



# First Aid

## Thermal Injuries

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# Prevention



**Srnský, 2004**

# Damage of organism

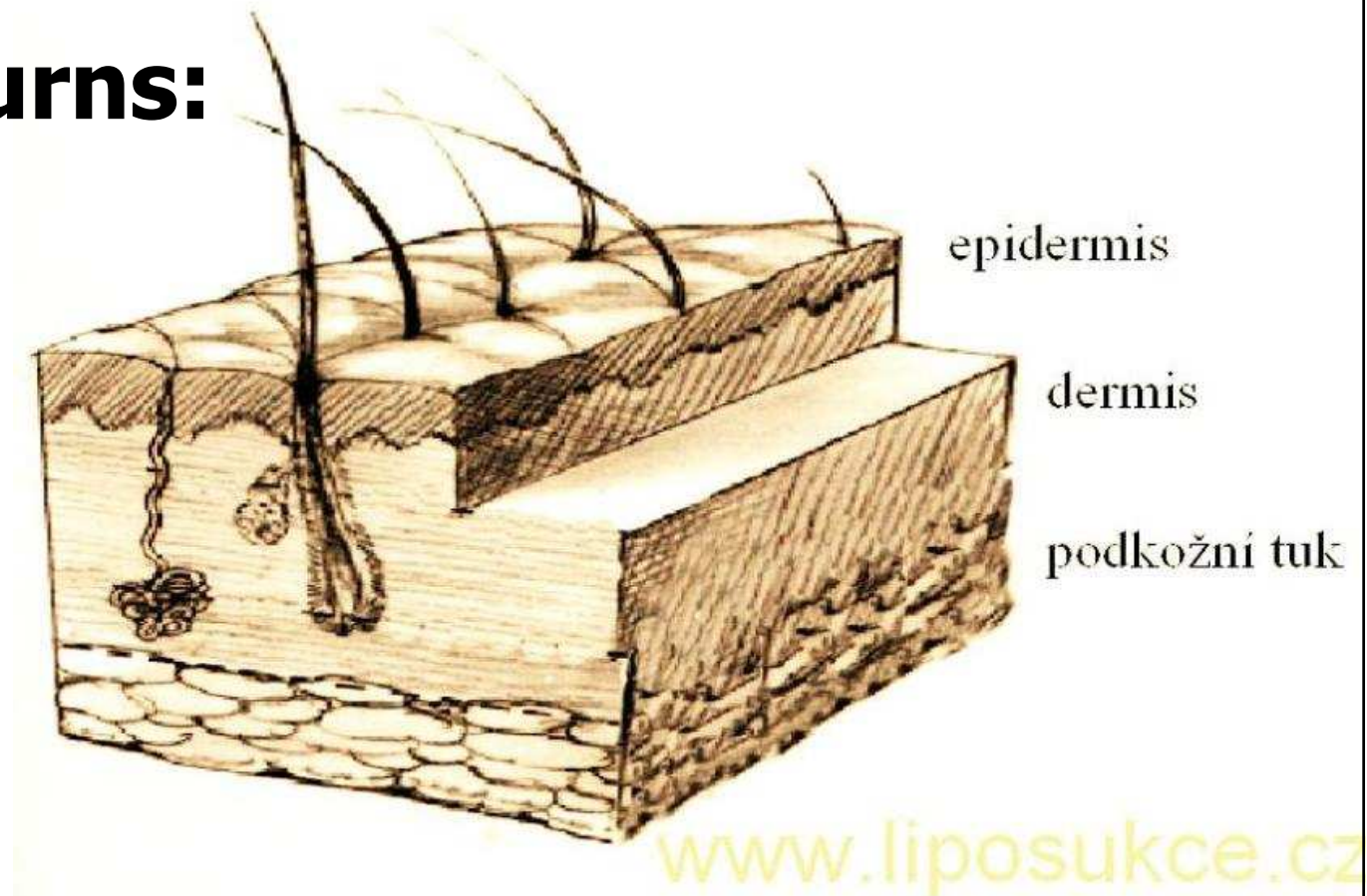
- as a result of working of extreme temperatures, radiation, electric current (including lightning strike)
- **Local** – burns, scalds, sunburn
- **General** – sunstroke

# Evaluating of local damage

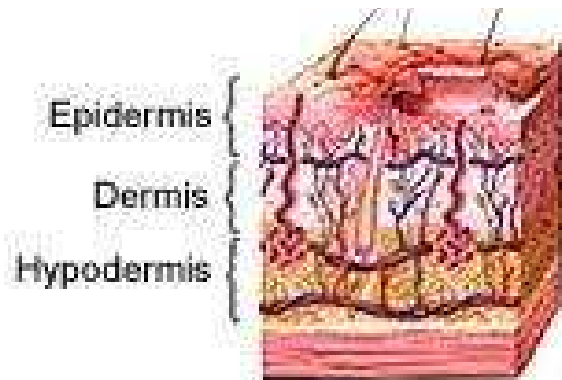
- **degree** and **area** of damage is important

## Degrees of burns:

- **1. degree burn**
- **2. degree burn**
- **3. degree burn**



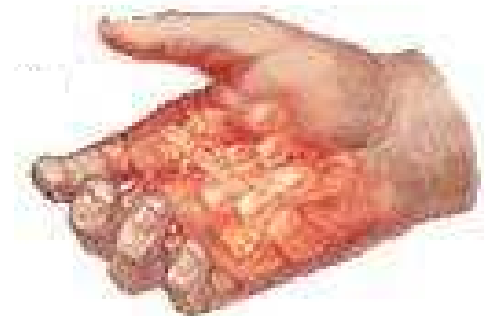
# Degrees of burns



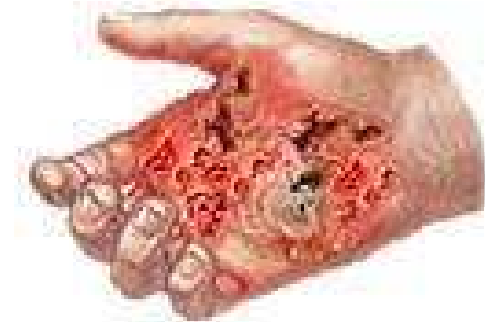
First degree  
burn



Second degree  
burn



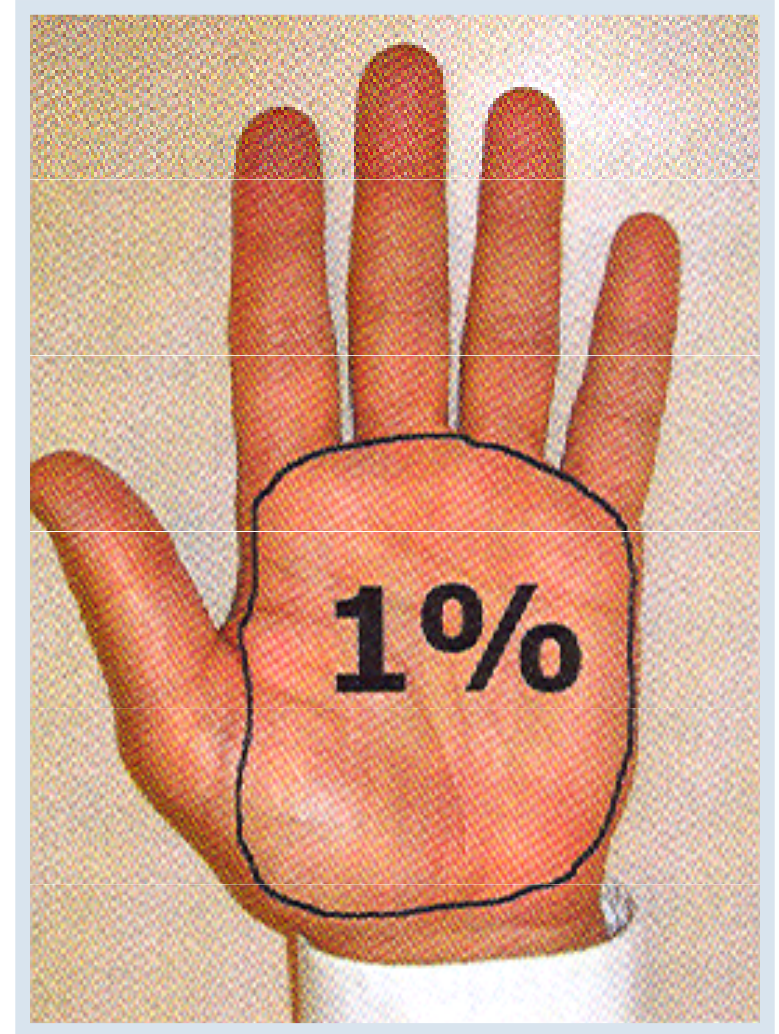
Third degree  
burn



# Evaluation

## Danger of shock

- Child 0 – 2 years **2 % – 5 %**
- Adult 16 – 70 years **20 %**



Stelzer, 2007

# Burns



1st. and 2nd. degree burn

# Burns



3. degree burn



# Burns



3.degree burn

# Burns – consecutive care





# First Aid – principles

- technical First Aid
- dialling of EMS
- check on vital signs
- then care about burned areas
- cooling down only to 5 % of burned area of the body – location face, neck, hands, genitals
- water temperature 4-8°C
- sterile dressing

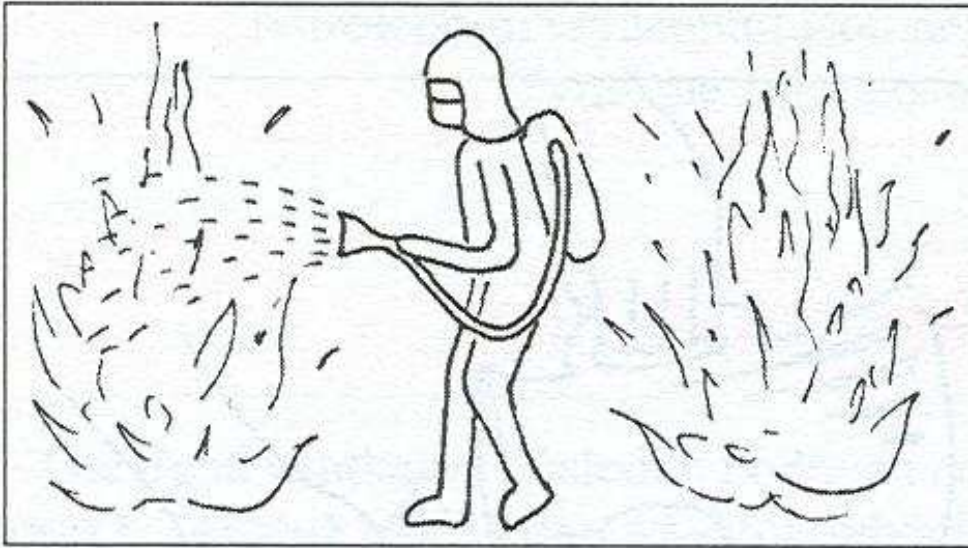
# First Aid – process

- extinguish fire, remove clothing (don't remove any clothing that sticks to burn)
- removal of heat conductors (rings, bracelets etc.)
- cooling down (cold running water – 20 min.), don't cool down the whole body!
- sterile dressing
- don't break blisters
- don't lubricate any ointments
- measures against shock

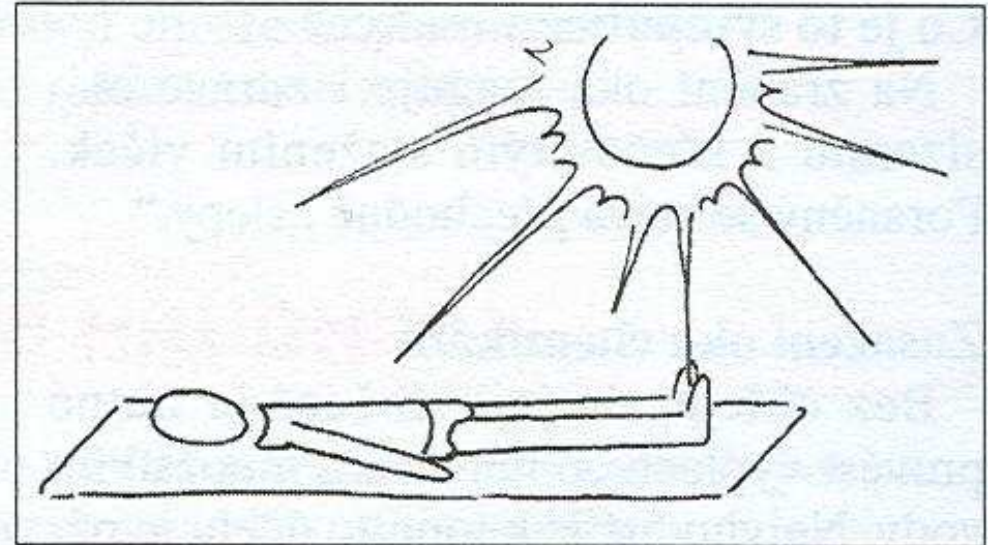


**Doctor – visit with all consequential degrees - more than 1%**

# Sunstroke x Sunburn



Sunstroke



Sunburn

# Sunburn

- working of sun-rays directly on head and nape
- local hyperthermia of head, hyperthermia of brain and its covers

## Symptoms:

high body temperature, by children – convulsions, unconsciousness

# Sunstroke

- working of closed surrounding environment, which is warmer than body temperature (boiler-rooms, kitchens etc.)
- general hyperthermia of organism -> the body can't cool itself

## Symptoms:

headache, red – dry skin, high body temperature, loss of consciousness



# Sunstroke + sunburn

## First Aid

- Lay the casualty down in a cool, shaded area
- dialling of EMS
- check on vital signs
- cooling down – **not on the chest!**

# Electric current accident

- safety of the rescuer
- technical First Aid:

**disconnect lead of electric current**



[www.detstvibezurazu.cz](http://www.detstvibezurazu.cz)

## First Aid:

- always dial EMS – conscious casualty without obvious signs of injury, could have a serious damage of the heart
- **conscious casualty** – treatment of the burn, half-sitting position
- **unconscious casualty** – **not breathing** – start CPR – GL 2005

# Prevention of high voltage accidents

## **REMEMBER!**

Even without direct contact with electric current, life – threatening injury could happen (step voltage).



Illustrated photo