

# TREATMENT OF BURN SEPSIS AGAINST THE BACKGROUND OF MULTIPLE ORGAN FAILURE IN CHILDREN

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<https://doi.org/10.5281/zenodo.7675349>

**Abstract.** *Burns and scalds are heat-induced skin damage that can sometimes lead to further health complications. Although these injuries can be very painful, performing first aid can help relieve pain, reduce damage and limit the risk of infection.*

**Keywords:** *burns, levels of burns, burn support, burn treatment.*

Mild burns do not require hospitalization and can be treated at home.

A burn refers to tissue and skin cell damage following exposure to fire, heat, electricity, chemicals, radiation, or friction.

Severe burns can damage muscle and fat and even reach bone if deep.

Burns occur when part of the skin is exposed to hot liquid or current. This is often caused by contact with hot bath water and cooking liquids such as oil.

Unlike burns, which cause extensive tissue damage, scalds can damage the outer layers of the skin.

First, second and superficial burns are often associated with scalds. However, there are cases where severe burns require skin grafting and can be fatal if not treated in time.

Even severe burns and scalds can be relatively painless.

Burns and scalds: signs and symptoms

Signs and symptoms may vary depending on the severity.

Some common symptoms of burns and scalds may include:

Severe pain at the site of injury

red or peeling skin

Blisters appear when injured

Swelling or redness

White or burnt skin

Prompt first aid can help reduce the severity of the injury, resulting in less scarring and damage.

First aid for burns and scalds

Follow the following first aid measures after a burn or scald.

Stop the burning process.

In the first place, to stop the burning process, it is necessary to move the victim away from the heat source.

This may mean removing the person from the area, putting out the fire with water, or putting out the fire with a blanket.

Remove any clothing or jewelry.

Remove the victim's jewelry or clothing, unless it is stuck to the burn, until it swells.

Cool the burn with cool water

Begin cooling the burn or scald immediately after exposure. Hold the affected area under cool water for at least 20 minutes or until the pain improves.

After cooling the wound, cover the area with an adhesive film.

Place the film loosely over the burn and in layers lengthwise rather than wrapping it around the limb.

**Pain treatment**

Relieve pain from burns and burns by taking Paracetamol or Ibuprofen. When using over-the-counter medications, check the directions on the box and do not give aspirin to children under 16 years of age.

**Monitor the victim**

If the victim begins to have difficulty breathing and symptoms worsen over time, start CPR while waiting for emergency help to arrive.

**When to ask for help**

After performing these first aid measures, you should decide whether further medical treatment is necessary. Call three emergency numbers for emergency help.

For larger or deeper burns and burns larger than a person's hand, seek immediate medical attention.

It is also necessary to seek help if the victim is pregnant, over the age of sixty or under the age of five, who is at high risk.

Watch for signs of shock, such as cold, clammy skin, excessive sweating, rapid shallow breathing, and general weakness.

**Causes of thermal and chemical burns in childhood**

In most cases, children are victims of thermal or chemical effects on the skin. Causes of high temperature burns:

**The sun.** Most of the heat burns in children are under the aggressive influence of the sun. You can not be on the beach with the baby during the working hours of the sun (from 12 to 16 hours), the rest of the time you should use sunlight.

**Boiling water.** The kitchen is one of the main sources of danger. Hot coffee, a glass of boiling water, a kettle can cause serious burns.

**Hot stuff.** A baby can suffer from hot food, hot stones, heated iron soles, curling irons used to maintain a high temperature in the bath. Some parents prefer to iron sheets and clothes in a chair or on an uncovered sofa. In this case, iron burns in a child are rare.

**Open fire.** In everyday life, children are at risk of being burned by an open flame - by turning on a gas stove with their hands, during a camping trip.

Less commonly, children get burns from chemicals such as acids or alkalis. Aggressive compounds are present in our life in the form of means for removing bubbles from pots and ovens, toilet cleaning gels and rust, and liquids for bleaching clothes. Some of them can be used only with protective gloves, which the child may not know.

**What are burns?**

Thermal or chemical burns are classified according to severity. Doctors distinguish four stages:

The first. The upper layer of the dermis is affected - redness appears in the affected area, the child feels pain.

The second. This level of damage is characterized by the involvement of the subcutaneous layer in the inflammatory process. 1 or more clear fluid-filled blisters may appear in the affected area. The child may complain of pain and burning, which do not pass for a long time.

The third. A dangerous type of burn that requires immediate medical attention. Tissue damage affects the dermis, the surface and inner layers of the muscles. The third stage can have two types - A and B. The first is characterized by the appearance of bubbles in the dense crust, the formation of scabs and swelling of the adjacent areas. In stage B, there is pus, tissue necrosis, stomach ulcer.

The fourth. At this stage, the skin, subcutaneous layer, muscles, tendons suffer. Sometimes a child's burn reaches the bone - carbonization and complete necrosis of the affected tissue are noted.

#### First aid for burns at home

Timely and competent first aid is the key to burn treatment. In addition, the correct behavior of parents will help not to aggravate the problem, because in this case treatment will be much more difficult. With thermal burns (exposure to iron, hot water), experts recommend acting according to the following scheme:

If the burn is caused by chemicals (acid or alkali), the affected area should be kept under cold water. This should be done to wash off the remains of the aggressive compound from the skin. Burns in children are recommended to be washed for at least a quarter of an hour. You can wash the acid component with soda water (2-3%) or a soapy solution, and the alkaline component with a weak solution of citric acid.

#### How to treat thermal and chemical burns?

Treatment of burns of II-III degree should be medicinal, and alternative prescriptions can be used as adjunctive therapy. In severe cases, immediate hospitalization and skin transplantation are indicated. The course of medication should be prescribed by a doctor who takes into account the condition, age, and contraindications of the young patient.

Treatment of chemical and thermal burns is almost the same, but in the first case, the degree of skin damage is finally determined after 5 - 7 days.

#### Pharmacy preparations

The goal of therapy is to relieve inflammation, dry the wound (if necessary), stop the reproduction of pathogens. In this case, the body can independently eliminate the damage and restore the epidermis. In a normal situation, the treatment of burns is carried out according to the following scheme:

Eliminating hyperemia, reducing inflammation. Preparations based on dexpanthenol are used. It is recommended to use such funds in the first minutes after the burn. In the case of blisters or weeping wounds, strong drugs are used for treatment (we advise you to read: Blisters on the child's body: what are they and how to get rid of them?).

Antiseptic. Sometimes the doctor recommends pre-treatment of the wound with chlorhexidine, Miramistin, Furacilin solution or potassium permanganate solution to destroy microorganisms that may appear on the surface of the wound. In this case, it is recommended to wipe the wound with gauze or a bandage and remove the remains of the antiseptic.

It is recommended to apply an ointment containing an antibiotic to the affected area. It can be Levomekol, Doxycycline. Apply a thin layer twice a day.

In more severe cases, the doctor may prescribe antibiotics internally.

If help does not occur within 2-3 days, you should contact a specialist. The doctor may change your appointment or suggest hospitalization.

If the baby is suffering under one year, it should be shown to the pediatrician, regardless of the degree of damage. At the same time, babies are less likely to be victims of burns, unlike one-year-old children and preschoolers.

In the hospital, doctors carry out initial treatment of the wound, remove debris, foreign bodies, as well as dead tissue.

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