Psychosocial Adaptation to Burns: Current Knowledge and Future Directions

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Topics covered in this talk

- Introduction to burns and their consequences
- Epidemiology of burns
- Stages of burn recovery
- Body Image, stigmatization and social integration after a burn injury
- Psychological and Social Interventions
- Future Directions

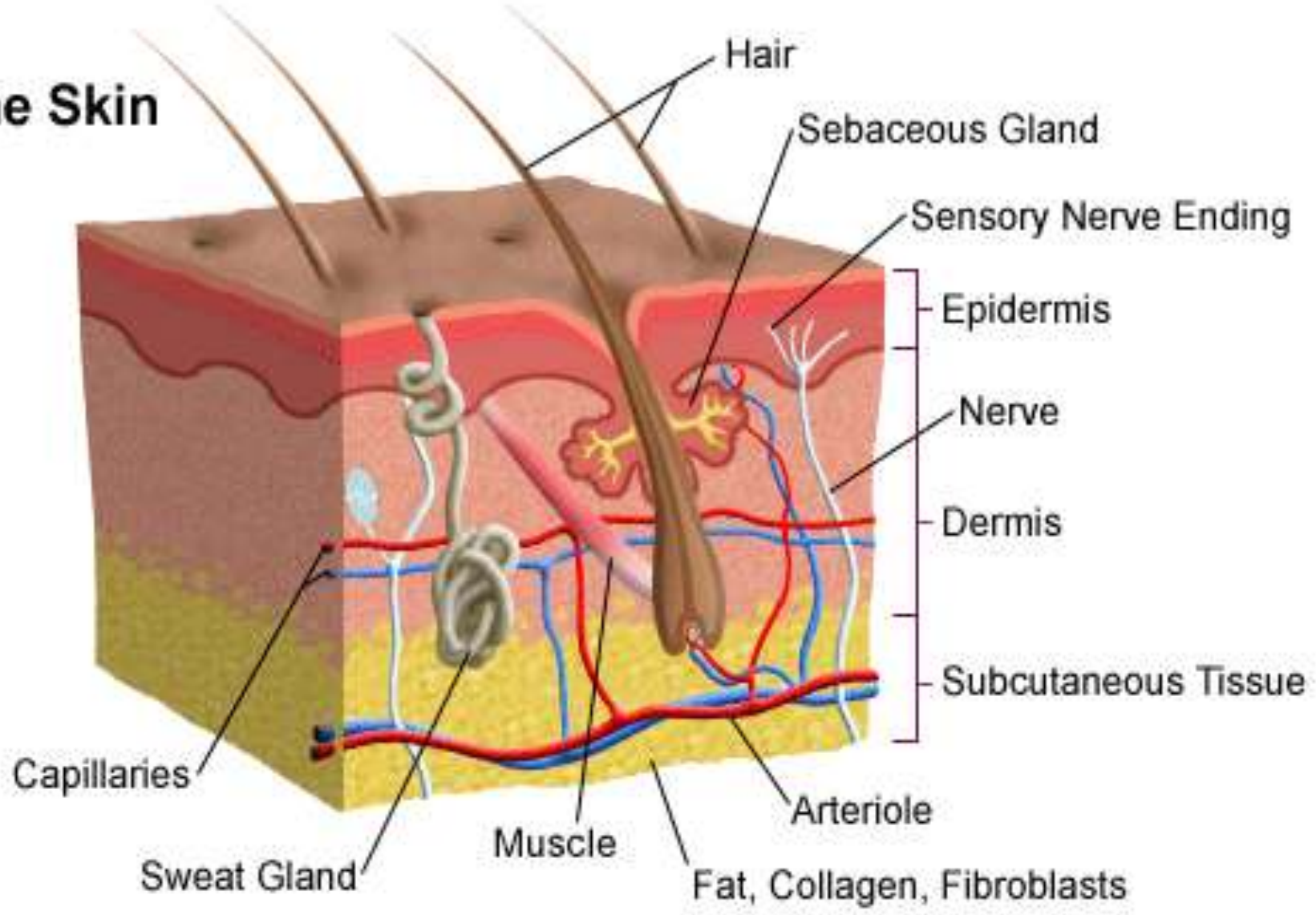
A burn

- **is an injury to tissue caused by a thermal agent.**

Causes of burns

- sun
- fire
- heat
- hot liquid
- electricity
- lightening
- radiation
- chemical agent.

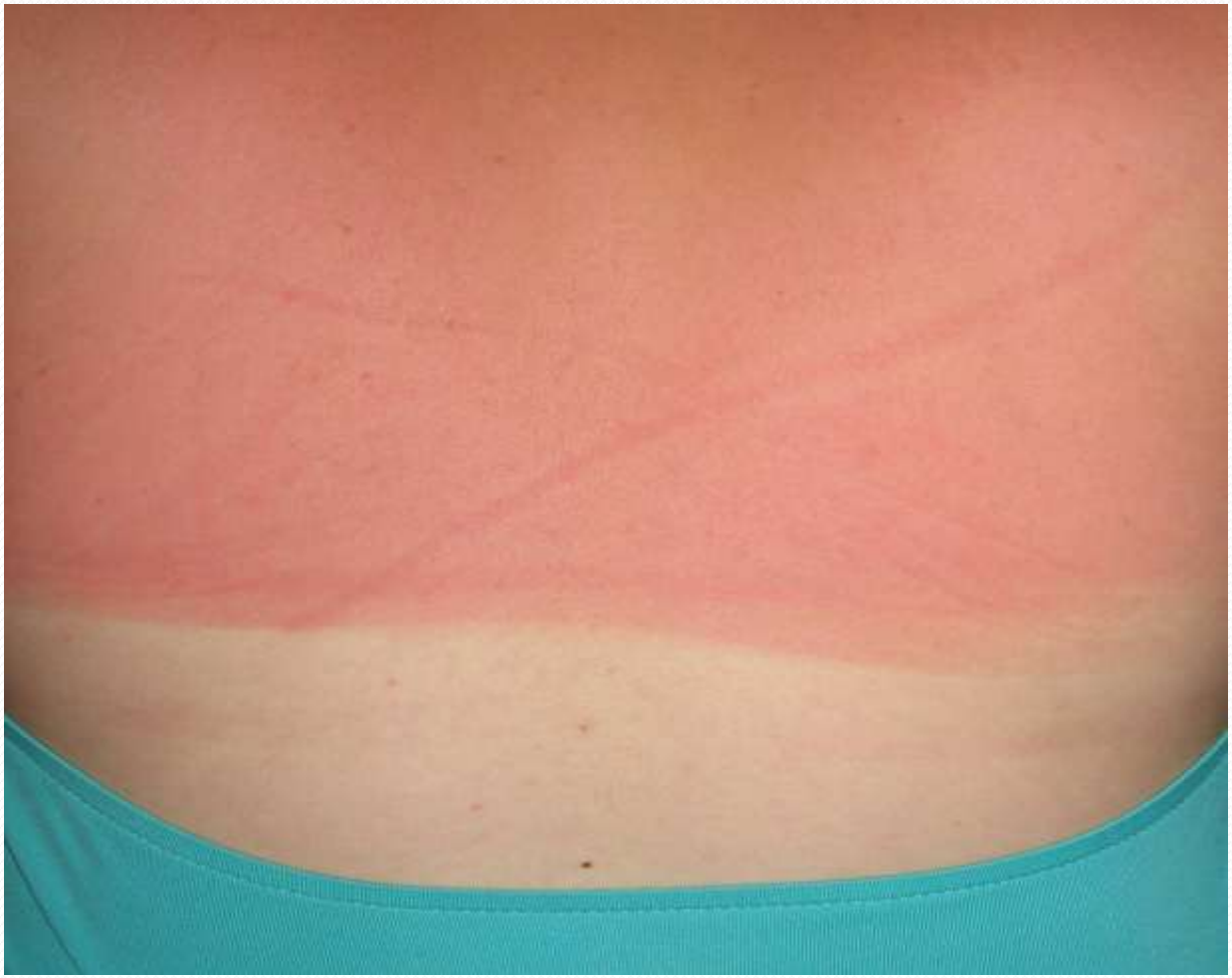
The Skin


Hair
Sebaceous Gland
Sensory Nerve Ending
Epidermis
Nerve
Dermis
Subcutaneous Tissue
Capillaries
Sweat Gland
Muscle
Arteriole
Fat, Collagen, Fibroblasts

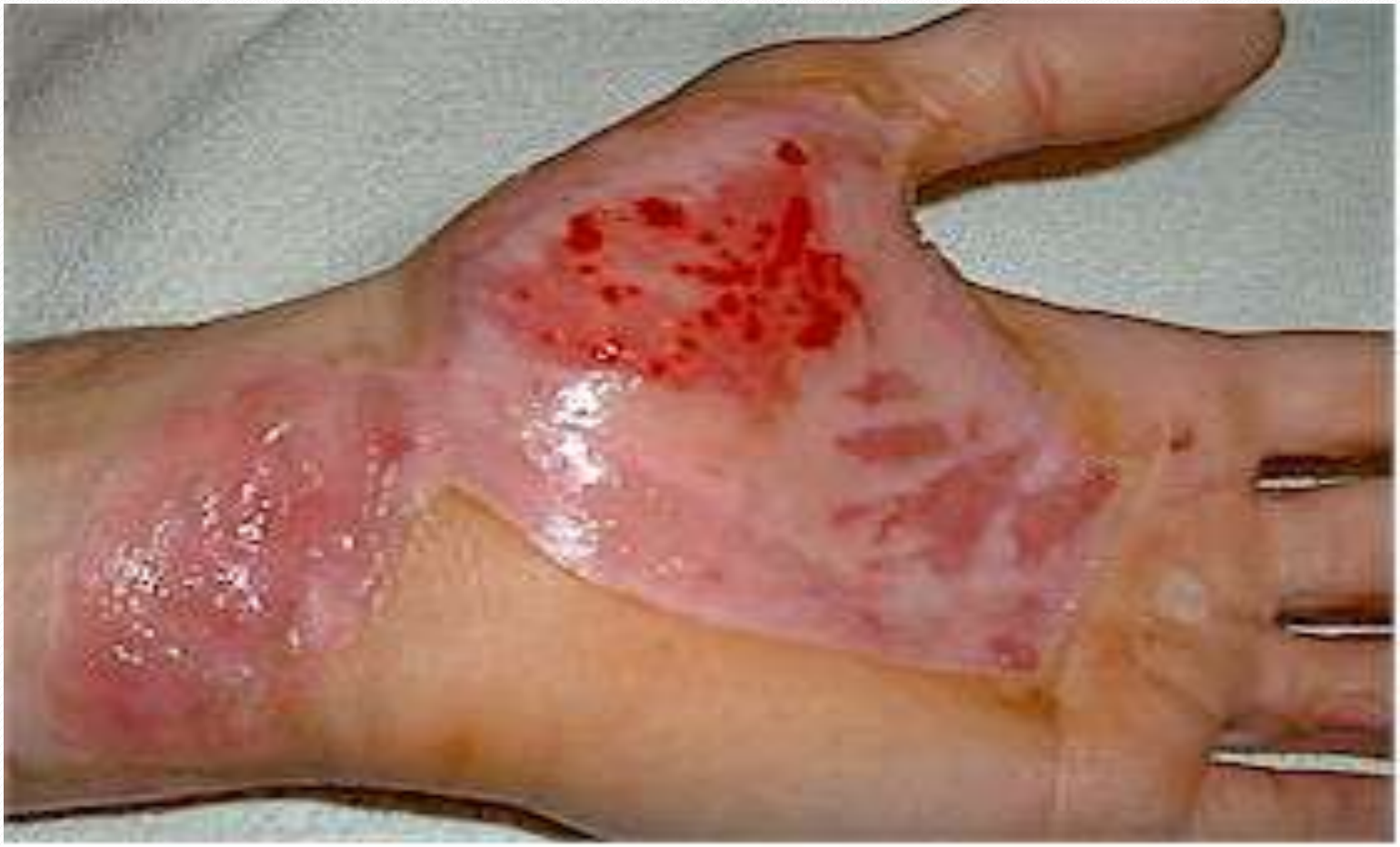
Severity of Burns

- First degree or superficial burns
- Second degree or partial thickness burns
- Third degree or full thickness burns
- Forth degree burns or damage to organs under skin

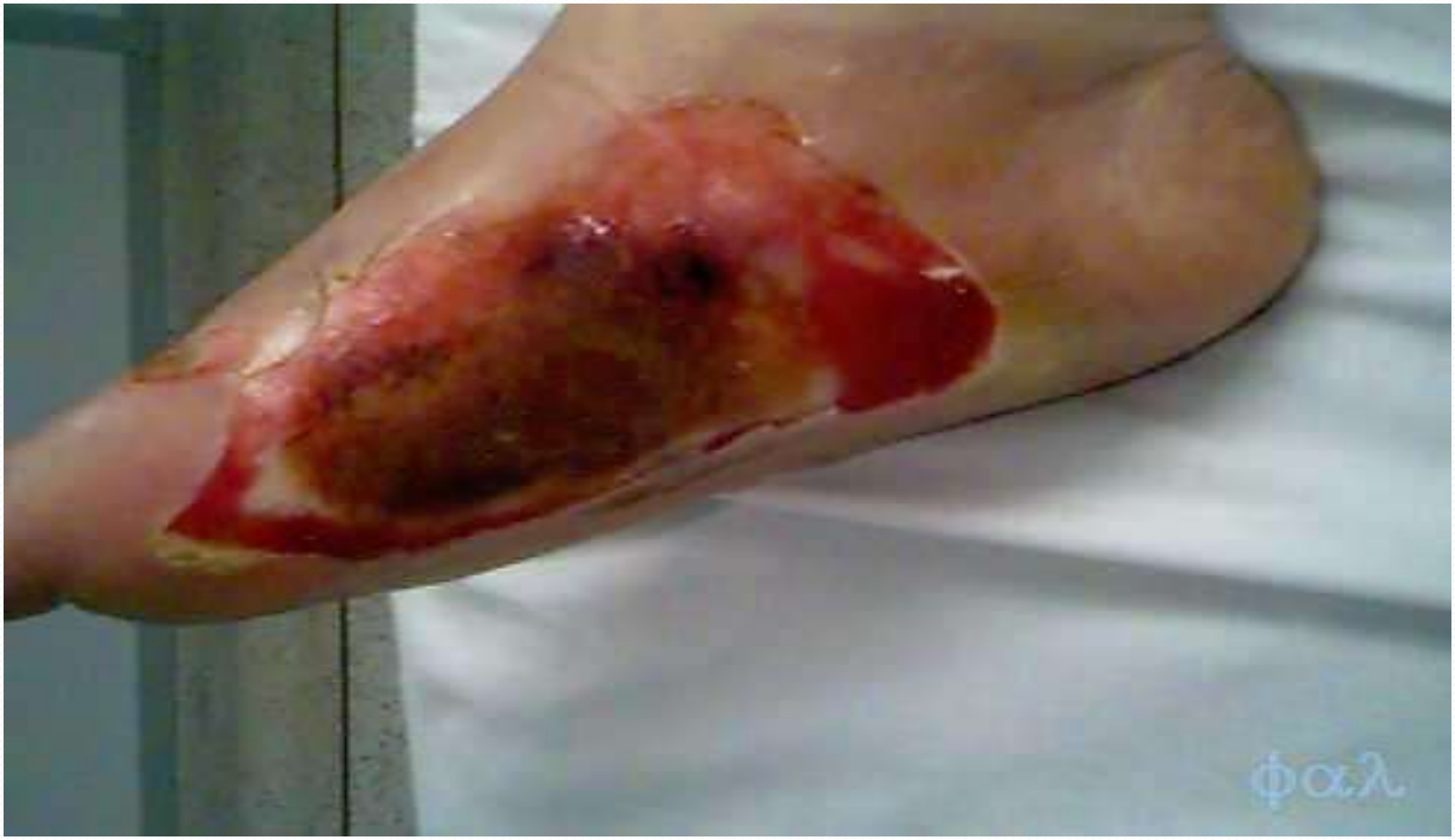
First degree burn



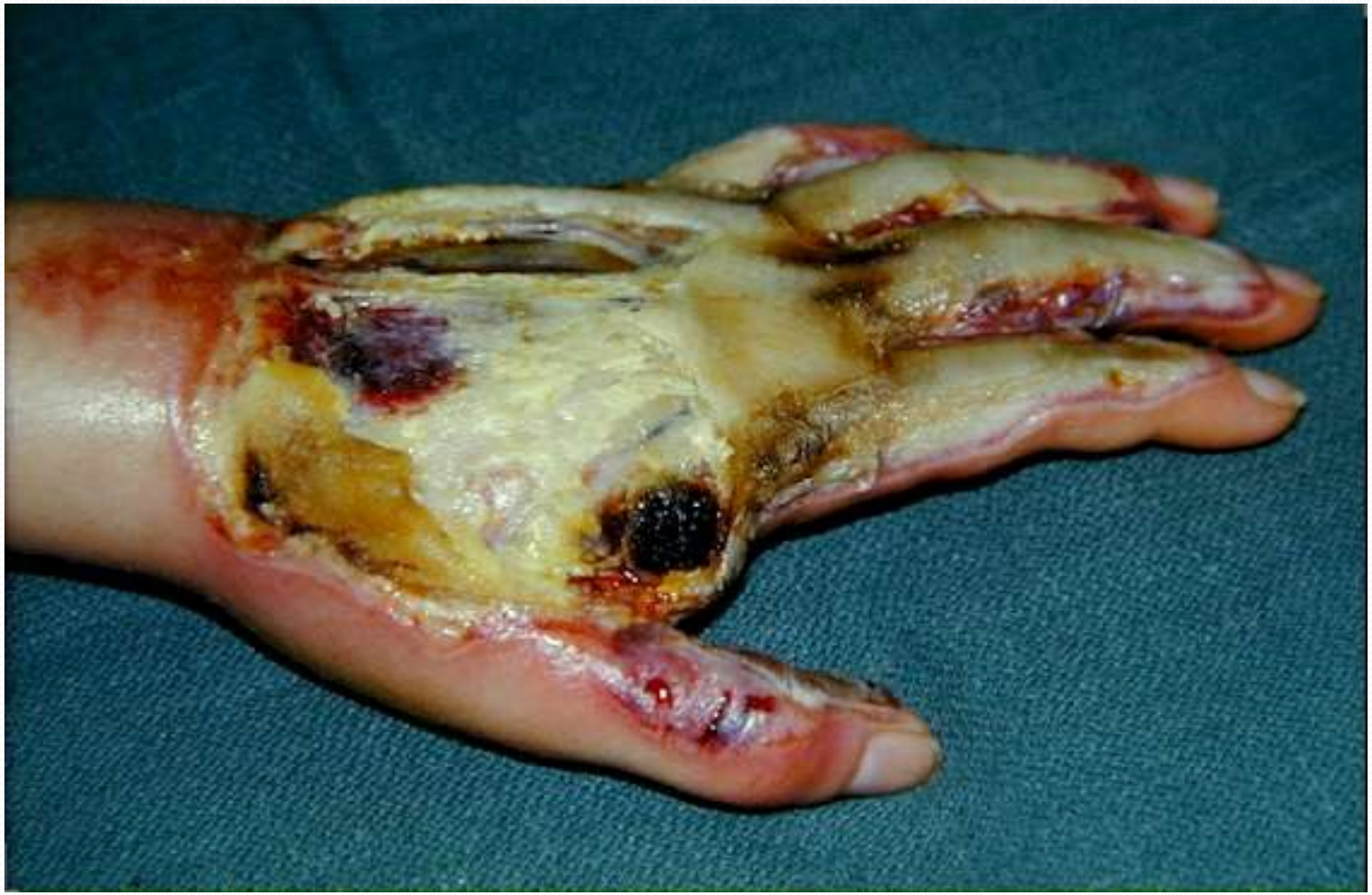
Second degree burn



Third degree burn



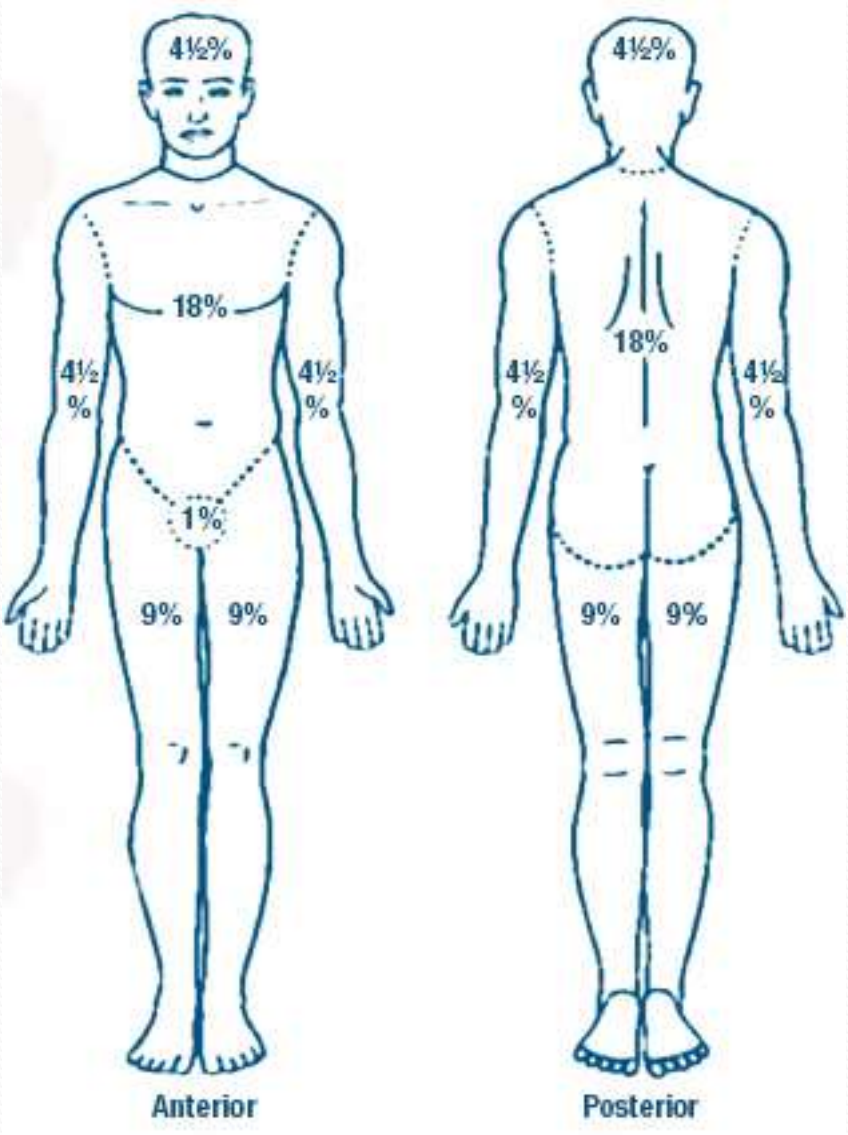
Fourth degree burn



Another Dimension of Severity: Size of burns

- Burns are evaluated based on the percentage of total body surface area (TBSA) of the wound.
- Burns of greater than 10% TBSA in children and 15% TBSA in adults are potentially life threatening.

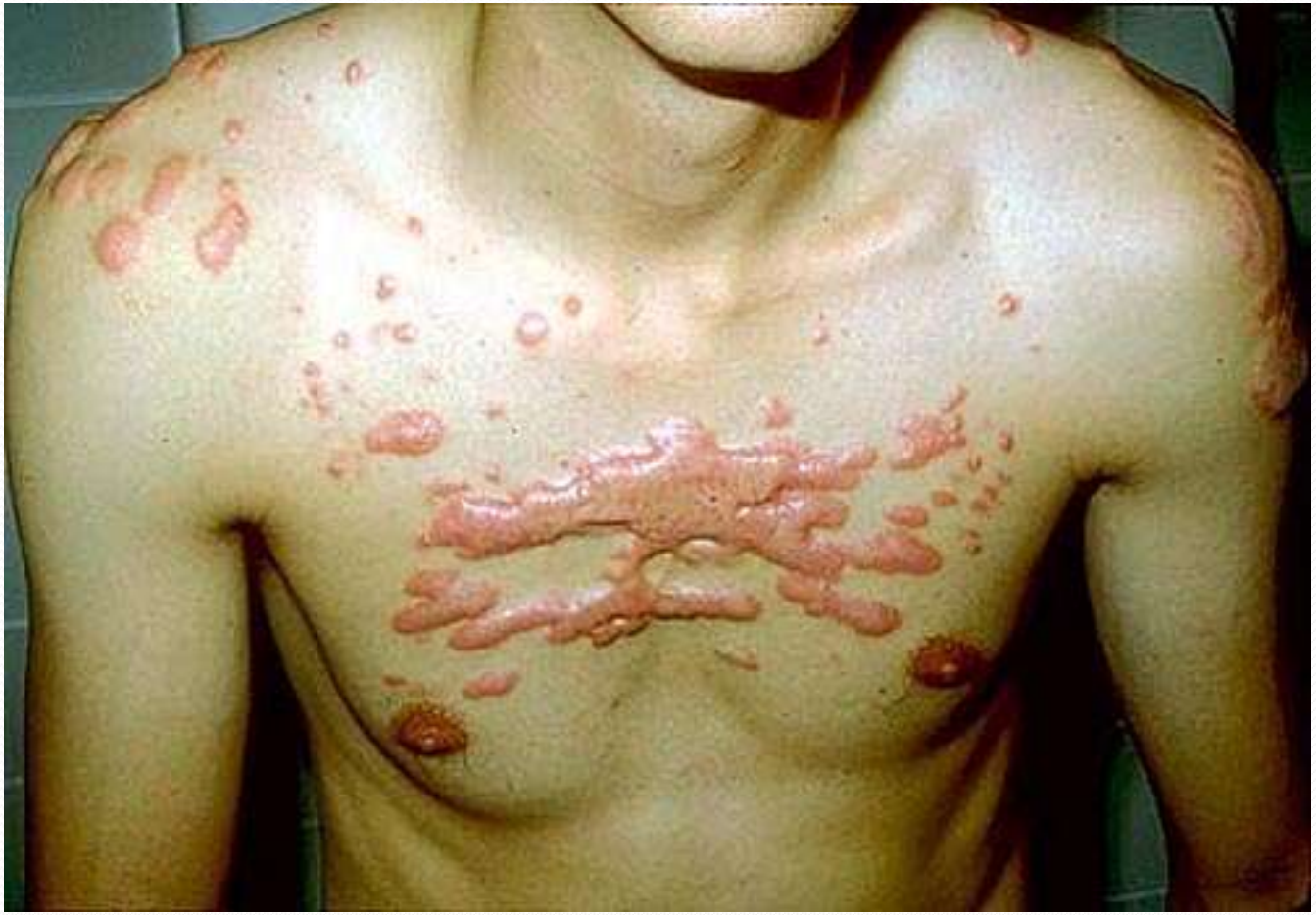
Burn diagram



Common Physical Consequences

- **Change in one's appearance due to scarring**
  - **Burn scars often appear thick, rough in texture, dry, and discolored.**
  - **If the burn caused damage to body parts under the skin, burns can also cause changes in the shape or contours of body parts.**
  - **For example, face and head burns may result in the loss of part or all of a person's nose or ears.**
  - **Hypertrophic scars and keloids**
    - ***are raised scars caused by an excess of growth of new skin cells.***

Keloid Scars



More Physical Consequences

- A scar over a joint which contracts can impede movement of the joint.
- Nerve damage
- Inability to sweat
- Loss of limb
- Chronic itching
- Acute and chronic pain
- Sleep difficulties

Common Psychological Consequences

- Depression
- Post Traumatic Stress Disorder (PTSD)
- Negative Body Image
- Social Anxiety
- Substance Abuse
- Grief
- Guilt
- Sexual concerns

Common Social Complications

- Stigmatization due to scarring
- Discrimination
- Catalyst for family distress
- Occupational difficulties and unemployment
- Financial catastrophe

Possible Positive Outcomes

- Triumph of life
- Reassess priorities
- Discovering one's own resilience
- Reaffirm relationships with family and friends

Epidemiology of Burns

- **Whose most likely to get burned and under what circumstances?**

Social Vulnerability Hypothesis

- It is often assumed that burns are random.
- Social factors influence people's risk of being burned.
- People who are low is social power are more likely to be burned.

Most Common Social Risk Factors

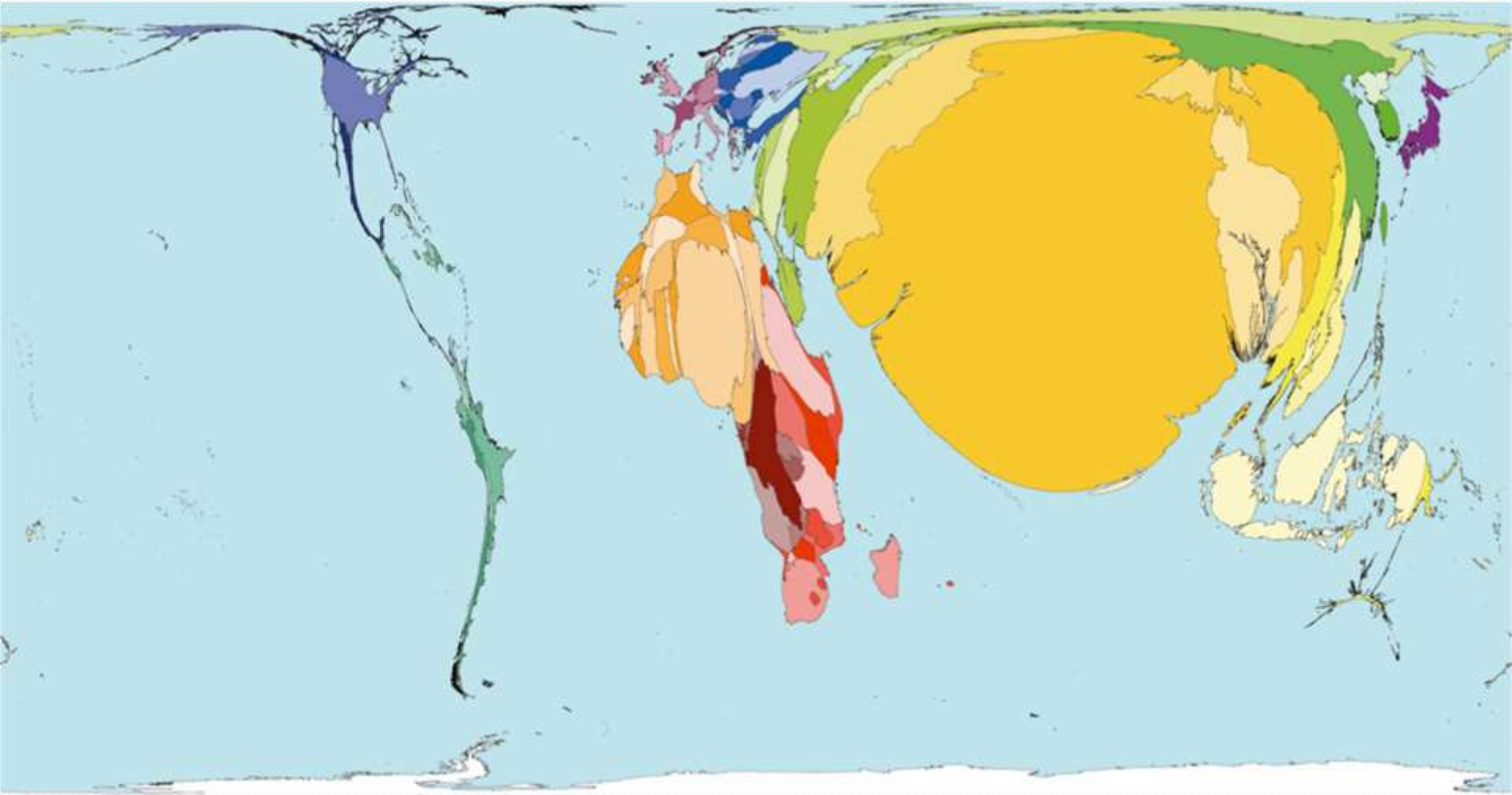
- Low Social Economic Status (SES)
- Minority Race/Ethnicity
- Gender
- Age
- Psychological Status

Social Economic Status (SES)

- 95% of fire related burns occur in developing countries
- 90% of burn deaths occur in low and middle income countries
- Within countries, low SES groups are at highest risk (e.g., fire alarms).
- Regionally specific factors contribute to the relationship between poverty and burns.
- Scarce access to safe and affordable fuel sources
  - kerosene stoves and lanterns

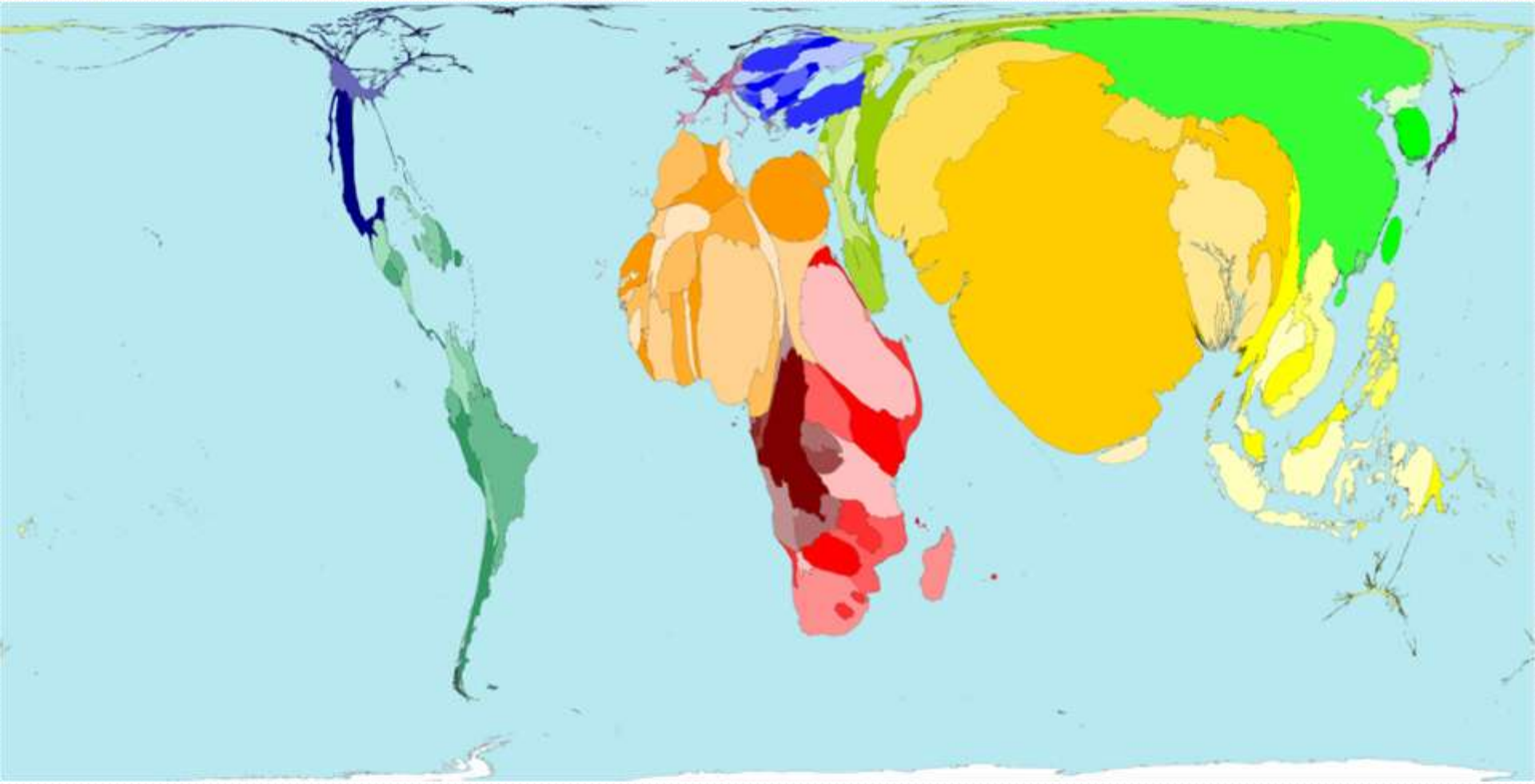
Fire Deaths Density Equalization Map

from Pressman, Peck, & Knolhoff (2012). The correlation between burn mortality rates and economic status of countries. Poster session presented at ABA.



Poverty Density Equalization Map

from Pressman, Peck, & Knolhoff (2012). The correlation between burn mortality rates and economic status of countries. Poster session presented at ABA.



Gender

- Boy's greater than girls.
- Among adults, the gender distribution of burns is influenced by the safety conditions at work and at home which are often determined by the level of industrialization of a country.
- Industrialized countries: men
- Developing countries: women
- In cities in India, 25% of all deaths of women between the ages of 15 and 34 are burn-related.
- Culturally sanctioned sexual violence

Intentional Burns

- Assault Burns
- Child Abuse
- Self Immolation

Assault Burns

- Around the world, the incidence rates for assault by fire and scalds ranging from 3% to 10%.
- Common circumstances include:
  - interpersonal conflict, including
  - spousal abuse
  - elder abuse
  - contentious business transactions

Assault burns against women

- **Marital, Disputes, Bride Burnings and Dowry Disputes**
  - **In India in 2008, there were 1948 convictions and 3876 acquittals for the crime of dowry death.**
- **In China and Bangladesh, it is not uncommon for women to be assaulted with acid in the context of a relationship dispute, often by a rejected suitor.**
- **In South Asia, Africa, and the Middle East, self-immolation is a relatively common form of suicide especially among young women attempting to escape servitude and abusive relationships.**

Lessons from epidemiology literature

- Low social power puts people at risk of being burned.
- Empowering people helps prevent burns.
  - As groups economic status improves the incidence of burns decreases
  - Increasing the education of women decrease the likelihood their children will be burned.
- In providing treatment for burn survivors clinicians must take into consideration the person's social resources.
- Often, what burn survivors need most is access to resources (health insurance, housing, employment).

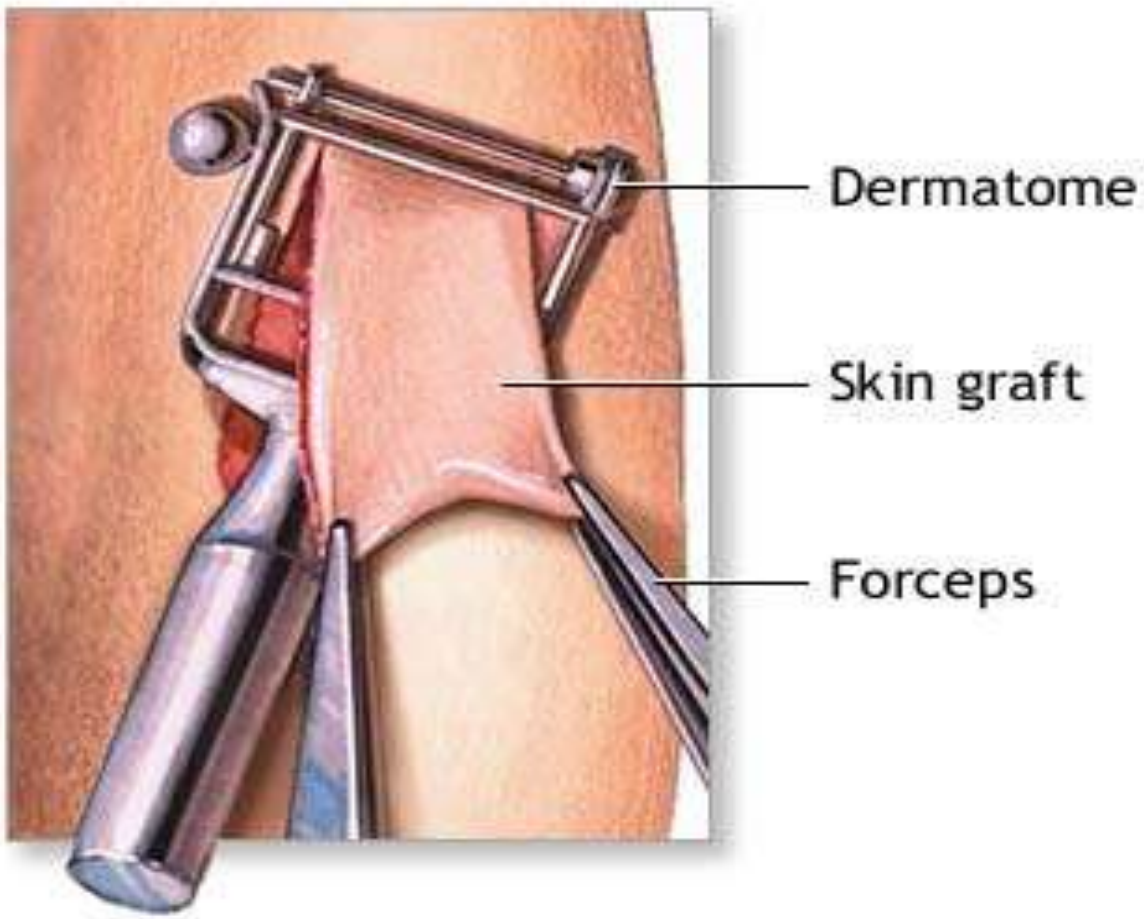
Stages of recovering from a severe burn

- Critical care and in-hospital recuperation
- Post hospitalization rehabilitation and reintegration
- Long term adaptation

Critical care and in-hospital recuperation

- For major burns, during the critical care period, a patient is often fighting for his life.
- Because of the loss of their skin, burn survivors are at high risk of infection.
  - Consequently, two primary goals of the burn medical staff are to keep the wounds clean and to close them as soon as possible.
  - Patients with third degree burns undergo skin grafts.

Skin graft



The prognosis of the patient is determined by

- the extent of the burn
- the age of the patient
- the severity of other medical complications
- the quality of care available.
- Adult patients with greater than 40% TBSA burns and without access to specialty burn care facilities are unlikely to live.

Psychological challenges of the in-hospital stage of burn recovery

- Pain
- Poorly controlled pain can interfere with wound healing and physical and psychological rehabilitation.
- Post Traumatic Stress Disorder
- Depression and hopelessness

Post hospitalization rehabilitation and reintegration

- Can take several years
- People with severe burns will need multiple reconstructive surgeries
- Physical and occupational therapy
- Healing is not a linear process. There are often setbacks.
- Burns across joints can limit the range of motion and thus limit functioning.
- The rehabilitation of hand burns is particularly challenging.

Psychological Challenges

- Frustration with slow progress
- Depression
- PTSD
- Start to face the social ramifications of enduring burn scars
- Risk for family conflict especially if there was a pre-existing problem.
  - Taking care of a burn survivor can tax the time, financial and emotional resources of a family.

Long term adjustment to burns

- **Return to work or school**
- **After 3 years, about 28% of burn survivors have not returned to work.**

Psychological Challenges

- grieving the loss of one's pre-burn appearance and functioning
- adapting to and accepting one's post-burn body
- Socially adapting to being visibly different.

Long Term Outcomes

- A majority of burn survivors appear to adapt well in the long run.
- A sizable minority don't adjust well.
- Approximately 30% of long term burn survivors report clinical levels of depression.
- Approximately, 35% of burn survivors evidence PTSD at 1 month postburn. At 2 years postburn 25% met criteria for PTSD.

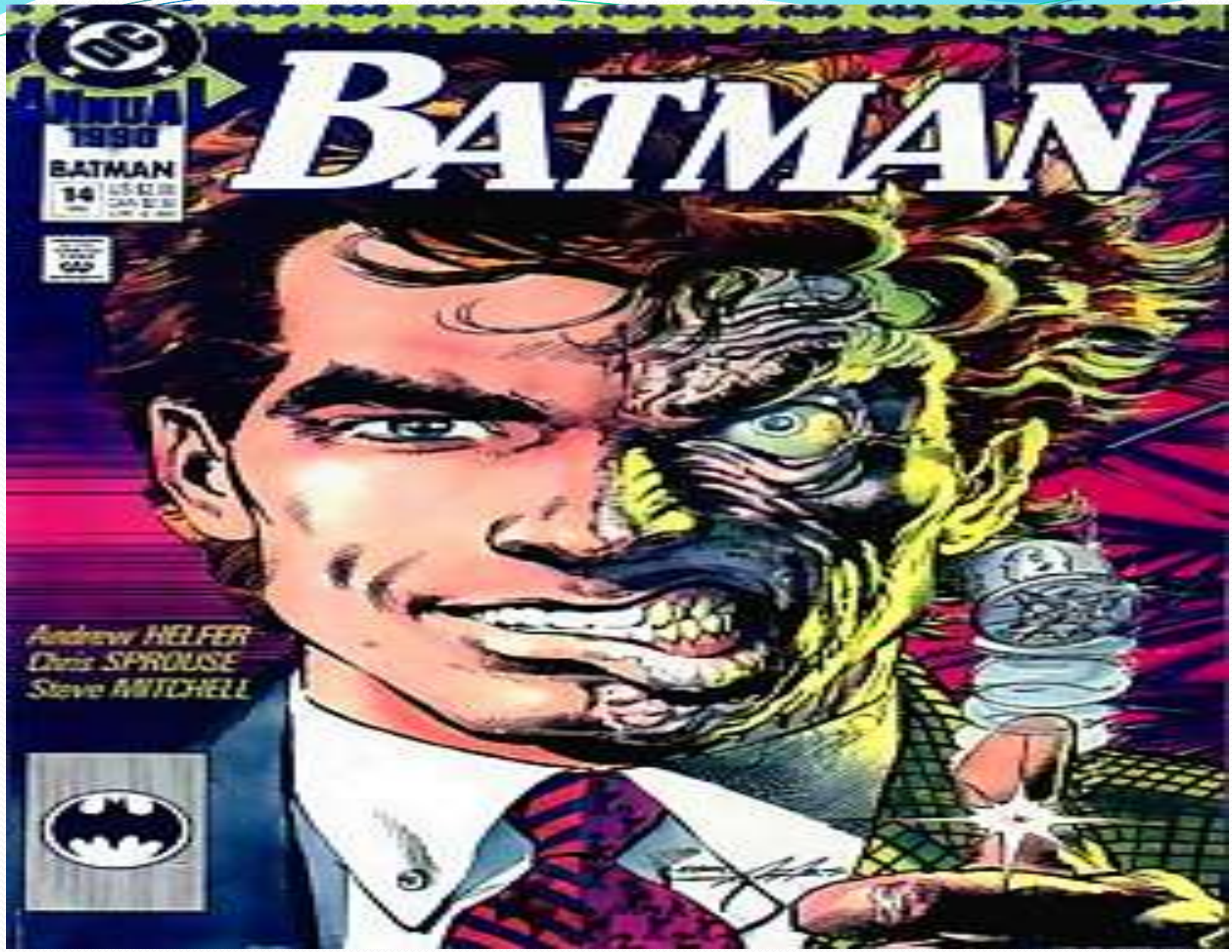
Body Image, Stigmatization and Social Integration after a Burn Injury

Stigmatization

- **The process of ascribing negative characteristics to a person or group that is judged to be different and, based on this negative stereotype, the stigmatized person or group is treated in a negative manner resulting in social and/or material losses.**

Cultural Background

- Social "problems" with "differences" are not inherent to a person but result from the person-environment fit.
- Historically, across many cultures, physical differences have been vilified.
  - e.g., Snow White; Cinderella
- In 21st century global corporate capitalism, physical appearance has been highly commodified, and the dehumanization of disfigurement has been magnified.


ANNUAL
1990
BATMAN
14
BATMAN
Andrew HELFER
Chris SPROUSE
Steve MITCHELL

Interpersonal stigmatization

- In artificial scars studies, when a scarred as opposed to a non-scarred person is in a public places, other people are more likely to maintain a greater physical distance from the scarred actors. Moreover, strangers minimized their social interaction with scarred actors and were less likely to offer them help.

New Assessment Questionnaires

- Satisfaction with Appearance Scale
- Social Comfort Questionnaire
- Perceived Stigmatization Questionnaire

Interpersonal Stigmatizing behaviours

- staring
- pointing
- startled responses
- ignoring
- avoidance
- confused behaviour
- name-calling
- intrusive questions
- teasing
- bullying
- discrimination

Perceived Stigmatization Questionnaire

- Absence of friendly behaviour
- Confused behaviour and staring
- Hostile behavior such as teasing and bullying

1) How does the body image of burn survivors compare with non-burn comparison groups?

- **Two studies have compared pediatric burn survivors (ages 8 – 18) with a non-burned pediatric sample on body image measures.**
- **Neither study found average differences between groups on body image measures.**

2) What is the relationship between scarring and psychosocial outcomes such as body image and depression?

Scar Severity

- Across studies, scar severity tended to have
- a low to moderate correlation with body image dissatisfaction ($.15 < r < .40$)
- a low relationship with social comfort ($-.02 < r < -.20$)
- a low relationship with depression ($.01 < r < .25$)

Scar Visibility

- **The relationship between scar location and visibility and psychosocial outcomes tend to be to low (*r* < *.25*).**

The relationship between scarring and body image is dynamic and influenced by psychological and social variables.

- E.g., scar severity and importance of appearance

Correlations between scar severity and body image

	Scar Severity/Body Image Correlation
Low Importance Appearance	-.12
Medium Importance Appearance	-.40
High Importance Appearance	-.78

4) What is the relationship between scarring and the experience of stigmatizing behavior?

- Of the type of stigmatizing behaviors, confused responses and starring have the strongest relationship with scar severity.
- Among pediatric burn survivors, there is modest evidence that scar severity is related to teasing/bulling.
- Children with multiple differences/disabilities are at likely at the highest risk.
- Parent may be unaware of their children being teased/bullied.

5) What interventions are effective in treating psychosocial complications related to scarring?

- Alter one's appearance
- Psychological interventions
- Peer-to-peer support
- Social interventions

Alter one's appearance

- Effect of burn reconstructive surgery has not been tested.
- One study comparing "spray-on skin" for improving the appearance of burn scars or a waitlist control group.

Cognitive Behavioral Therapy

- Cognitive model posits that a person with visible differences can get stuck in a vicious cycle of self disparaging thoughts, anticipating rejection and social avoidance.
- Break this cycle by teaching burn survivor specific social skills and building a social life.
- E.g., confident body language, making eye contact, smiling to put someone at ease, having a brief explanation of "what happened," guiding conversations, assertive responses to rude behavior
- One study testing a social skills intervention (Blakeney et al)

Peer to peer support

- Phoenix Society for Burn Survivors
- www.phoenix-society.org
- Burn Camps

Social Milieu Interventions

- School Reentry Programs
- Family Therapy

Political Interventions

- Changing Faces and the Campaign for Face Equality
- www.changingfaces.org.uk
- www.iface.org.uk/doc
- Civil and human rights of people with visible distinctions
- Part of a larger disabilities rights movement working for social and political rights, social inclusion and citizenship

Conclusions

Research Priorities

- More attention needs to be paid to research design
- Develop and use high quality assessment instruments
- Randomized clinical trials of interventions
- Investigate the epidemiology of body image and social anxiety issues among long term burn survivors
- More studies on family functioning and well-being
- Need studies on burn clinicians and stress

Develop quality assessment instruments

- Recent reviews of functional outcome, employment status, risk factors for scar complications and psychosocial outcomes among burn survivors all stated that a lack of quality assessment tool hampers research.

Three suggestions for the development of psychological instruments

- Conjoint factor analysis
- Test measurement invariance
- Develop cut-off scores

Clinical Priorities

- Routine screening for psychological issues
- Test effectiveness of interventions
- Creating practical interventions that reach our target population

Social and Political Advocacy

- **Perhaps, most importantly, we need to expand the social activism started by the Phoenix Society and Changing Faces to fight for the civil and human rights of people with visible distinctions.**

Political goals

- This includes the struggle for the economic enfranchisement of poor people, particularly women.
- In the U.S., this includes the struggle for universal healthcare.
- A more loving and tolerant society will greatly facilitate survivors' recovery from major burns.

Useful references

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