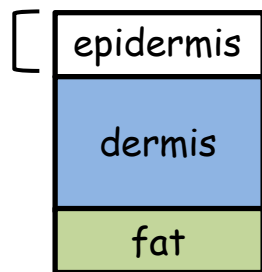


# Don't Get Burned!

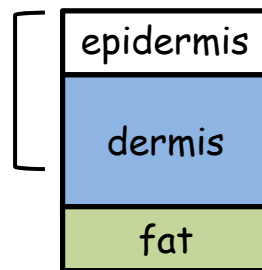
*Office Evaluation and Management of Burns*

*Randall S. Burd, MD, PhD  
Division of Trauma and Burn Surgery  
Children's National Medical Center*

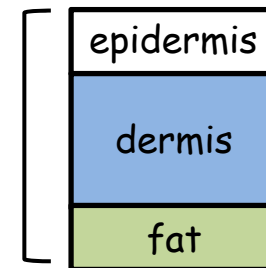
# Depth Size Treatment Tips Pitfalls



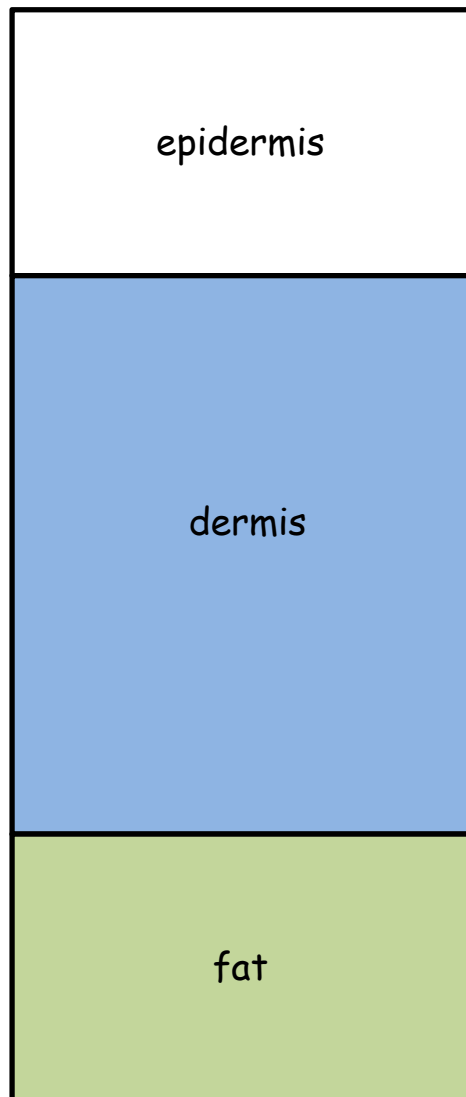
1<sup>st</sup> degree  
superficial



2<sup>nd</sup> degree  
partial thickness



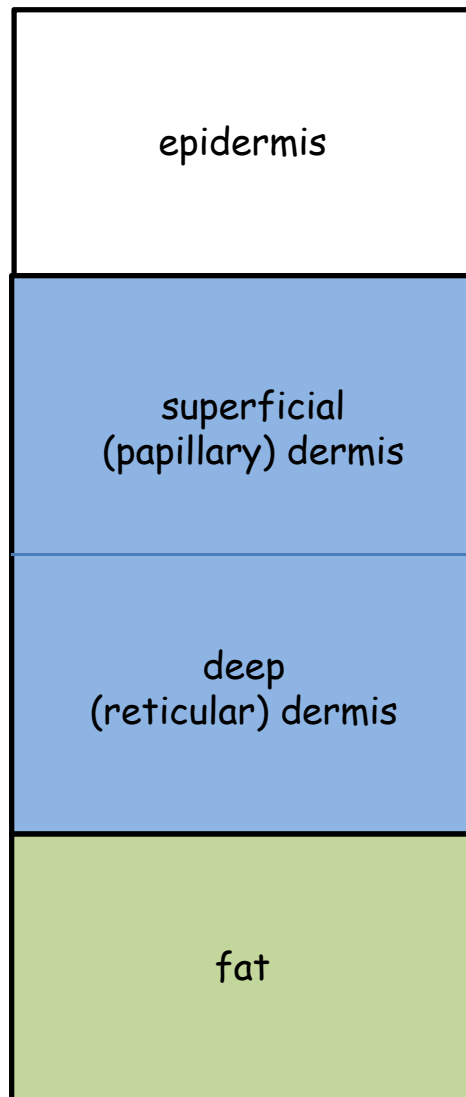
3<sup>rd</sup> degree  
full thickness



# superficial burns

**RED** **OUCH!** dry



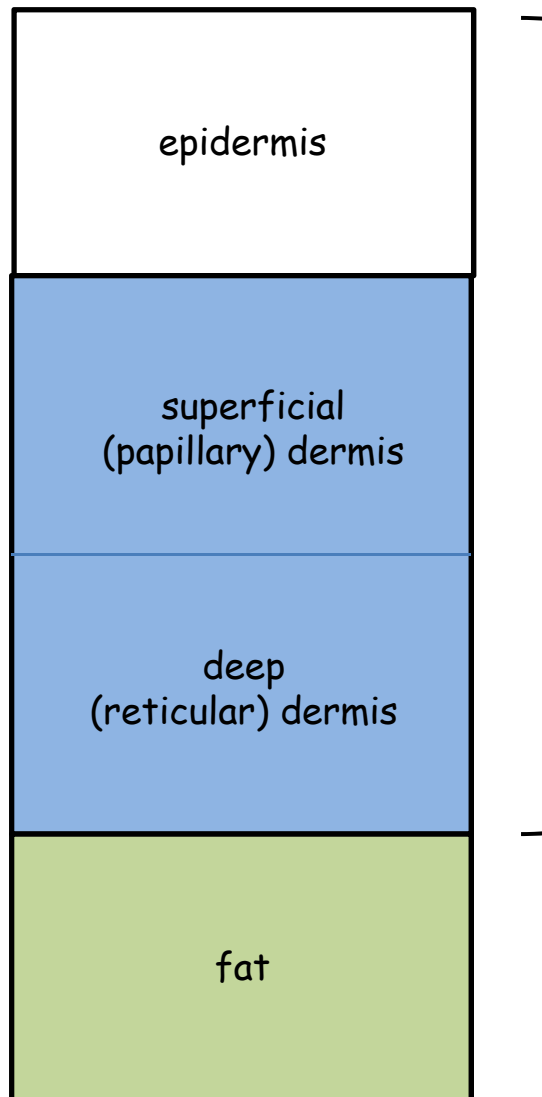


# superficial partial thickness burns



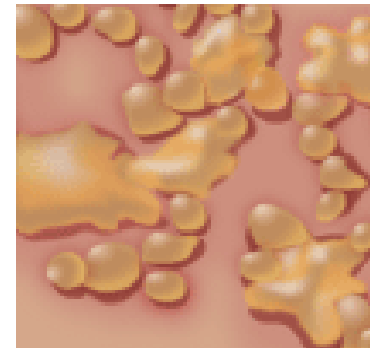
# superficial partial thickness burns





# deep partial thickness burns

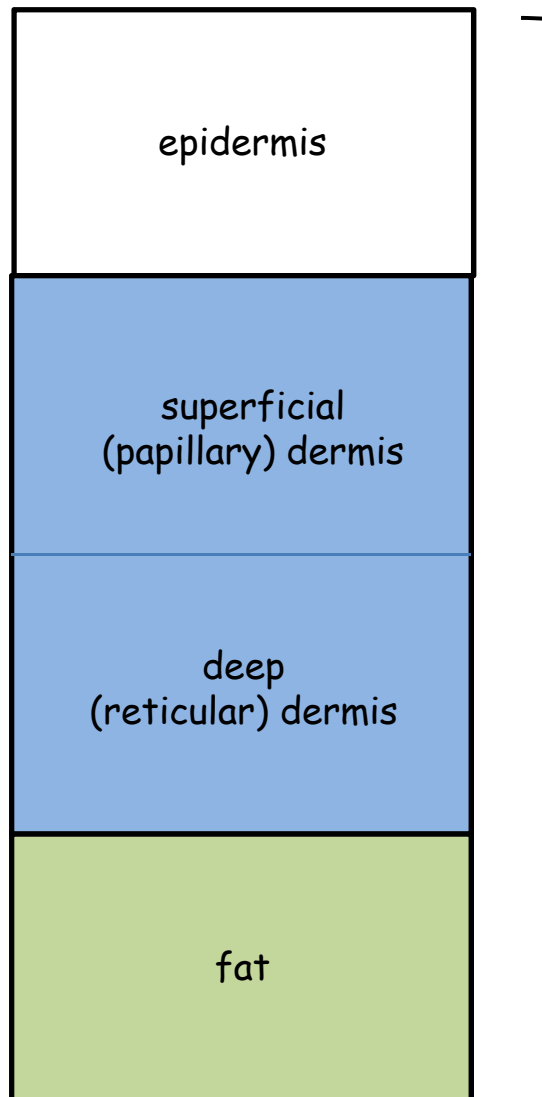
mottled wet





# deep partial thickness burns





# full thickness burns



# full thickness burns



# Tip #1

Burn depth is not  
uniform

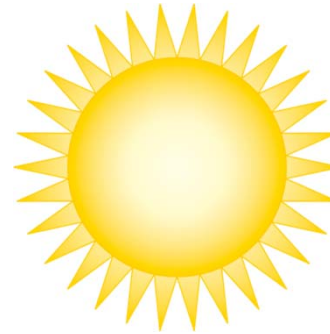
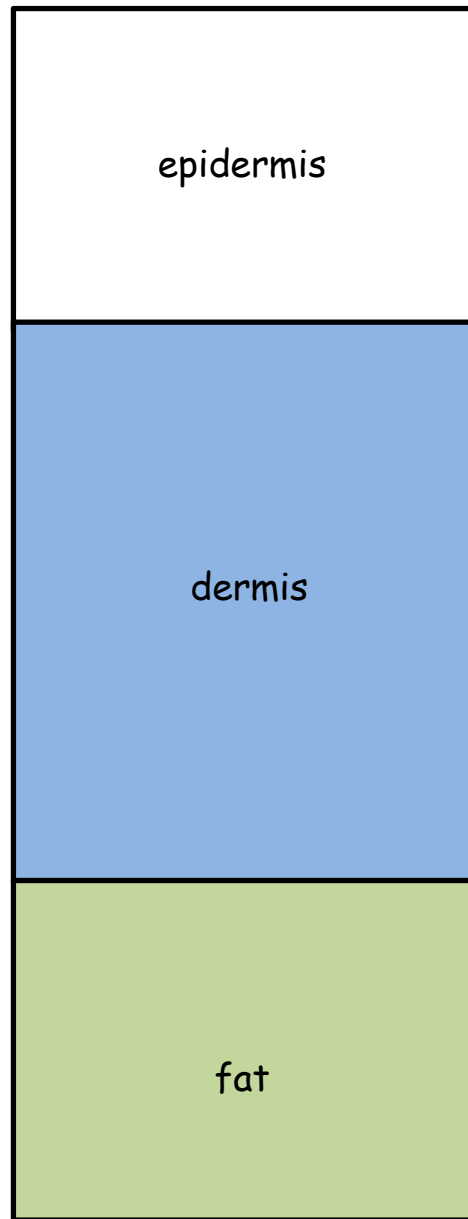


# Tip #2

Estimating burn depth is  
often really, really hard

# Tip #3

Mechanism is a great initial predictor of burn depth





**COFFEE**

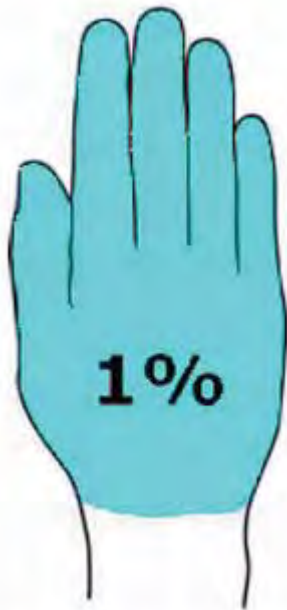
**VS**



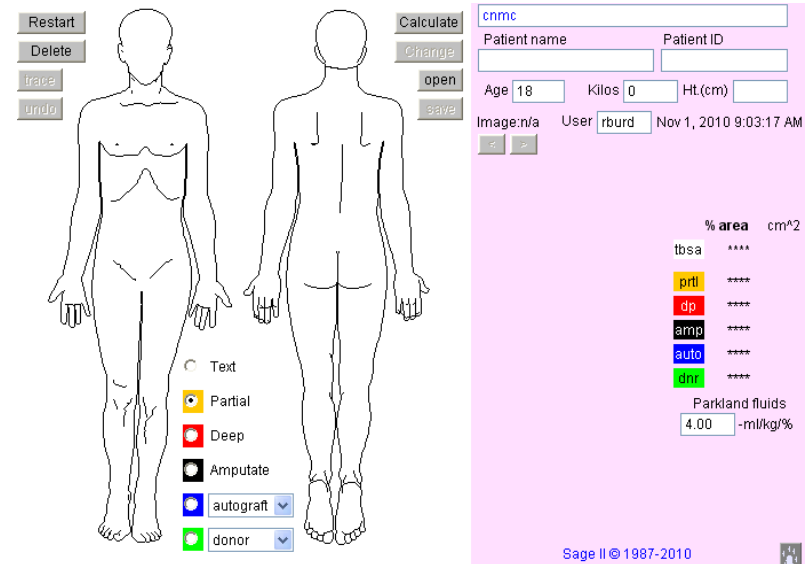
**TEA**



# How Big is the Burn?



Rule of Palm

The screenshot shows the Sage Diagram software interface. It features two human figures (front and back views) for marking burn areas. To the left of the figures are buttons: Restart, Delete, trace, and undo. To the right are buttons: Calculate, Change, open, and save. Below the figures are radio buttons for "Text" and checkboxes for "Partial", "Deep", and "Amputate". There are also dropdown menus for "autograft" and "donor". On the right side, there is a form with fields for Patient name, Patient ID, Age (18), Kilos (0), Ht (cm), Image (n/a), User (rburd), and Date/Time (Nov 1, 2010 9:03:17 AM). Below the form is a table with columns "% area" and "cm^2". The table has rows for tbsa, prtl, dp, amp, auto, and dnr, each with a corresponding colored box. At the bottom right, there is a field for "Parkland fluids" with the value "4.00" and units "-ml/kg/%". The copyright notice "Sage II © 1987-2010" is at the bottom.

Sage Diagram



# www.sagediagram.com

Restart  
Delete  
trace  
undo

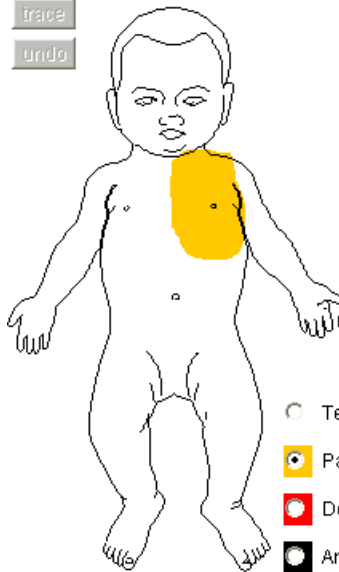
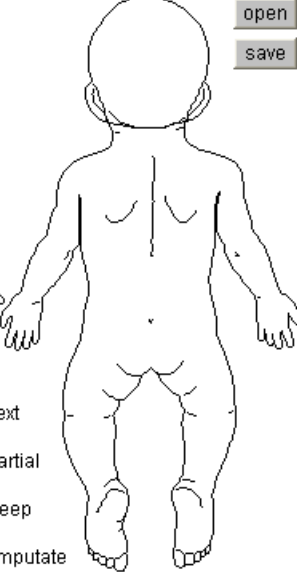
Calculate  
Change  
open  
save

cnmc

Patient name: Patient ID:

Age: 2 Kilos: 0 Ht.(cm): 0

Image: n/a User: rburd Nov 1, 2010 9:06:09 AM

☐ Text  
☒ Partial  
☐ Deep  
☐ Amputate  
☐ autograft  
☐ donor

|             | Antr% | Post% |                 |          |
|-------------|-------|-------|-----------------|----------|
| Head        | 00.02 | ----  |                 |          |
| Neck        | 00.42 | ----  | % area          | cm^2     |
| Lt. Arm     | 00.26 | ----  | tbsa            | 04.13    |
| Lt. Forearm | ----  | ----  |                 |          |
| Lt. Hand    | ----  | ----  | prtl            | 04.13    |
| Rt. Arm     | ----  | ----  | dp              | ****     |
| Rt. Forearm | ----  | ----  | amp             | ****     |
| Rt. Hand    | ----  | ----  | auto            | ****     |
| Trunk       | 03.43 | ----  | dnr             | ****     |
| Lt. Thigh   | ----  | ----  |                 |          |
| Lt. Leg     | ----  | ----  |                 |          |
| Lt. Foot    | ----  | ----  | Parkland fluids |          |
| Rt. Thigh   | ----  | ----  | 5.75            | -ml/kg/% |
| Rt. Leg     | ----  | ----  |                 |          |
| Rt. Foot    | ----  | ----  |                 |          |
| Perineum    | ----  | ----  |                 |          |
| Lt. Buttock | ----  | ----  |                 |          |
| Rt. Buttock | ----  | ----  |                 |          |

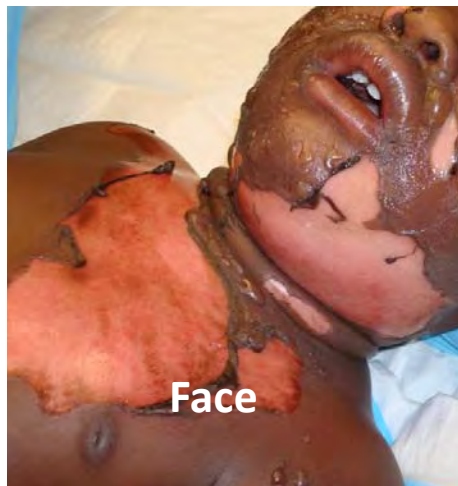
Sage II © 1987-2010

# Tip #4

Omit areas of superficial burn  
when calculating burn size

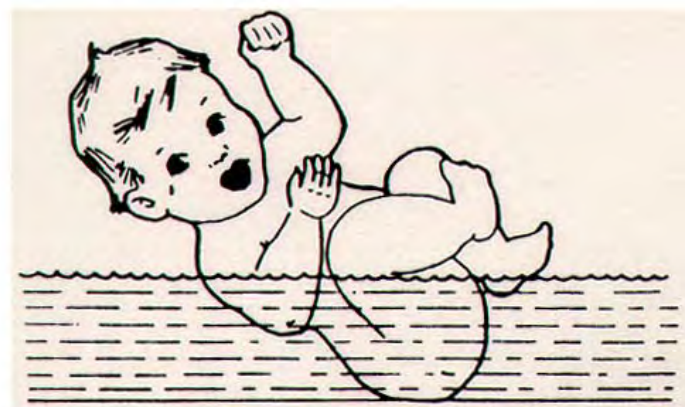
|  |  | % TBSA burned     |      |        |  |   |   |
|--|--|-------------------|------|--------|--|---|---|
|  |  | ≤ 1%              | 2-9% | 10-14% | ≥ 15%  |   |   |
| Airway Compromise                                  | <b>Major</b>   |                   |      |        |  | <b><u>MODERATE I</u></b><br><br>Surgery consult<br>Debridement by surgery<br>Discharge Home<br>Follow up in burn clinic |   |
| Hands<br>Feet<br>Face<br>Genitals<br>Joint Borders |  |                   |      |        |  | <b>Moderate II</b>  | <b><u>MODERATE II</u></b><br><br>Surgery consult<br>Debridement by surgery<br>Admit to 5E (SCU)<br>Moderate burn orders |
| Suspicion of Non-Accidental Trauma                 |  |                   |      |        |  |   |   |
| Full Thickness                                     |  |                   |      |        |  |   |   |
| Partial Thickness                                  |  | <b>Moderate I</b> |      |        | <b><u>MAJOR</u></b><br>Call Trauma Stat<br>Parkland Formula<br>Foley Catheter<br>Dry sterile Dressings<br>Admit to PICU<br>Major burn orders |   |   |
| Superficial  | <b>Mild:</b> Follow-up with PMD<br>(No surgery consult needed) |                   |      |        |  |   |   |

# Special Areas





# Inflicted Burns



# Tip #5

Children with burns that come to your office rarely need immediate hospital care



# Burns You Might See



# Electrical Burns



# Treadmill Burns



# Office-based Burn Treatment

1. Assess burn depth
2. Assess burn size
3. Control pain
4. Clean burn wound
5. Dress burn wound

# Office-based Burn Pain Management

Premedicate  
"One-wipe"  
Keep blisters  
Keep covered  
OTC medications

# Keep or Remove Blisters?



## Keep blisters

- Less pain
- Blisters provide biological coverage
- Less effort
- Fewer supplies needed



## Remove blisters

- Better assessment of depth
- Better assessment of extent
- Cleaner wound

# Tip #6

Small (<2% TBSA) in healthy children rarely become infected

# Superficial Burn Treatment





# Cleaning Burn Wounds



# Topical Antimicrobials



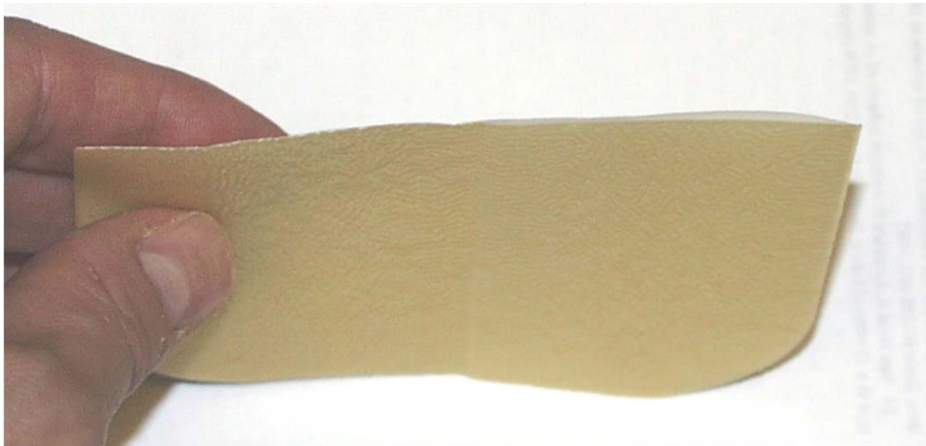
**LIKE  
THIS**



**NOT LIKE  
THIS**



# Other Dressing Options



# Tip #7

Combine dressing changes with  
bath time

# When to Refer

Parental anxiety  
Full thickness burns\*  
Large burns (>~2-5%)  
Special areas\*  
Healing time >1-2 weeks  
Suspected abuse

\*only if large

# How to Refer

Burn Clinic

202-476-2150

# Summary

Check depth  
Check size  
Think of abuse  
Special areas\*  
Refer if needed

\*only if large