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Referenzzentrum für chirurgische Koloproktologie

Pilonidal sinus – second part...

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Agenda

- Interactive
- Rotations-flaps
- Recurrent disease – Cases to discuss
- Literature...
- Take home message

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Interactive

- 2 Minutes...

1. Draw a Limberg-flap on the graphic
2. What nationality had Limberg
3. What's the difference to Dufourmental-flap



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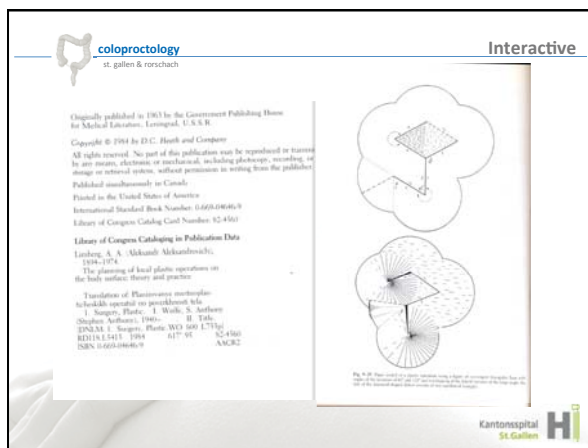
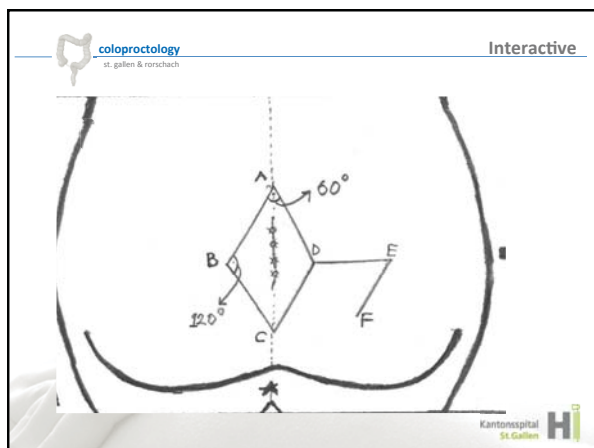
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Interactive

1. 
2. 
3. Stichwort(e) oder Zeichnung

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Rotationflaps

- Idea: Replacement of the rima ani with tension free new tissue
- Limberg: better cosmesis
- Dufourmental: More variations possible, less tension
- Important: caudal end of the scare not near the anus¹
- Difference Dufourmental/Limberg flap not common known!^{2,3}

¹ Ohana A et al. Superiority of asymmetric modified Limberg flap for surgical treatment of pileoidal disease. *Diseases of the colon and rectum* 2006

² Akca Y et al. RCT comparing primary closure with the Limberg flap in the treatment of primary sacrococcygeal pileoidal disease. *Br J Surg* 2005

³ Weiszer A, Cheetham M. RCT comparing primary closure with the Limberg flap in the ... (*Br J Surg* 2005; 92: 1082-1084). *Br J Surg* 2005.

Rotationflaps

Randomized clinical trial

Randomized clinical trial comparing primary closure with the Limberg flap in the treatment of primary sacrococcygeal pileoidal disease

• Akca et al. : 100 primary closure vs. 100 Limberg flap very often cited on **Limberg flap**

¹ Akca Y et al. RCT comparing primary closure with the Limberg flap in the treatment of primary sacrococcygeal pileoidal disease. *Br J Surg* 2005

² Weiszer A, Cheetham M. RCT comparing primary closure with the Limberg flap in the ... (*Br J Surg* 2005; 92: 1082-1084). *Br J Surg* 2005.

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Rotationflaps

- **Transposition of the caudal end of the suture line out of midline:**
Less infections; less recurrences^{1,2}





FIGURE 1. The figure shows a Limberg Flap procedure. **A,** Planning of the flap. **B,** Situation after excision of the rhomboid and mobilization and transposition of the flap. The defect will be closed and the flap fixed by different layers of interrupted sutures. **C,** Situation after the last sutures are tied.


1. Cihan A et al. Superiority of asymmetric modified Limberg flap for surgical treatment of pilonidal disease. Dis Colon Rectum 2006
2. Müller K, Marti L, ... Hezler PH. Prospective analysis of cosmesis, morbidity, and patient satisfaction following Limberg flap for the treatment of sacrococcygeal pilonidal sinus. Dis Colon Rectum. 2011.

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Recurrent disease – Case 1

- **Problem:**
 - 35 year old, male patient
 - Had already two limberg flaps; one from the right, on from the left buttock
 - Recurrent chronic disease
 - Some fistulas, smaller open wounds; no acute infection



⇒ **What would you do?**


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Recurrent disease – Case 1

- Open radical?
- Again flap procedure
- Limited fistula excision?

⇒ Patient wanted again a flap!!!
⇒ Possible?




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Recurrent disease – Case 1

- **We operated:**
- **Planing of the operation:**

- **How would you proceed?**



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Recurrent disease – Case 1

- > Dufourmental
- > Tissue from cranial of the previous scars:



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Recurrent disease – Case 1

- Postoperative course:
 - Uneventful recovery
 - Situs at 1.5 months:
 - No further problems




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Recurrent disease – Case 2

- Problem:
 - 34 year old, female:
 - At 3 years from Limberg for primary pilonidal sinus disease
 - Acute inflammation
 - Big cavity in US



⇒ What would you do?





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Recurrent disease – Case 2

- Small excision to drain (5mm x 10 mm)
- Re-Limbergflap from the other side after 2 months

⇒ Uneventful recovery;
⇒ no further problems

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2 words on literature..

- Recurrence: Not clear what's better:
- Open radical excision – closed *off*-midline
- Clear *midline* is worse!

¹ Al-Khamis A, McCallum I, King PM, Bruce J, Hewson B. Primary versus secondary intention after surgical treatment for pilonidal sinus. *Cochrane Database Syst Rev* 2010;CD006213.

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2 words on literature..

- What's better: Karydakis/cleft lift or rhomboid flap?
- Cosmesis? (+Karydakis)^{1,2}
- Wound infects? (+Limberg)³
- Recurrence is the reason for less satisfied P's!⁴


¹ Tokac M, Dumlu EG, Aydin MS, Yalcin A, Kirci M. Comparison of modified limberg flap and karydakis flap operations in pilonidal sinus surgery: a prospective randomized study. *Int Surg*. 2009

² Müller K, Mürtz L, Metzger FK. Prospective analysis of cosmesis, morbidity, and patient satisfaction following Limberg flap for the treatment of sacrococcygeal pilonidal sinus. *Dis Colon Rectum*. 2011.

³ Senagat A, Orpin MW, Fishburne K, Thompson MB. Cleft closure for the treatment of pilonidal sinus disease. *Colorectal Dis*. 2011


⁴ Doll D, Lucifora MM, Evers T, Kouf P, Matevossian E. Recurrence-free survival, but not surgical therapy per se, determines 583 patients' long-term satisfaction following primary pilonidal sinus surgery. *Int J Colorectal Dis*. 2015;30:605-611.

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Take home message

- Beside *open radical* and *selective fistel* resection
- *Romboid-flap* is a valuable alternative especially for *recurrent disease*
- *Cosmesis* ??? (Karydakis better?)
- Limberg-/Dufoumentel flap
is also a possible way to treat *very complex disease*
- Do a *modified Limberg* with caudal edge not in the midline



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