Burns

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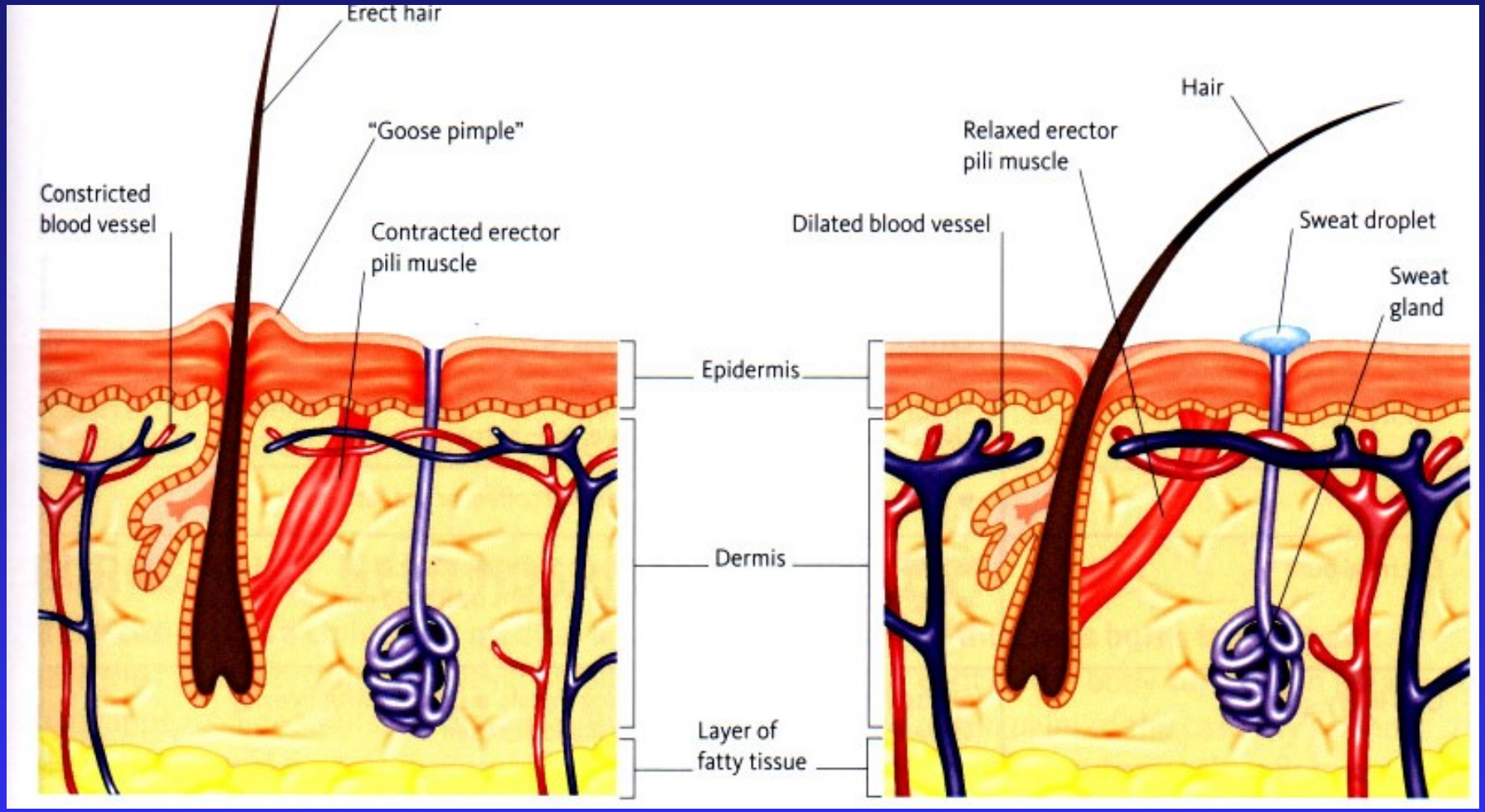


Epidermis
Dermis – blood vessels, nerves,sebaceous glands,sweat glands, hair roots
Fatty tissue

Burns

Dry burn- flames, contact with hot objects

Scald- steam, hot liquids

Electrical burns- low- voltage current
high- voltage current
lightening strikes

Cold injury- frostbite, contact with freezing metal

Chemical burns- industrial chemicals, acid, alkali

Radiation burns- sunburn, exposure to radioactive source

Depth of burn

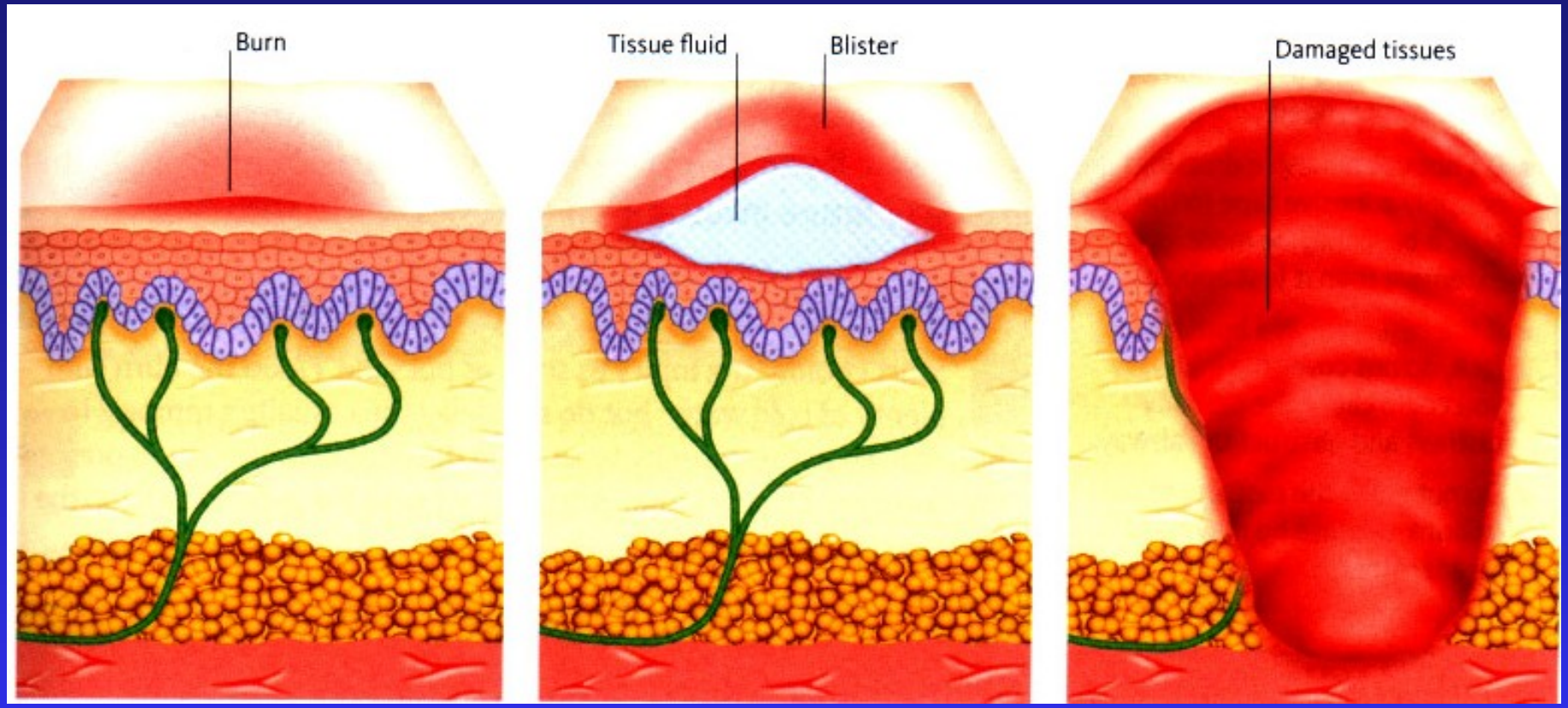
1. Superficial- outermost layer of the skin
   redness, swelling, tenderness
   healing complete in 1-2 weeks

2. Partial thickness burn- epidermis
   blisters, redness, raw skin

a/ superficial- healing in 2 weeks withouts consequences

b/ deep- healing in 3-6 weeks, scars develop, risk of infection
   transplants are needed

3. Full- thickness burn- all the layers of the skin are affected
   damage to the nerves, fat tissue, muscles, blood vessels
   dark, black skinn, infection, necrectomy, transplants, sequels



Superficial burn

Partial thickness burn

Full thickness burn

Extent of burns: rule of 9

Head	9 %
Upper limbs	9 + 9 %
Trunk	18 % + 18 %
Lower limbs	18 + 18 %
Perineum	1 %

Risk of shock in burns

Children up to 10 years of age- 10 % of body surface

Adults- above 20 % of body surface

Signs

Severe pain, local signs of a burn

Oedema, escape of fluids and proteins from injuried area

Hypovolemic shock

Damage to the airways- bronchospasm, dyspnoe

First aid

Stop the burning as soon as possible
Maintain open airways
Remove him from the site of injury
Start cooling the injury as soon as possible
- tap water, ice packs – at least 10 minutes
Remove any rings, watches, belts, shoes
Cover the area with a kitchen film, plastic bag
or apply sterile dressing
Do not remove sticking cloths
Do not burst any blisters
Do not use adhesive dressing, ointments and powders
Do not to allow him to eat and drink
Treat him as a shocked casualty
Monitor vital signs

Chemicals

Acids (dark skin)
Alkali (yellow- brown, green skin)

First aid

Cooling with a plain water

Acids
soap water, soda water

Alkali
Lemon water, vinegar water

Surburn

Overexposure to the sun or sunlamp
High altidudes
Some medicines can trigger high sensitivity to sunlight
Skin is red, blistered, painful

First aid

Remove him from the sun
Cold water on the skin
Sun lotions
Frequent sips of cold water

Heat exhaustion

Loss of salt and water from the body through excessive sweating
Develops gradually
In humid conditions, dancing in warm enviroment etc.

Signs: fatique, exhaustion, vomiting, diarrhoea

First aid
Tu put him to a cool, shady place
Plenty of water to drink
Monitor vital signs

Heatstroke

The body is overheated
Prolonged exposure to heat or due to a high fever
Drugs

Signs
Headache, dizzines, confusion
Hot, flush and dry skin
Rapid pulse
Body temperature over 40º C
Impaired consciousness

First aid
Remove him to a cool place
Cold wet sheet, cold water
Cold drinks

Hypothermia

Body temperature falls bellow 35º C
Severe hypothermia- bellow 30º C- is often fatal

Prolonged exposure to cold
Wind- chill factor, immersion to cold water
Poorly heated houses, homeless people
Thin and frail persons, alcohol, chronic illness

Signs
Shivering, pale, dry skin
Apathy, desorientation
Slow breathing and pulse
Impaired consciousness

Hypothermia

First aid

Take the casualty to a sheltered place
Remove any wet cold clothing
Rewarm him
Warm room, warm blankets
Insulating material, dry sleeping bag
Survival bag
Monitor vital signs

In children- mechanism for regulating body temperature is underdeveloped – first aid and medical advice

Frostbite

1. Pale skin, less sensation

2. Yellowish skin with blisters, no sensation

3. Necrotic skin

Frostbite

Occurs in freezing or cold and windy conditions

Pale skin, numbness
Hardening of the skin
Stiffening of the skin
Change of colour – white, mottled, blue, red
painful, blistered, black in gangrene

First aid
Put him to a warm place
Remove gloves, rings etc, sterile dressing
Rewarm him slowly
Avoid direct heat
Transport to hospital