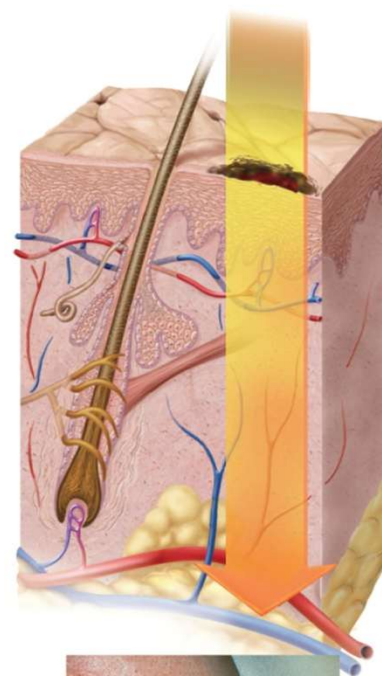
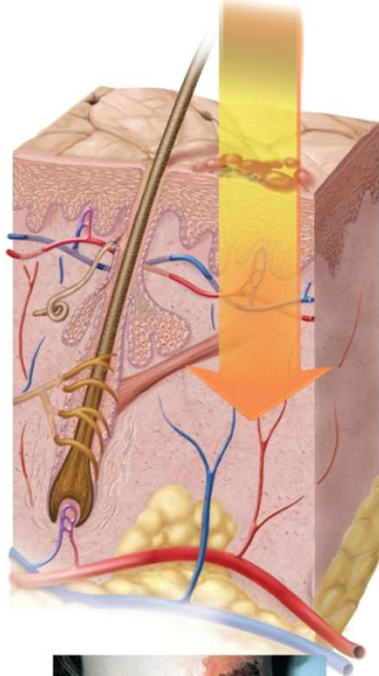


Chapter 6.2

Burns





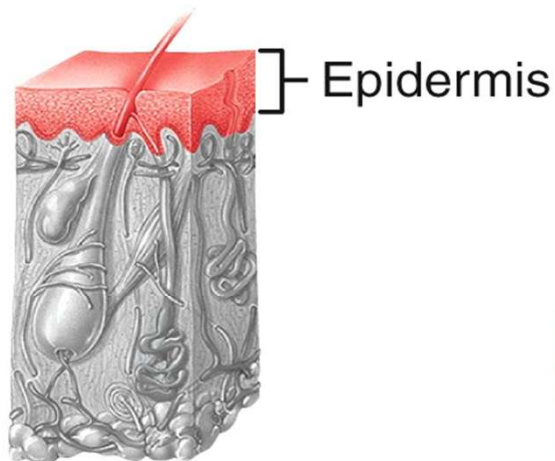
Sheila Terry/Science Photo Library/
Photo Researchers, Inc.



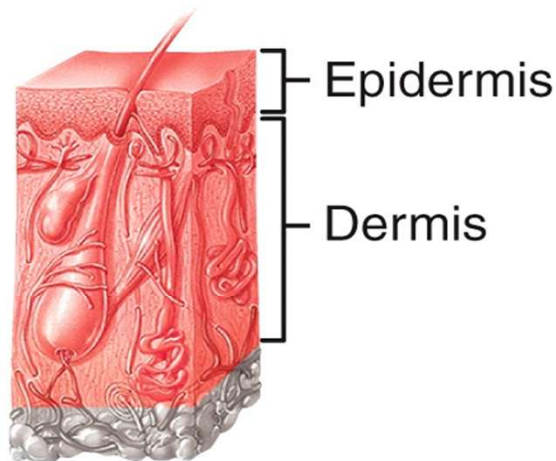
St. Stephen's Hospital/Science Photo
Library/Photo Researchers, Inc.



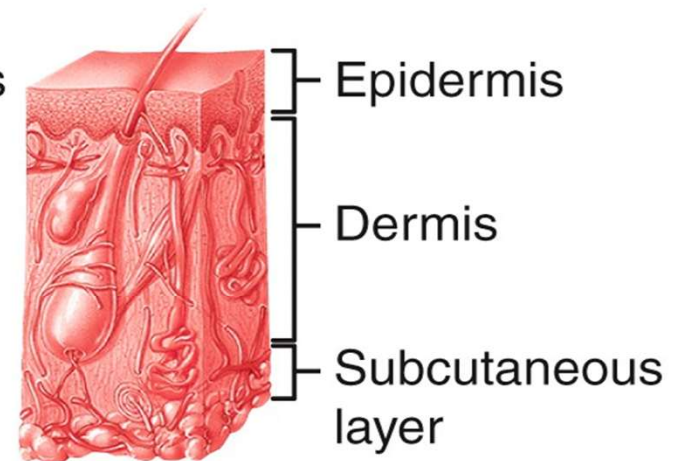
St. Stephen's Hospital/Science Photo
Library/Photo Researchers, Inc.



(a) First-degree burn
(sunburn)



(b) Second-degree burn
(note the blisters in
the photograph)



(c) Third-degree burn

What is the difference between partial thickness and full thickness burns?

Burns

- Leading cause of accidental death

- fires, kitchen spills, sunlight, ionizing radiation, strong acids or bases, or electrical shock

- deaths result primarily from fluid loss, infection and toxic effects of **eschar** (burned, dead tissue)

- **debridement** – the removal of eschar

Burns – Three Degrees

- Classified according to the depth of tissue involvement /// first degree – second degree – third degree burns

–**first-degree burns** (partial thickness burn) - involve only the epidermis

- marked by redness, slight edema, and pain
- heal in a few days
- most sunburns are first degree burns

–**second-degree burns** (partial thickness burn) - involve the epidermis and part of the dermis

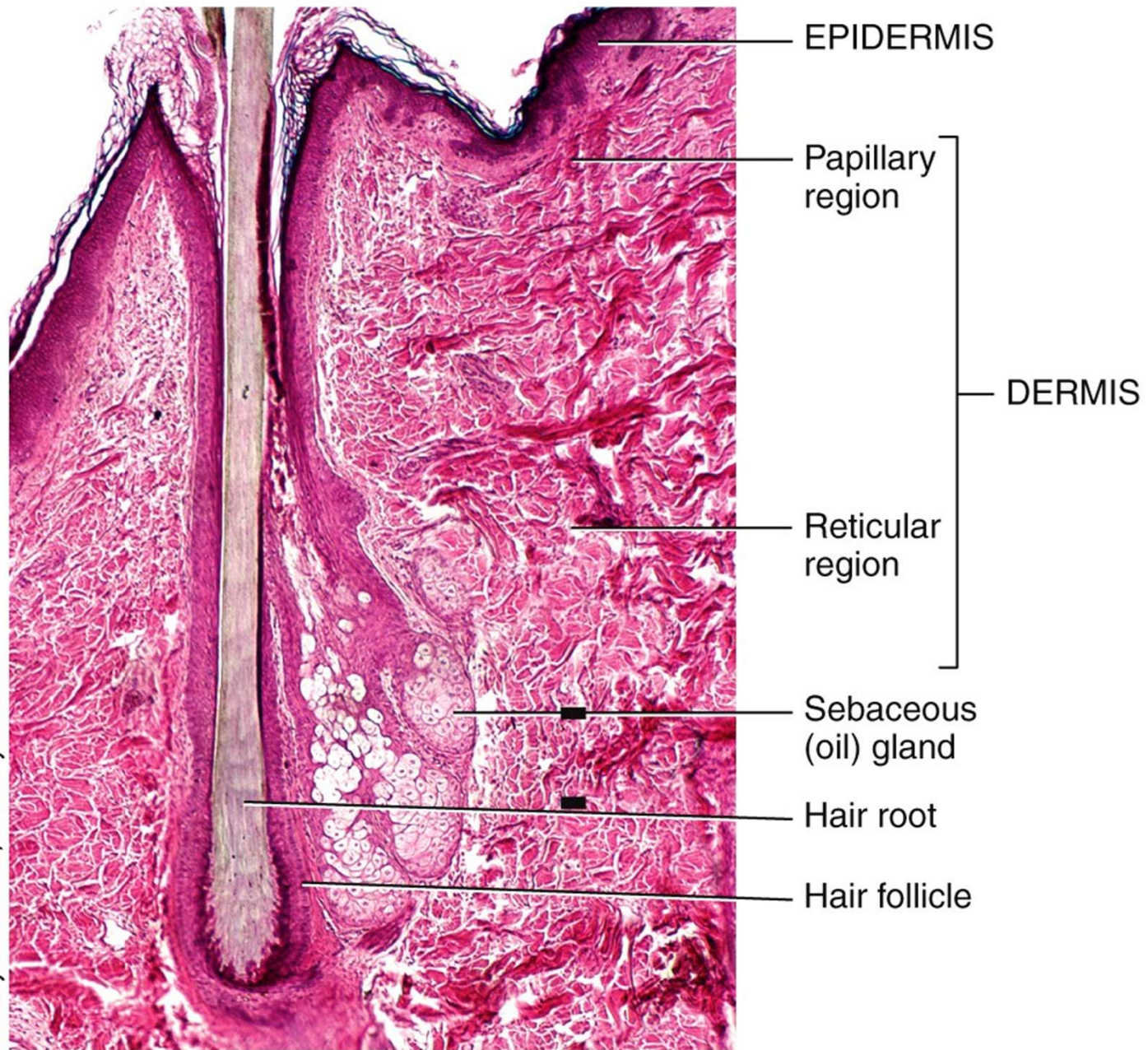
- leaves part of the dermis intact
- red, tan, or white
- two weeks to several months to heal and may leave scars
- blistered and very painful

Burns – Three Degrees

–third-degree burn (full thickness burn)

- the epidermis and all of the dermis, and often some deeper tissues (muscles or bones) are destroyed
- often require skin grafts
- needs fluid replacement and infection control
- no pain / pain receptors gone (nociceptors)!

Courtesy Michael Ross, University of Florida



LM 60x

(b) Sectional view of skin

Skin Grafts and Artificial Skin

- third-degree burns require skin grafts
- graft options
 - autograft** - tissue taken from another location on the same person's body // **split-skin graft** – taking epidermis and part of the dermis from an undamaged area such as the thigh or buttocks and grafting it into the burned area
 - isograft** - skin from identical twin
- temporary grafts (immune system rejection)
 - homograft (allograft)** -- from unrelated person
 - heterograft (xenograft)** -- from another species
 - amnion from afterbirth
 - artificial skin from silicone and collagen