

Basic principles of reconstruction



Michael Mühlstädt

Dermatologist, Head of the dermatosurgery unit
Certified Micrographic Surgeon and Trainer (ESMS)

1

Conflicts of interest

None for this presentation.

2

After this presentation, you will have revised...

- cosmetic units
- relaxed skin tension lines
- the theory behind
 - direct closures
 - flaps
 - skin grafts
 - secondary intention healing

Congratulations, you've just created a hole!
(What now...?)



Basic considerations




Function



Form



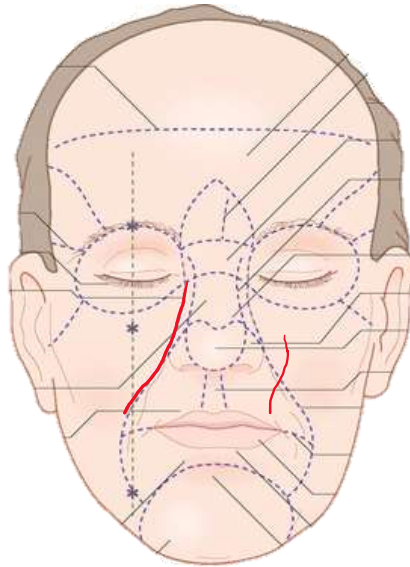
Beauty


 HUG Hôpitaux Universitaires Genève

Michael Mühlstädt – Basic principles of reconstruction – ESMS 2022 Madrid

5

Cosmetic units

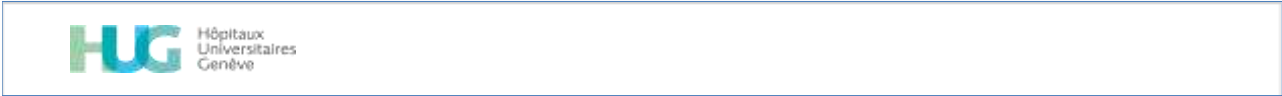
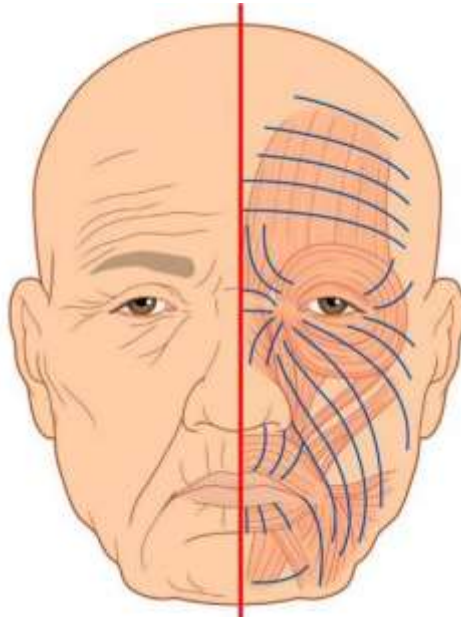


 HUG Hôpitaux Universitaires Genève

http://clinicalgate.com/wp-content/uploads/2015/03/B9781416003168500065_gr4.jpg

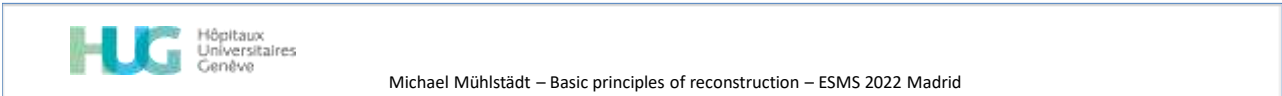
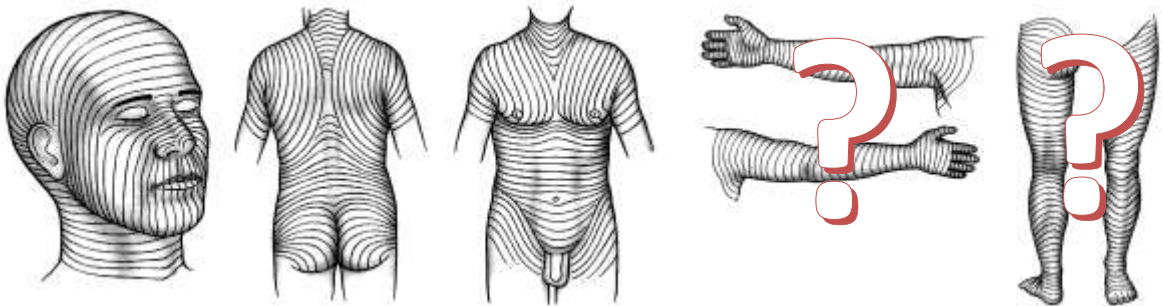
Michael Mühlstädt – Basic principles of reconstruction – ESMS 2022 Madrid

6



7

Relaxed Skin Tension Lines (A. F. Borges and B. Konz, 1962)



Michael Mühlstädt – Basic principles of reconstruction – ESMS 2022 Madrid

8

Test it yourself!



Tissue supply

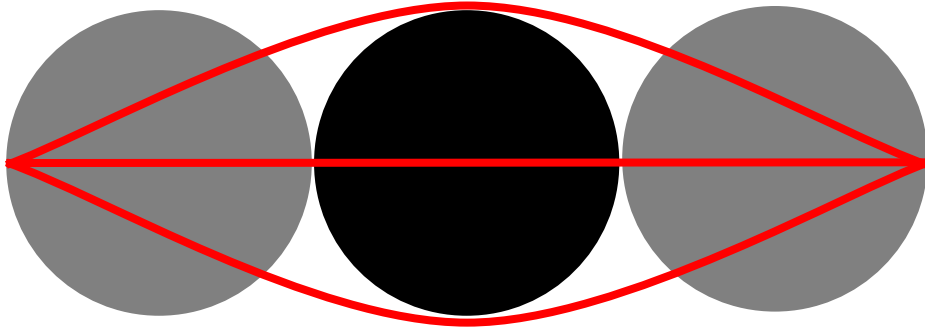
> Can I just close it? Direct closure

➔ Use of adjacent skin? Flap

➔ Use of distant skin? Graft

🌱 Can I wait? Secondary intention healing

Direct closure – Dermatosurgery 101



2:1 (or less) is also ok...



Direct closure

Advantages

- Easy
- Fast
- Safe
- Uses similar skin
- Smallest possible scar (?)

Disadvantages

- Limited skin supply
- Scars get long very quickly
- Creates tension

Trust your subcutaneous sutures!



Flaps



Advancement 1°

15

Burow's advancement flap



16

Flaps



Advancement
1°



Rotation
2°

Rotation flap



Flaps



Advancement
1°



Rotation
2°



Transposition
3°



Bilobed flap



Flaps

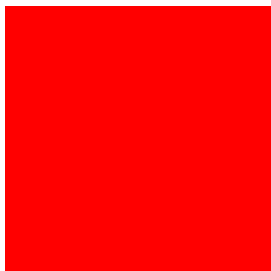
Advantages

- Uses similar surrounding skin
- Access to skin reservoirs
- Broken lines

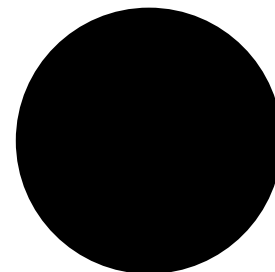
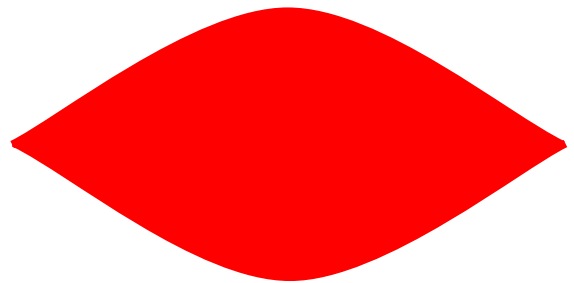
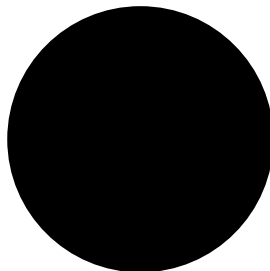
Disadvantages

- Advanced level
- More complications (bleeding, infection, necrosis)
- Can block future reconstructions

Skin grafts



Split thickness skin graft (STSG)



Full thickness skin graft (FTSG)

Full thickness skin graft



Split thickness skin graft



Skin grafts

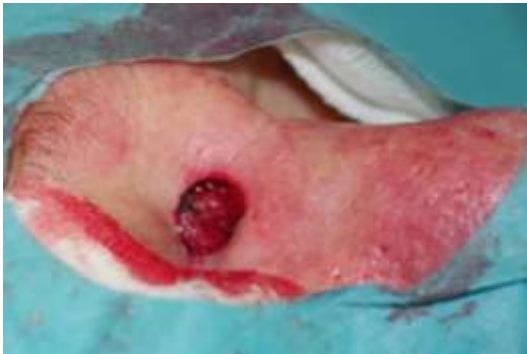
Advantages

- Easy
- Fast (STSG)
- Readily applicable

Disadvantages

- Uses different skin (texture, colour)
- Second wound/suture
- Loss of adnexal structures
- Necrosis possible
- Shrinking
- Cosmetically not always pleasing

Secondary intention healing



20 days later

Secondary intention healing

Advantages

- Easiest (for the doctor)
- Minimal implication (of the doctor)

Disadvantages

- Takes longer
- Sometimes cumbersome wound dressings
- Retraction
- Cosmetic outcome depends on location

KISS

Keep it short and simple!



- Do no harm!
- Do only what is necessary!
- Do not do it just because you can!
- Don't learn security by accident!
- Have a good team/network!
- Know thy limits!

Merci !

mmuh@hcuge.ch



Michael Mühlstädt – Basic principles of reconstruction – ESMS 2022 Madrid