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## Hemorrhoids

### Longo vs Ferguson vs Doppler

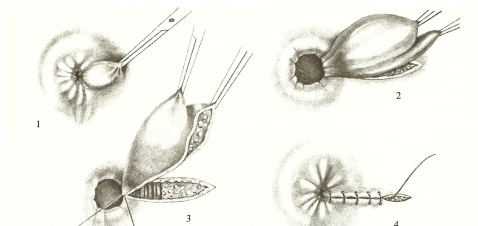
32. Schweizerische Koloproktologie-Tagung  
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Prof. Dr. med. Walter R. Marti, MBA HSG  
Leiter Bereich & Klinik Chirurgie  
KSA AG

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## closed excisional hemorrhoidectomy



- adrenalin (0,0125 mg/ml) submucosal
- dissection of haemorrhoidal plexus
- ligation of pedicle before excision
- suture with resorbable material

Ferguson J.A. & Heaton J.R.  
Dis Colon Rectum 1959

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## open versus closed?

prospective, randomized trial; n = 200, day surgery, (6 pat in hosp.)  
intervention in locoal anaesthesia & sedation follow-up 12 mts

Linear analog scale 1-10	Millig.-Morg.	Ferguson
Duration of intervention	24 min.	30 min.
1 <sup>st</sup> - 2 <sup>nd</sup> postop day VAS ...	6,5	5,5
3 <sup>rd</sup> - 7 <sup>th</sup> postop day VAS ...	4,5	4
at evacuation VAS ...	6,5	5
at one months VAS ...	<20%	<20%
wound deshisence at 1 week	40%	45%
compl. wound healing at 1 mts	40%	90%
temp. incontinence for gas	2%	2%

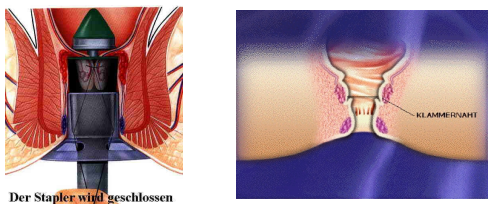
p<0,05

- equivalent with tendency to less pain and earlier wound healing

Arroyo A. et al. Alicante, Spain  
Int J Colorectal Dis 2004

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## Stapled haemorrhoidopexy



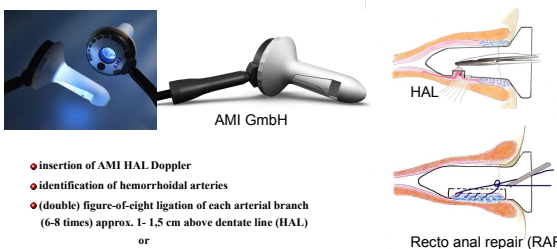
Der Stapler wird geschlossen und ausgelöst.

- purse string suture ca 2 - 4 cm orally of the dentate line (eventually application of two purse strings)
- resection of strip of mucosa
- reposition of the haemorrhoidal tissue cranially and reduction of the blood circulation

Longo A.  
Dis Colon Rectum 2002

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## Doppler guided hemorrhoidal Artery ligation (HAL / RAR®)



AMI GmbH

- insertion of AMI HAL Doppler
- identification of hemorrhoidal arteries
- (double) figure-of-eight ligation of each arterial branch (6-8 times) approx. 1- 1,5 cm above dentate line (HAL) or
- running stitch from the top to the bottom, knotted at the top end (RAR)
- Doppler assessment for absence of signal

Recto anal repair (RAR)

Morinaga K. et al. Japan  
Am J Gastroenterol 1995

Pictures:  
Pressetech: A.M.I. GmbH  
Agency for Medical Innovations

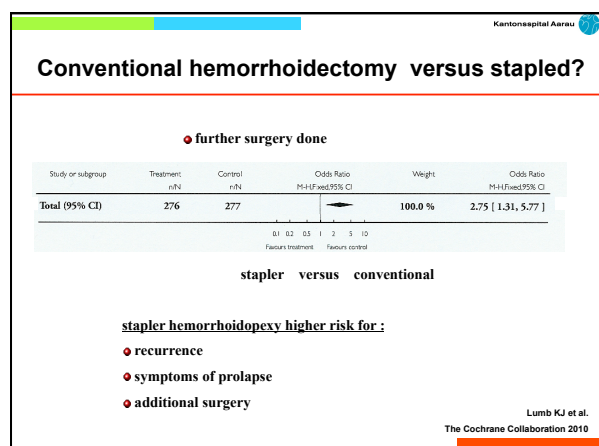
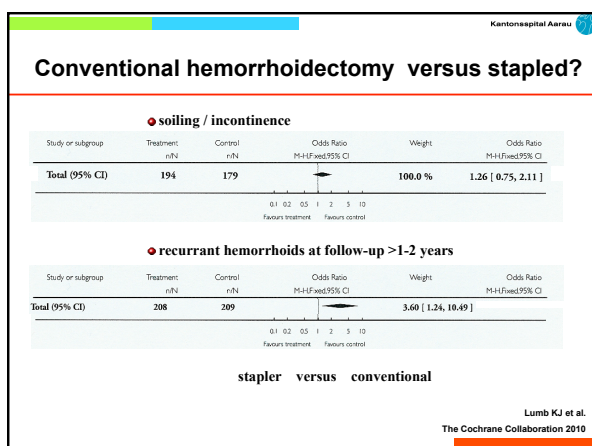
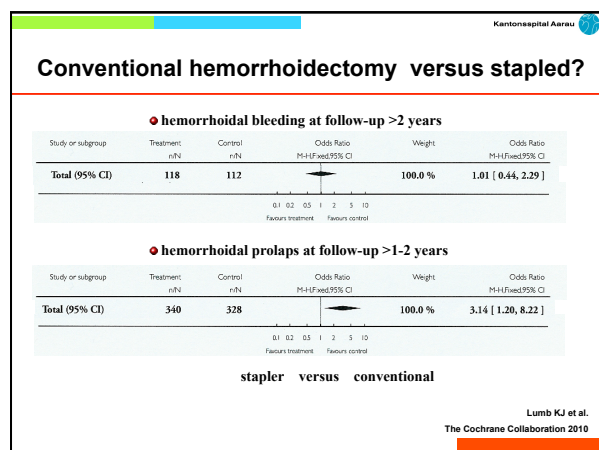
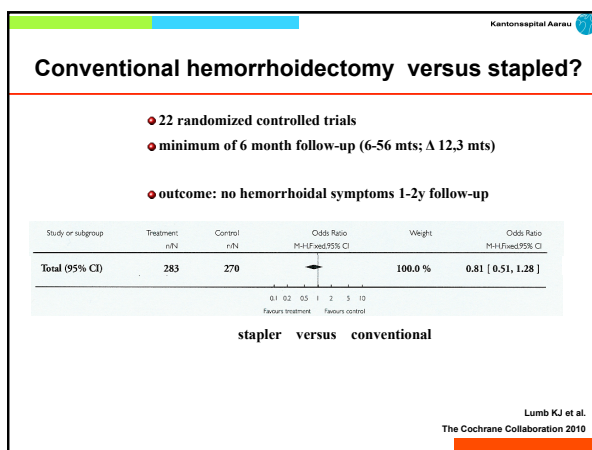
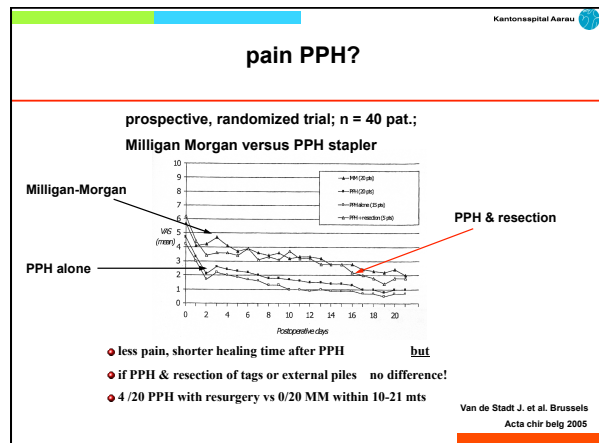
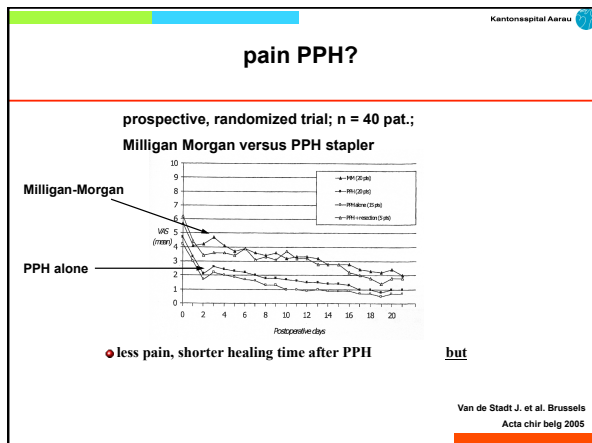
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## Conventional versus stapled?

prospective, randomized trials; PPH vs. excisional hemorrhoidectomy

Authors	n	fu in mts	op. time	VAS pain	analgesics	hosp. time	back to work	reop rate
Gravié 2005	134	24	shorter (PPH)	no diff.	less (PPH)	2,2 vs 3,1d	earlier (PPH)	no diff.
Lau 2004	24	2	no diff.	no diff.	no diff.	2 vs 1 d	n. a.	no diff.
Racalbuto 2004	100	48	no diff.	less (PPH)	less (PPH)	no diff.	earlier (PPH)	n. a.
Palimento 2003	74	6	shorter (PPH)	less (PPH)	no diff.	n. a.	earlier (PPH)	n. a.
Cheetham 2003	31	8	n. a.	less (PPH)	n. a.	n. a.	earlier (PPH)	no diff.
Pavlidis 2002	80	12	shorter (PPH)	less (PPH)	less (PPH)	1,7 vs 3,2d	n. a.	n. a.
Mehigan 2000	40	2	n. a.	less (PPH)	n. a.	no diff.	earlier (PPH)	n. a.

- PPH versus M.-M.: PPH less pain, less analgesics, earlier back to work, equipment cost higher.



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## Conventional versus stapled versus HAL

?

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## Conventional versus stapled versus HAL

One single randomized trial comparing three groups!

- n = 45 patients
- short term results only (12 week postop.):  
pain, symptom control and manometric alterations

	pain VAS 1st motion	Bleeding % (improved)	Prolaps	Continence	* p<0.05
Conventional	7* (5-10)	73%	100%*	100%	
Stapler	1.2 (1-8)	60%	67%	100%	
Hem art. Lig.	2.1 (2-6)	53%	60%	100%	

Khafagy W. et al. Egypt  
Hepato-Gastroenterology 2009

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## Conventional versus HAL

One randomized trial with two groups!

- n = 60 patients
- short term results & 1 year follow-up

Hemorrhoids	analgesic (No doses)	hospital stay	recurrence of symptoms
conventional	11,7 +/- 12,6 doses	62.9 +/- 29.0 hours	5 / 30
DG-HAL	2.9 +/- 7.7 doses	19.8 +/- 41.8 hours	6 / 30

Bursics A. et al. Hungary  
Int J Colorect Dis 2004

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## DG-HAL

All other publications are HAL series!

- n = 507 patients
- retrospective consecutive pat. series
- interventions made 2000 – 2006, follow-up 12 mts

Hemorrhoids	recurrence
Grade II	7,6% (11 / 144)
Grade III	16,3% (52 / 319)
Grade IV	59,1% (26 / 44)

Walega P et al. Poland  
Surg Endosc 2008

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## DG-HAL

- n = 244 patients
- prospective consecutive pat. series
- interventions made 2005 – 2008, follow-up 18.4 mts

Hemorrhoids	symptoms improved	second procedure needed
DG-HAL	67%	22% (re HAL / rubber band)

- risk factor for persistent symptoms:  
prolapse (OR 2.38, 95% CI 1.10 – 5.15)
- risk factor for recurrent disease:  
hemorrhoids grad III / IV (OR 4.94, 95% CI 0.67 – 36.42)

Pol R.A. et al. Netherlands  
Digestive Surgery 2010

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## conclusions

Depending of point of view.....

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conclusions

Conventional haemorrhoidectomy should still be the gold standard

- easy to learn – safe intervention
- equipment in every operation room
- intervention material at low cost
- done in any type of anaesthesia
- can be done in outpatient setting
- with some extra care: lactulose, metronidazole, nitroglycerin ointment at reasonable postoperative pain

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conclusions

Stapler hemorrhoidopexy needs further investigation:

- less pain, hospital stay & time off work

but current data point out that there is a

- elevated risk for:
  - recurrence
  - symptoms of prolapse
  - additional surgery

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conclusions

Doppler guided hemorrhoidal artery ligation:

- relatively painless, safe procedure
- seems to be effective for low-grade hemorrhoids (in concurrence to rubber banding?)

but

- higher risk for recurrence
- higher risk for symptoms of prolapse
- higher risk for additional surgery