor garbage cans and any other container that may collect water;
- replace pool or wading pool water or make sure it is treated daily;
- use insect screens in the areas where younger children play;
- repair damaged insect screens and make sure that doors are tight fitting.

Protect children under 6 months of age from coming into contact with mosquitoes by using mosquito netting on strollers and by using screened-in verandas.

WHAT YOU SHOULD KNOW

DEET-based products remain the preferred and most effective insect repellents against a wide variety of insects; insect repellents with a DEET concentration of 10% or less provide 2 to 3 hours of protection.

Although the safety of these products has been proven, they may pose certain risks, especially to children, if they are misused. DEET is partially absorbed through the skin and may make its way into the bloodstream. It may also accumulate in the body fat, brain and heart. A few cases of poisoning have been cited in the literature. However, there is little risk to human health if insect repellents are used with discretion and only occasionally.

Applying insect repellent to clothing (except synthetics or plastic material) may be a way of decreasing the risk of poisoning. However, it is important to watch that children do not put the saturated clothing in their mouths, or touch it and accidentally get repellent in their eyes. DEET-based products can cause severe eye irritation.

In choosing a product, the following benefits and inconveniences should be considered:

- insect repellents in the form of a lotion, gel or cream are generally easy to apply but heavy application should be avoided;
- insect repellents in non-aerosol or aerosol spray form require additional caution; they should not be applied in closed or poorly-ventilated areas to avoid breathing in the harmful fumes, and care must be taken to avoid getting repellent on children's faces or hands. Accordingly, the person who applies the insect repellent on the child should first spray it on his or her hand before applying it to the child.

WHAT TO DO

Insect repellent must always be applied by a person authorized to do so. Under no circumstances should children be allowed to apply insect repellent themselves, regardless of their age.

When you go outdoors with the children, you must:

- apply the precautionary measures;
- follow the steps below to apply the insect repellent:
 - use simple words to explain to the child the relationship between the situation, the insect repellent being applied and the expected results;
 - ask the children in language adapted to their understanding not to touch with their hands the parts of their body or clothing to which the insect repellent has been applied, to avoid putting their hands in their mouths or their eyes, and not to chew on the clothing treated;
 - wash your hands before handling the product;
 - read the product label carefully before applying, make sure that the DEET concentration is 10% or less and that the product does not contain sunscreen;
 - it is preferable to wear gloves to apply the product;
 - put a small amount of the product in your hand, apply it sparingly to exposed areas only or to clothing;
 - make sure the children do not touch the areas to which the insect repellent has been applied. If they do touch those areas, they should wash their hands with soapy water;
 - wash your hands after applying the insect repellent to all the children in the group, even if you wore gloves to apply it.

Wash the treated skin with soap and water when the children come inside or when protection is no longer needed. This is particularly important if insect repellent is applied several times in the same day or on several consecutive days. This recommendation must be transmitted to the parents.



AUTHORIZATION FORM FOR THE APPLICATION OF INSECT REPELLENT

A parent is not required to agree to the administration of the Protocol. However, if a parent does not sign the authorization form, insect repellent may not be applied to a child unless the parent and a member of the Collège des médecins du Québec give written authorization. A parent may limit the period of validity of the authorization by indicating the duration of the authorization in the space provided.

I hereby authorize _____
(name of the childcare centre, day care centre, person recognized as home childcare provider or person who assists the provider, as the case may be, or person designated under section 81 of the *Educational Childcare Regulation*, where applicable)

to use on my child, in accordance with this Protocol, insect repellent sold under the following brand name:

Brand name, form (lotion, cream, gel, liquid, non-aerosol or aerosol spray) and concentration of the active ingredient DEET

Child's surname and given name

Authorization period

Parent's signature

Date

This Protocol, initially prepared by the Ministère de la Famille, was revised by representatives of the Ministère de la Santé et des Services sociaux in 2010 and then in 2013 and approved by the Association des pédiatres du Québec in 2013. The information that it contains reflects the state of knowledge on the topic in 2013.