

Management of the Burn Patient

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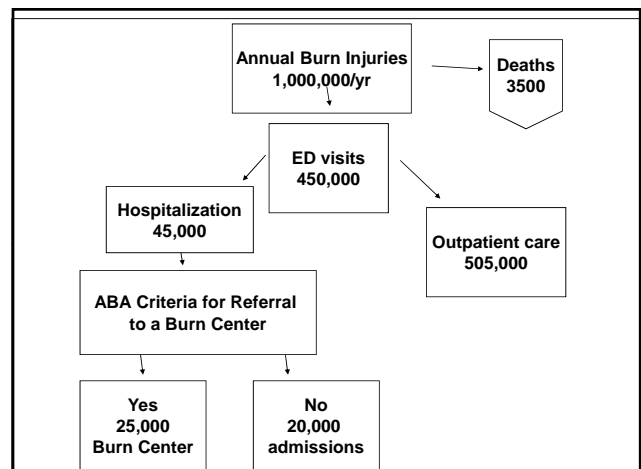
American Burn Association Transfer Criteria

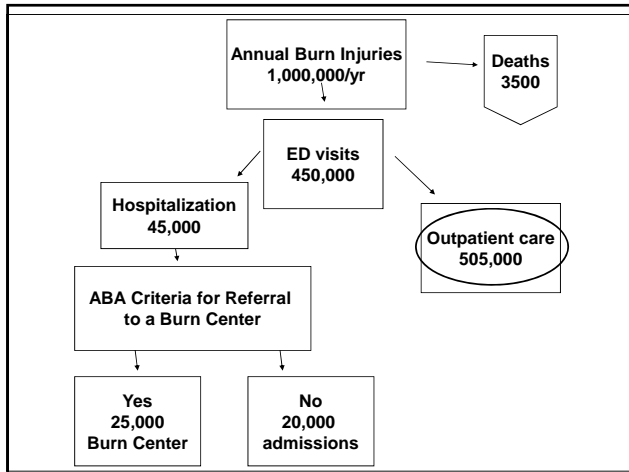
- Burn > 10% TBSA
- Burns > 5% full thickness
- Burns complicated by inhalation injury, significant associated injury or co-morbidity
- Burns of hands, face, feet, perineum, major joints
- Electrical/chemical injuries

ABA Advance Burn Life Support (ABLS) course

Learning Objectives

- Describe ambulatory management of burn patients
- Use the “rule of nines” to estimate total body surface area of the burn
- Describe partial and full thickness burn wounds
- List ABA criteria for patient transfer to a specialty burn center
- Discuss the management of SJS/TEM





Severity Total Body Surface Area

Baby Rule of Nines

14% 1% 9% 18% 14% 18% 9%

Severity Total Body Surface Area Rule of Nines

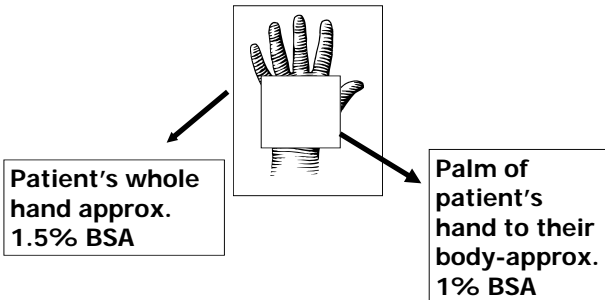
**ADULT
"RULE OF NINES"**

FRONT BACK

Severity Total Body Surface Area

Patient's whole hand approx. 1.5% BSA

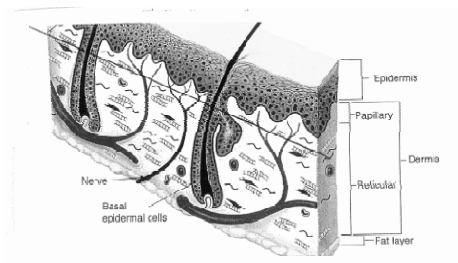
Severity Total Body Surface Area



Partial thickness: First Degree

Epidermis only
Pink or red
Painful
Heals in few days, injured epithelial cells peel

Severity-Depth



Demling et al, Burn surgery.org

Severity Depth - 2nd Degree Burn



- appearance
 - reddened
 - blisters
 - open tissue
- sensation
 - painful
 - diminished discrimination between sharp & dull stimulus

Think child Abuse



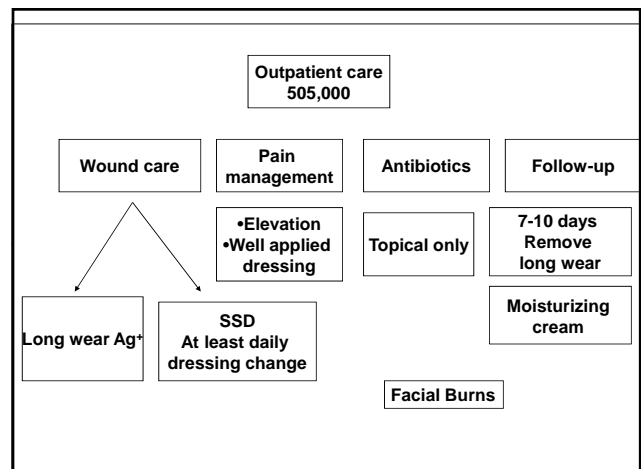
Severity Depth - 3rd Degree Burn



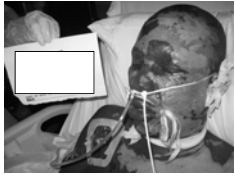
- Entire epidermis and dermis
- White, gray
- Dry, leathery
- No hair
- Absent capillary refill
- Less pain
- Small area heals by epithelial ingrowth
- Large areas require surgical skin grafts

Severity Depth - 3rd Degree Burn

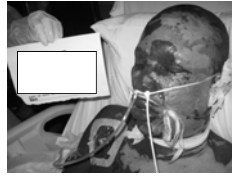
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Facial Burns



Facial Burns



Facial Burns



Facial Burns



Facial Burns



Facial Burns



Facial Burns



Facial Burns



Facial Burns



**Example
Long wear Ag⁺ Products**

**Most Commonly Used
Acticoat
AquacelAG
MepilexAg**

Facial Burns







Chemical Injury



Treatment

Get chemical off of the tissue

if dry chemical brush off 1st

Flush with copious amounts of water 20-30 minutes

P.P.E.'s to ensure safety of healthcare provides

Patient with Chemical Burn



Full thickness injury from chemicals in the home

Wound Care

FOR PATIENTS BEING TRANSFERRED:

- Cover the wound with dry clean sheets / towels / blankets - need not be sterile
- **KEEP THE PATIENT WARM**

Hydrofluoric Acid

Tissue damage & great pain
Hydrofluoric Acid binds with Calcium

Treatment

Topical mixture of calcium gluconate & K-Y
Sub-dermal inject calcium gluconate (ER)
Intra-arterial infusion of calcium gluconate (Burn Center)

Steven Johnson Syndrome (SJS) / Toxic Epidermal Necrolysis (TEN) Continuum

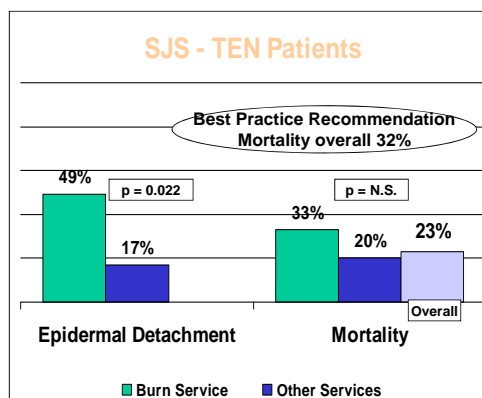
STANDARD OF CARE IS MANAGEMENT IN A BURN CENTER

McGee, 1998, Palmieri 2002,

Methods

- Retrospective chart review
 - SJS/TEN patients
- Two Timeframes
 - (2004-2008)
 - (2009)
- Burn Center established
 - February, 2006

SJS - TEN Patients



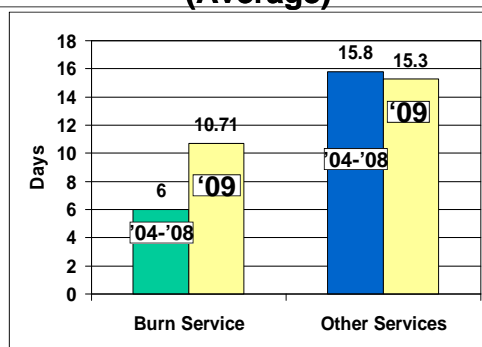
'09 Mortality: Burn 0%; Other 11%; Overall 6%

Results

- Causative agents:
 - Bactrim
 - Other antibiotics
 - Anticonvulsants
- Services:

	N=24 (04-08)	N=16 ('09)
– Burn service	8	7
– Other services	16	9
- Age (average)
 - 53.1 years ('04-'08)
 - 47.3 years ('09)

ICU Length of Stay (Average)



p = 0.029 ('04-'08)

Quality Measures: SCORTEN Score

- Severity-of-illness score
- Predict mortality of TEN patient
- Obtain first 24 hours of admission
- 7 independent risk factors:
 1. Age > 40
 2. Malignancy
 3. Epidermal Separation > 10%
 4. Heart rate > 120 BPM
 5. BUN > 28 mg/dL
 6. Serum glucose > 252 mg/dL
 7. Serum bicarbonate < 20 mEq/L

Number of Risk Factors	Mortality
0 - 1	3.2%
2	12.1%
3	35.3%
4	58.3%
5	90.0%

OSUMC Burn Resources

OSU Burn Center 614-293-2876 (BURN)

Burn Center administrative office

614-293-5710

Burn Unit 614-293-8744

Emergency Department

614-293-8333

Children's Hospital (under 16 years of age)

Conclusions

- **Early referral to Burn Center was re-confirmed**
 - Burn Center patients had greater epidermal detachment, but no difference in mortality, and shorter ICU stays
- **Education of other services about early referral to Burn Center**
 - Comprehensive supportive intensive care
 - Excellent wound care
 - Increased patient survival
 - Palmieri 2002, McGee, 1998