

## Burns

A burn is damage to the body's tissues, caused by:

- heat e.g. direct heat from fires, radiators or hot liquids
- chemicals
- electricity
- radiation from the sun
- friction
- cold

Burns usually affect the skin, but other important areas of the body can also be injured. For example, the airways and lungs can be damaged as a result of inhaling hot fumes and gases.

Recognising different types of burns and having a basic knowledge of how to treat them can minimise injury and even prevent fatalities.

### Symptoms

The severity of a burn depends on how deeply it has affected the tissue. There are three categories (that used to be called first, second and third degree burns):

- superficial burn

This is a burn that only affects the surface of the skin. The skin appears red and slightly swollen and there is usually pain. A common cause of this type of burn is too much exposure to sunlight.

- partial thickness burn

This is a deeper skin burn, but it does not affect the whole depth of the skin. The skin appears deep red, swollen and blistered. The surface may have a weeping, wet appearance. The skin is extremely painful and hypersensitive, even to air movement.

- full thickness burn

The full depth of the skin is damaged and the skin appears dry and leathery. The skin may be pale or blackened. These burns are surprisingly painless, because the nerve endings within the skin are also destroyed.

Burns to the face, singeing of eyebrows or nasal hair and black deposits in the mouth or sputum indicate that the airways may be burnt and immediate medical attention should be sought.

### What to do if someone is burnt

Personal safety should be the first priority of anyone offering first-aid to a person with burns. It is important to be aware of any ongoing risks of fire, chemicals, or electricity. There may also be risk of toxic fumes or explosion e.g. due to nearby petrol or gas supply.

The next step is to stop the burning process. Any clothing that is not stuck to the burn should be carefully removed. The affected body surface areas should then be flooded with cold water until medical help, if necessary, is available.

The skin usually swells after a burn, so it is important to remove anything constricting such as jewellery.

Do not attempt to burst any blisters that form.

For burns other than small and superficial ones, cover with a clean dressing or other non-fluffy material (e.g. clingfilm) to keep it clean and reduce the pain.

If a burn has been caused by a chemical, the chemical should be removed, by brushing it away if it is a dry powder, or flooding with large amounts of cold water.

### Home treatment

Very minor burns can be treated at home. Superficial burns usually don't need any dressings. Moisturising lotions, after-sun lotions or calamine lotion can ease some of the discomfort. Simple painkillers may also help. Superficial burns usually settle in a matter of days, perhaps with a little skin peeling.

### When should I seek medical help?

Medical help is needed:

- for all partial and full thickness burns
- for superficial burns covering an area larger than the palm of the hand
- for burns on the face, hands or in the groin
- where there is any doubt about the extent of the burn or how to deal with it

For severe burns call 999 for an ambulance. Whilst waiting for specialist help, useful treatment can still be given as above.

## Hospital treatment

At the hospital, doctors will continue first-aid measures to prevent ongoing injury by washing with water and protecting the damaged skin with dressings.

Healthy skin prevents loss of fluid from the tissues underneath and is also a very effective barrier to infection. These functions are lost when the skin is burned. After severe burns, large quantities of fluid can be lost through the skin. This can have a serious affect on the heart and circulation. This is why burn patients need to be closely monitored and often require intravenous fluids to help their circulation.

People with severe burns need to be cared for in intensive care units where other specialist treatments can be given. Severe loss of fluid can cause the blood pressure to drop, and they may require drugs to help the heart to function properly.

Burns may become infected because the skin is less able to protect itself from infection by bacteria. That is why more serious burns need to be dressed and kept clean to help prevent this whilst the skin heals. If infection is suspected, treatment with antibiotics may be needed.

## Recovering from burns

The time taken for burns to heal depends on how serious they were. Most superficial burns heal within about two weeks and do not usually leave a scar.

Deeper burns take longer to heal and sometimes require skin grafts by a plastic surgeon. These injuries tend to result in scars that can be difficult to treat. Specialist treatment in these cases is aimed at minimising such scars.

## Fire prevention

For most people, the greatest threat of injury or death from fire is in the home. The most common causes of fire are as follows:

- smoking-related fires (e.g. cigarette ends/matches)
- cooking-related (e.g. chip pans)
- heaters and electric fires

A simple bedtime routine can prevent fires:

- make sure all cigarettes are extinguished; do not smoke in bed
- turn off all electrical appliances that don't need to be on (e.g. hairdryers)
- turn off portable heaters
- make sure open fires have a suitable fireguard and are safe to leave
- close all doors to prevent any fire spreading

Fitting and maintaining a smoke alarm can save lives where these safety measures fail.

## Further information

### Hong Kong Fire Services Department

(information on fire prevention and management)

<http://www.info.gov.hk/hkfsd/english/useful/useful.htm>

### This website includes lots of advice on fire prevention

<http://www.safety.dtlr.gov.uk/fire/>

### U.S. National Library of Medicine

<http://www.nlm.nih.gov/medlineplus/ency/article/000030.htm>

### Healthwise (Health Information Resource Centre)

Tel : (852) 2849 2400

Fax : (852) 2849 2900

Email : [info@healthwise.org.hk](mailto:info@healthwise.org.hk)

Homepage : [www.healthwise.org.hk](http://www.healthwise.org.hk)

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