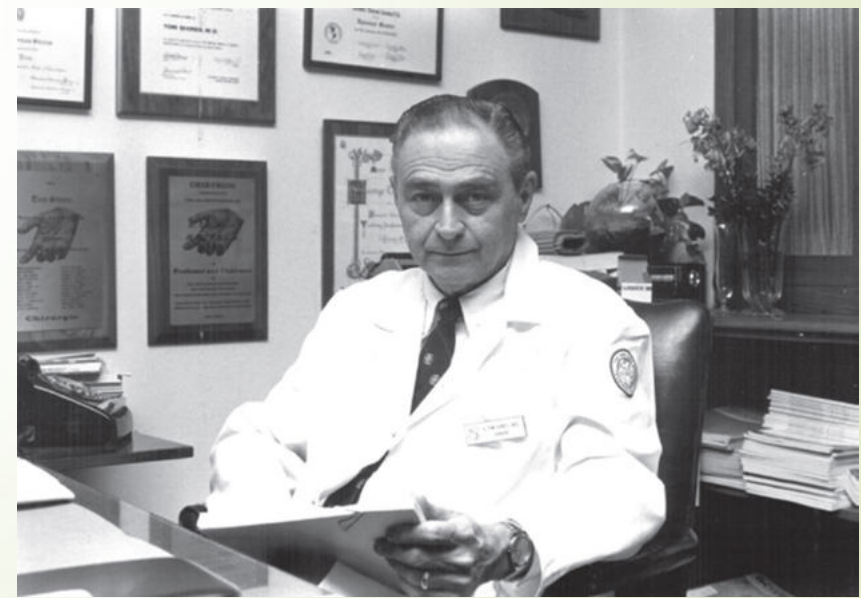


Fluid therapy and wound care in burns, Complications of burns

Fluid therapy in burns

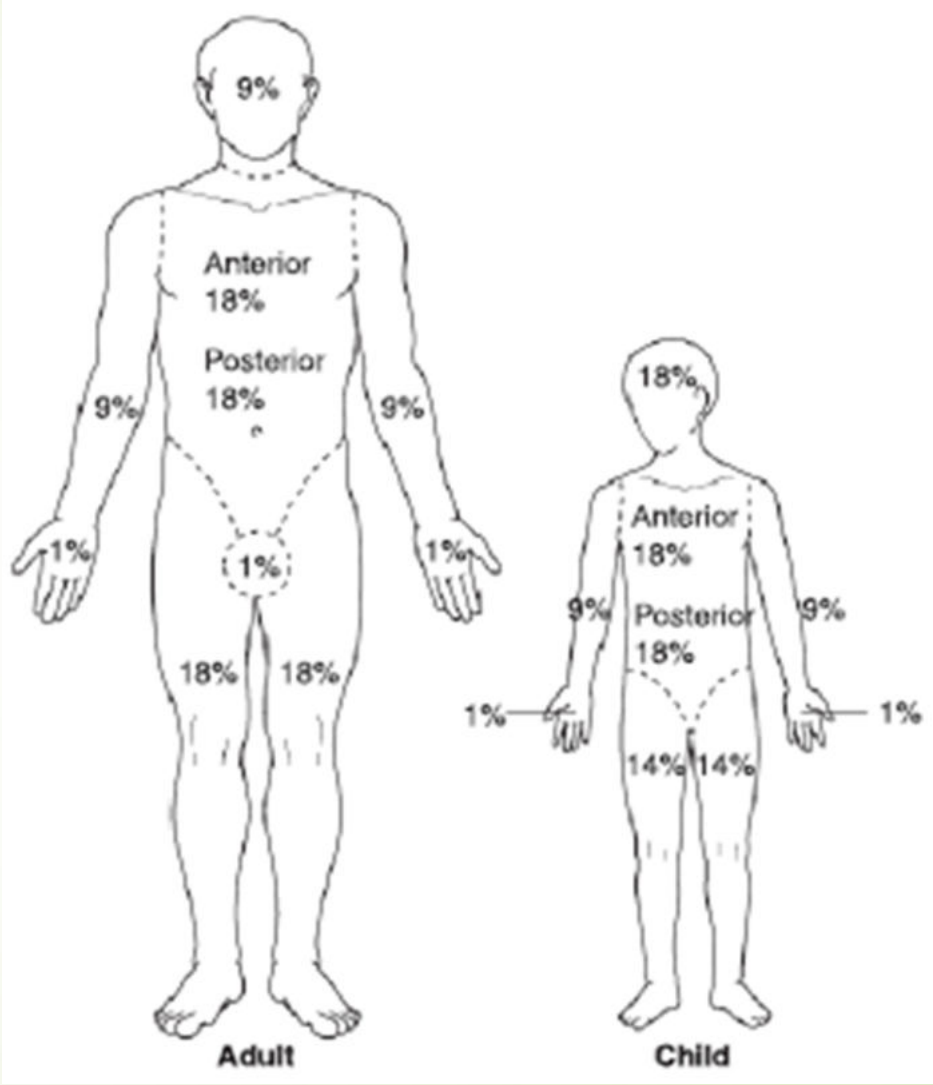


Why fluid therapy?

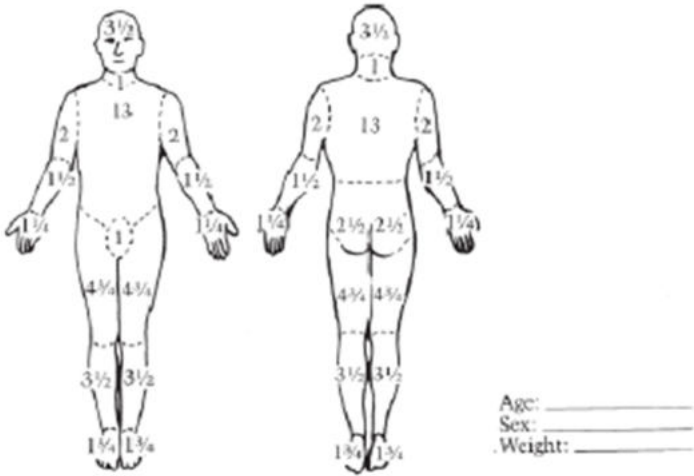
- ▶ Prompt fluid resuscitation is essential for survival in these patients.
- ▶ Since the implementation of efficient, dynamic fluid replacement, fewer patients die in the first 24–48 h
- ▶ All formulas are guides: Clinical decisions

Assessment of Burn Area

- The Rule of 9
- Simple
- Due to differences in body proportions, the percentage for each body area is different in adults and children.



- Lund and Browder chart



Area	Birth-1 y	1-4 y	5-9 y	10-14 y	15 y	Adult	Partial thickness 2°	Full thickness 3°	Total
Head	19	17	13	11	9	7			
Neck	2	2	2	2	2	2			
Anterior trunk	13	13	13	13	13	13			
Posterior trunk	13	13	13	13	13	13			
Right buttock	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2			
Left buttock	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2			
Genitalia	1	1	1	1	1	1			
Right upper arm	4	4	4	4	4	4			
Left upper arm	4	4	4	4	4	4			
Right lower arm	3	3	3	3	3	3			
Left lower arm	3	3	3	3	3	3			
Right hand	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2			
Left hand	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2			
Right thigh	5 1/2	6 1/2	8	8 1/2	9	9 1/2			
Left thigh	5 1/2	6 1/2	8	8 1/2	9	9 1/2			
Right leg	5	5	5 1/2	6	6 1/2	7			
Left leg	5	5	5 1/2	6	6 1/2	8			
Right foot	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2			
Left foot	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2			
Total									

➤ Hand



Fluid formula

- **Parkland**
 - **Initial 24 hours:** RL 4 ml/kg/% burn (adults)
 - **Next 24 hours:** Begin colloid infusion of 5% albumin 0.3–1 ml/kg/% burn/per hour
- **Modified Brooke**
 - **Initial 24 hours:** No colloids. RL solution 2 ml/kg/% burn in adults and 3 ml/kg/% burn in children
 - **Next 24 hours:** Colloids at 0.3–0.5 ml/kg/% burn and no crystalloids are given. Glucose in water is added in the amounts required to maintain good urinary output.

- Pediatric Galveston
- Initial 24 hours: RL 5000 ml/m² burn + 2000 ml/m² total (1/2 of total volume over 8 hours, rest of the total volume in 16 hours)

Assessment of adequacy of fluid therapy

- Urine output:
 - 1ml/kg/hour children
 - 0.5 ml/kg/hour adults
 - 1.5-2 m/kg/hr electrical burn
- Invasive monitoring

Fluid therapy after 24 hours

- Colloids
- Evaporative water loss
- Oral feeding

Type of Fluid :

- Isotonic
- Hypertonic saline
- Colloid
- Dextran

Wound Care

Outpatient Burn Management

- Who can be treated as outpatient burn?
- Blisters
- Cleansing the wound
- Topical agents
- Dressings
- Follow up



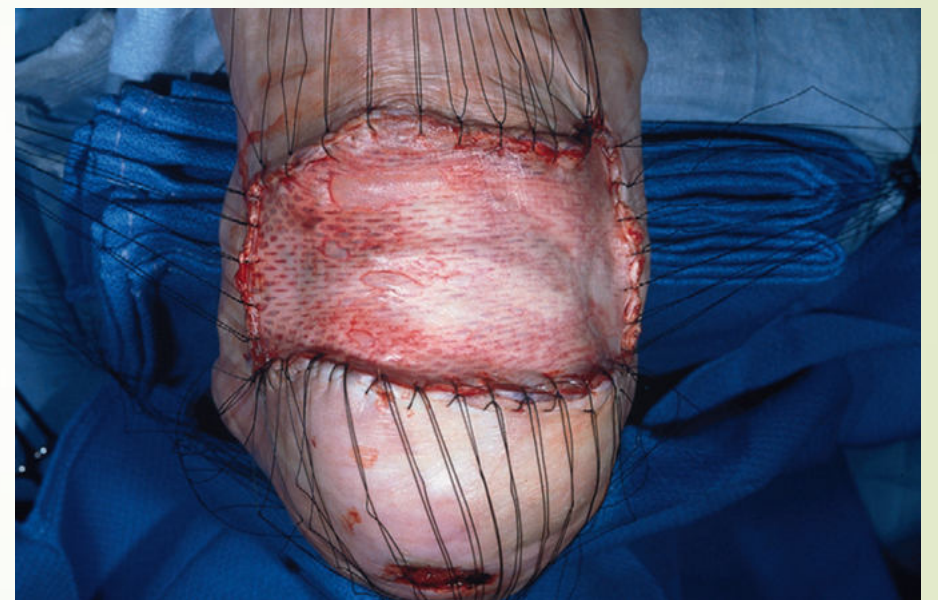
Acute Burn wound management

- Cleansing
- Pain control
- Topical agents
- Dressings



Dressings in Burn

- Synthetic dressings
- Biological dressings: Amniotic membrane
- Skin substitutes: Alloderm, Biobrane



Debridement

- Tangential excision:
 - Tangential excision removes burned skin while preserving the underlying viable tissue
- Full thickness excision

Tangential excision

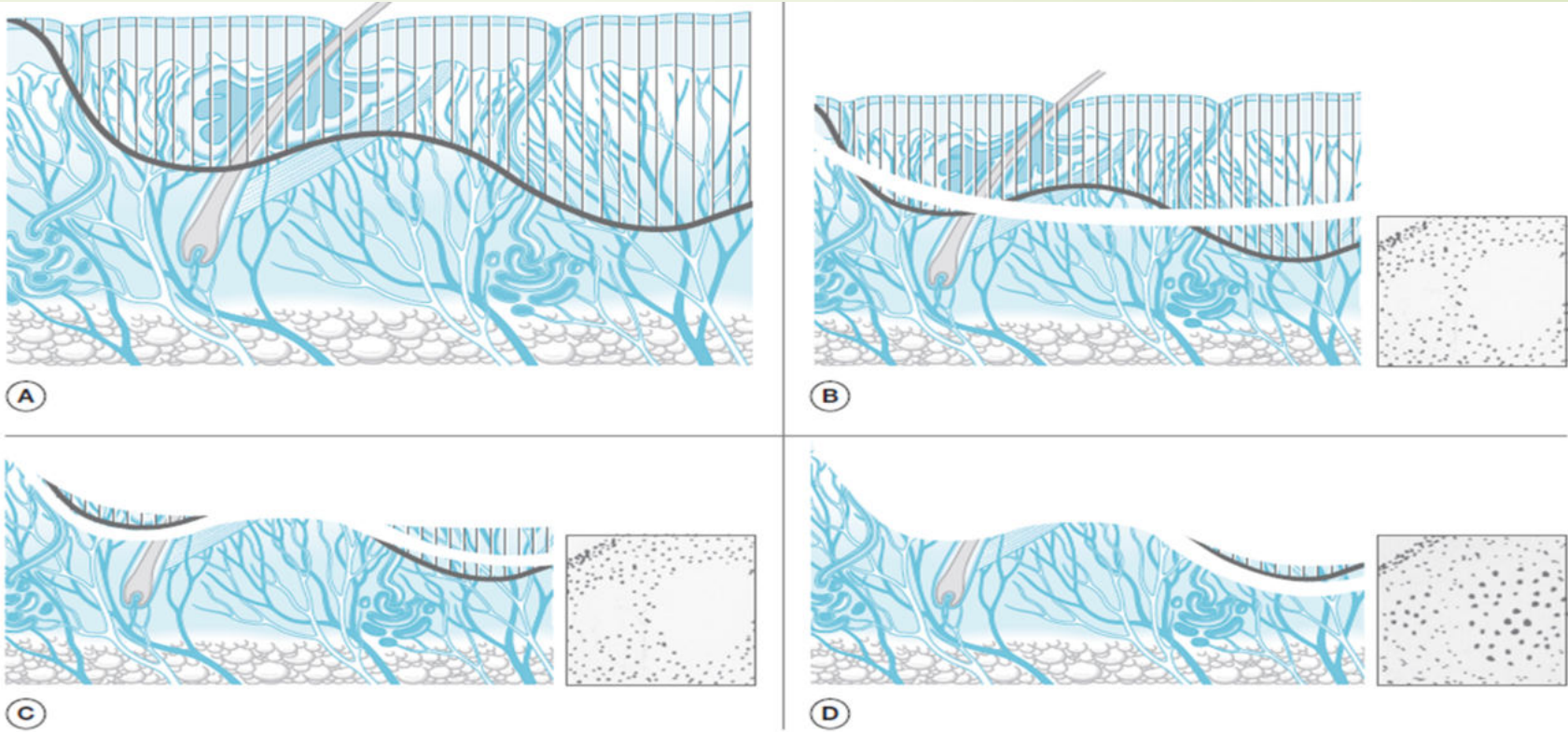


Figure 13.1 (a–d) Schematic representation of tangential excision; sequential slices are taken until punctate hemorrhage is evident. (Adapted from Janzekovic Z. A new concept in the early excision and immediate grafting of burns. J Trauma 1970 Dec; 10(12): 1103–8 with permission.)²³



Wound coverage

- Skin grafting
- Flaps
- Dermal substitutes



Complications of Burns

Early complications

- Burn shock
- Pulmonary complications
- Infection and sepsis
- Organ failure
- Death
- Limb loss
- Curling's ulcer
- Wound complication

Late Complications

- Joint contractures
- Hypertrophic scars
- Keloids
- Psychological stress
- Marjolin's ulcer







Questions

1. What is the most common topical agent used for burn dressing?
2. What is the fluid required for resuscitation of superficial burns involving 10% TBSA in a 50 kg man?
3. What is marjolin's ulcer?