

Skin: multiple scars, coverage, flaps



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Wound complications

- Can occur in up to 20% patients after TKA

Alexiades et al *Orthop Clin North Am* 1989
Lian et al *J Arthroplasty* 1989
Gaine et al *JBJS* 2000



Skin incision

- Belongs to the indication
- Entirely belongs to your surgical plan
- Counsel the patient
- Examine the knee and the leg





Risk factors

- Patient related-factors
- Wound (local) related-factors



Patient related factors

- Diabetes
- Smoking
- Advanced age
- Peripheral vascular disease
 - Obesity
 - Malnutrition
 - Connective tissue disease
 - Rheumatoid arthritis
 - Chronic renal failure
 - Immunosuppressive drugs
 - Chemotherapy



Local related factors

- Multiples scars
- Post-traumatic skin dystrophy
- Prior skin irradiation
- Hematoma
- Superficial or deep infection
- Defect size
- Implant exposure

Situation at risk

- Lymphedema (elephantiasis)



- Arthrolysis for stiff knee
- Up to 60%



Courtesy of M Bonnin



Primary prevention

- Optimization of the diabetes ttr
- Precise evaluation of the arterial and venous status (Angio-doppler)
- Identification of previous healing problem
- Smoking

Smoking

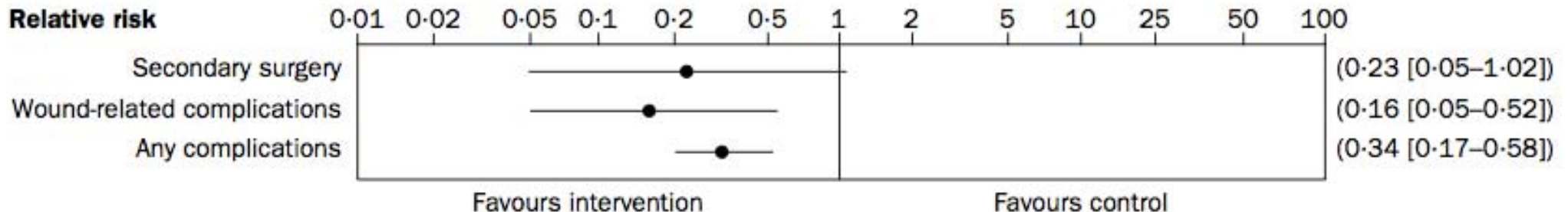
ARTICLES

Effect of preoperative smoking intervention on postoperative complications: a randomised clinical trial

Ann M Møller, Nete Villebro, Tom Pedersen, Hanne Tønnesen

Lancet 2002; **359**: 114–17

- 2 groups of n=60 non-smokers vs smokers
- Overall complications: 18% non-s vs 52% in smokers
- Wound complications: 5% non-s vs 31% in smokers





Smoking

ARTICLES

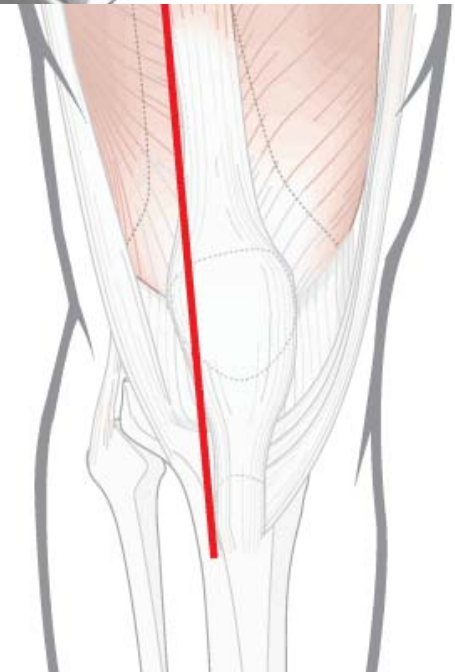
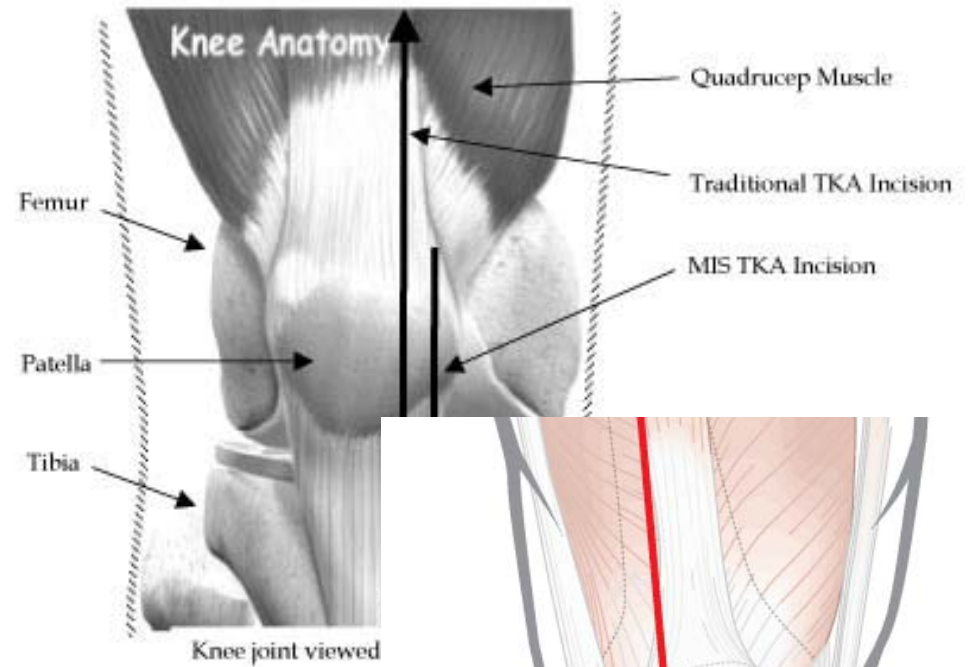
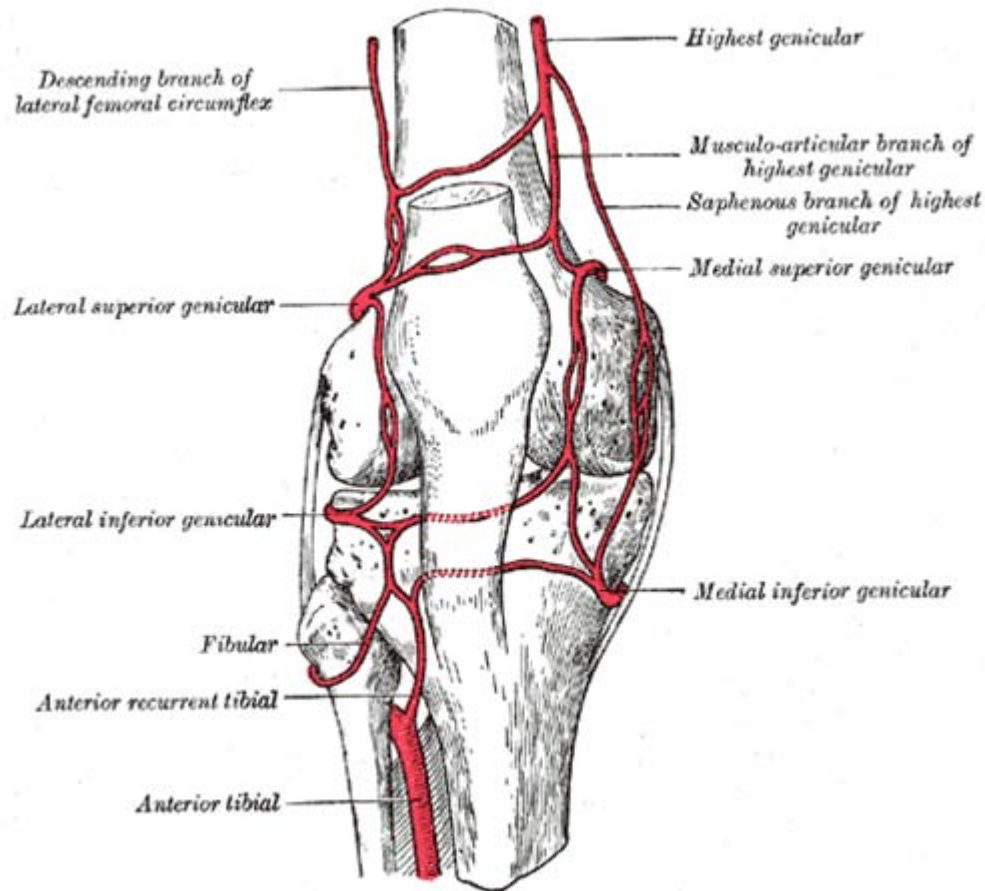
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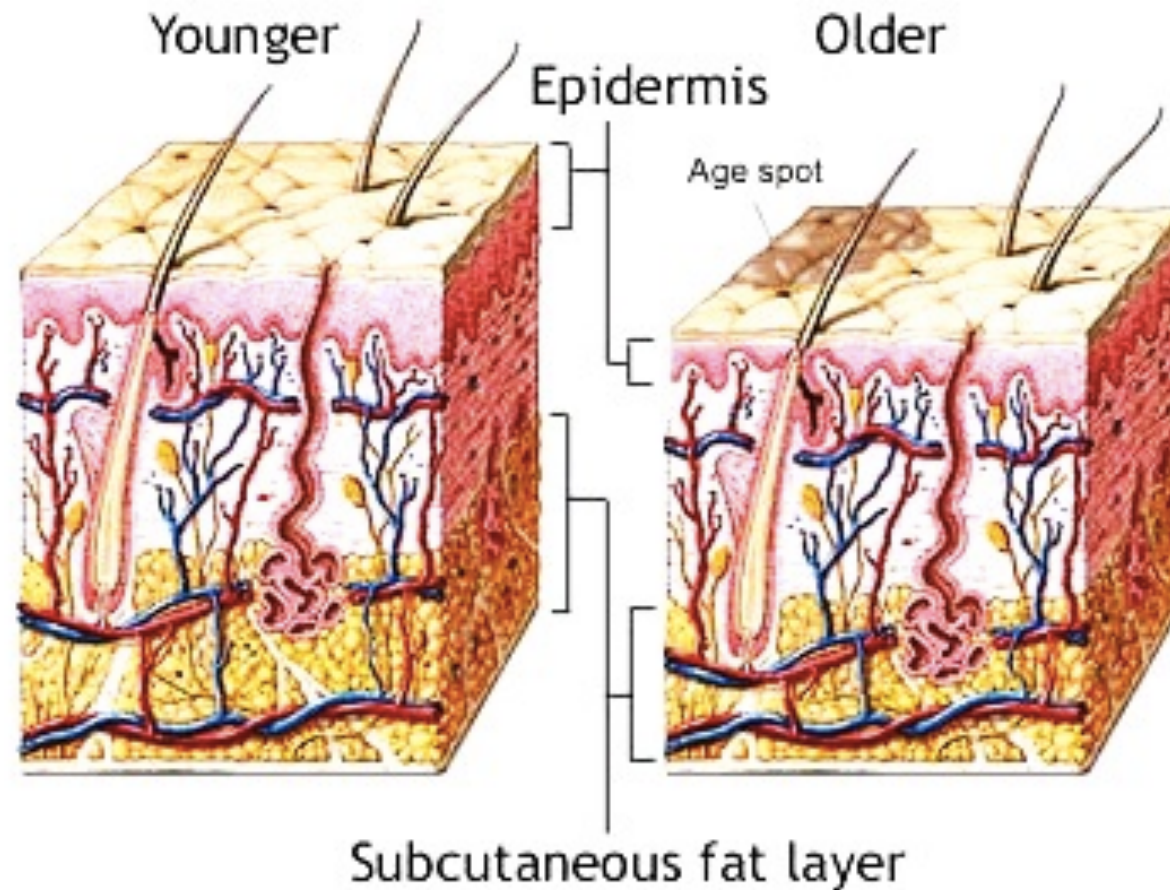
Lancet 2002; 359: 114–17

- The relative-risk reduction for wound complications was 83% and the number to treat was four (95% CI 2-8)

Vascular anatomy

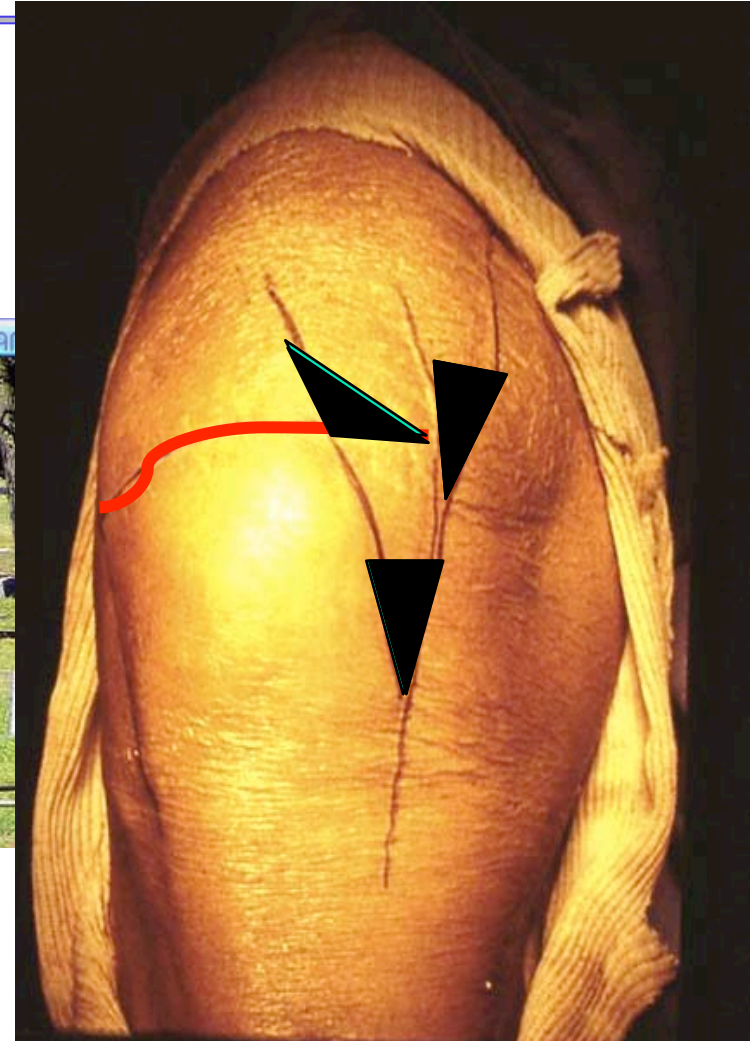


Evolutionary anatomy



Previous incisions

- Avoid "dead end" corner



Courtesy of David Dejour, Lyon

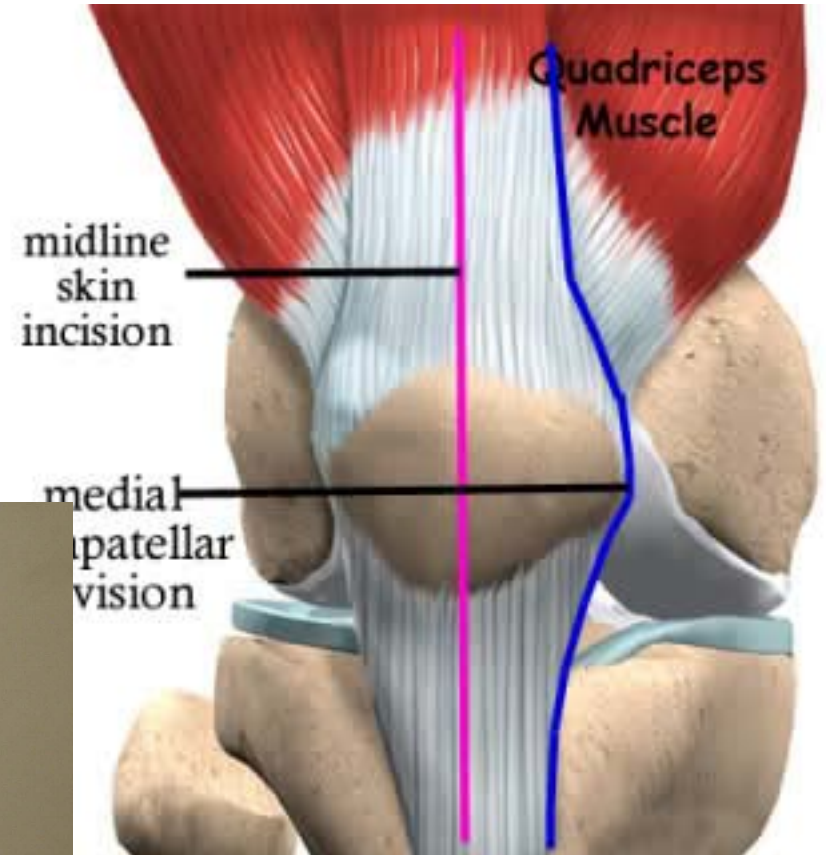
Incision positioning

- Safe zone
- Respect $> 7\text{cm}$ distance in between two incisions



Incision positioning

- Vertical incision
- Midline incision
- Lateral
- Medial

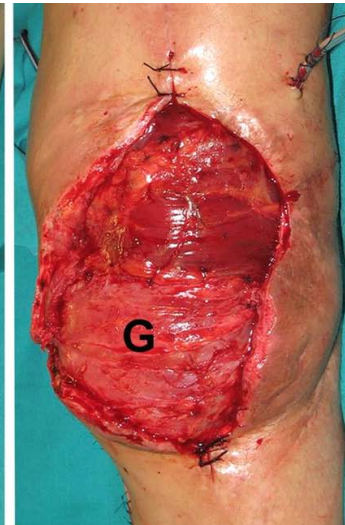


Skin gap



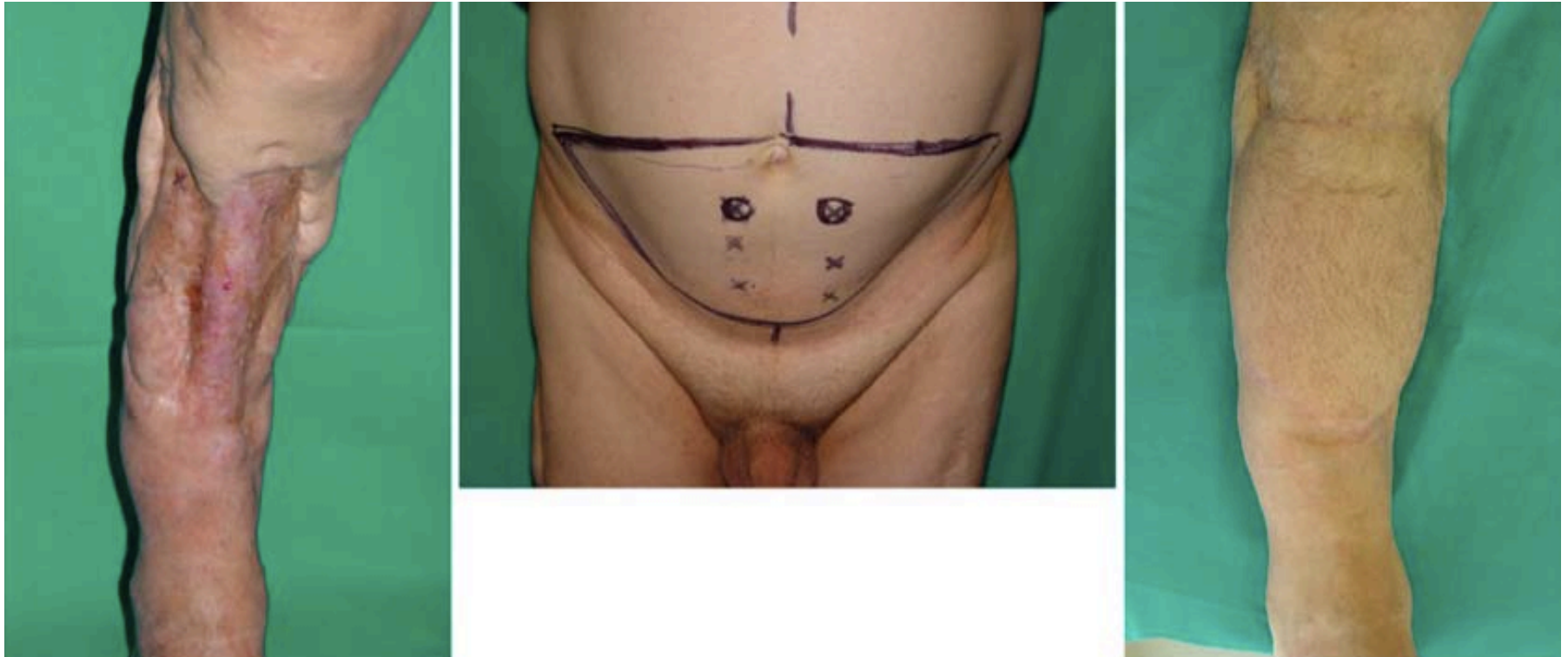
Skin graft - flap

- Transfer of the medial gastrocnemius
- Close collaboration with plastic surgeon



Courtesy of R Seil

Free abdominal flap



- Abdominal perforator flap based on the deep inferior epigastric vessels

Latissimus dorsi muscle

- Free latissimus dorsi muscle transfer



Perforator flap

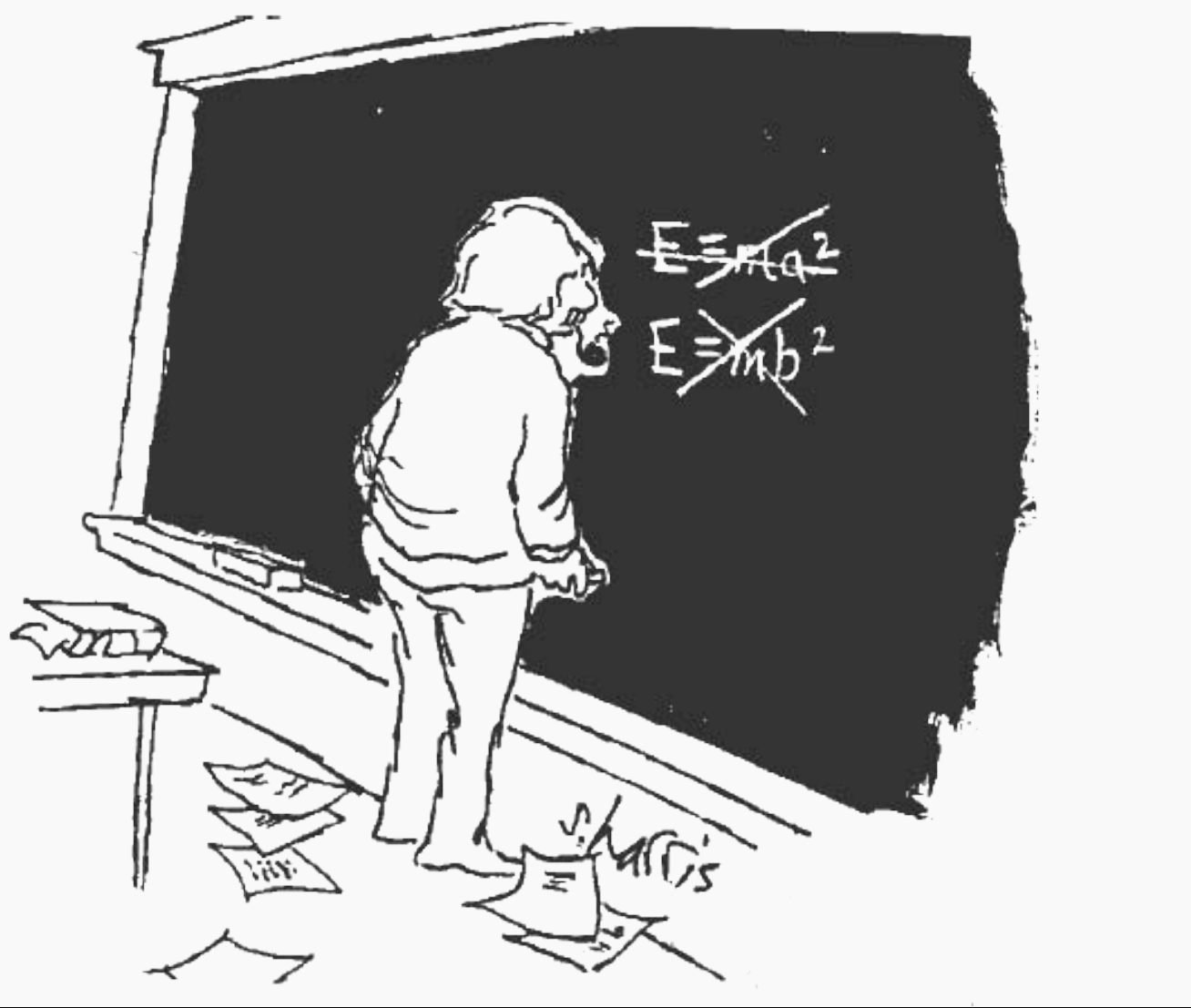
- Ant-inf. cutaneo-subcutaneous vascularized flap



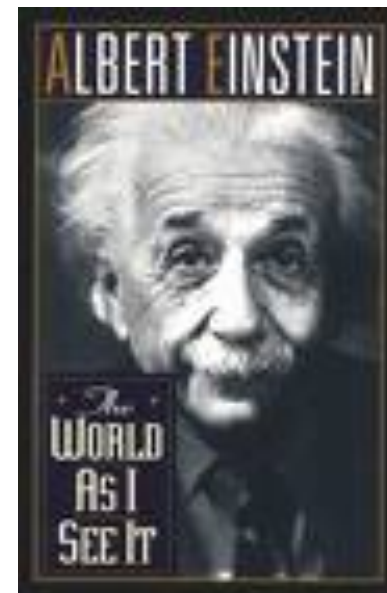


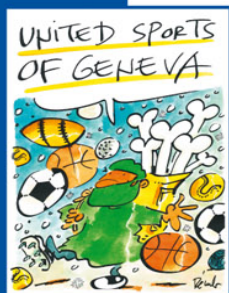
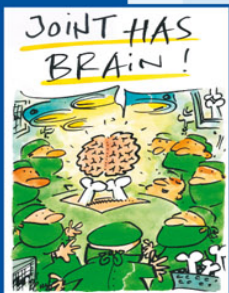
In summary

- Patient related-factors
- Wound (local) related-factors
- Incision belongs to your pre-op plan
- Respect the soft tissue envelop
- Close collaboration with a plastic surgery team



- Intellectual seeks problem while genius prevents them





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Venue

Geneva PALEXPO

Early registration
deadline:

February 10, 2012



Thank you for listening

