

Anal fissure

The surgical approach



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Workshop



WIKIPEDIA
The Free Encyclopedia

Definition

„Ein **Workshop** ist eine Veranstaltung, in der eine kleinere Gruppe mit begrenzter Zeitdauer intensiv an einem Thema arbeitet....“

Workshop



WIKIPEDIA
The Free Encyclopedia

Definition

„Ein Kennzeichen ist dabei die kooperative und moderierte Arbeitsweise an einem gemeinsamen Ziel.“

Anal fissure

Definition



A. Acute fissure

B. Chronic fissure

Anal fissure

Definition



Duration of symptoms >6 weeks

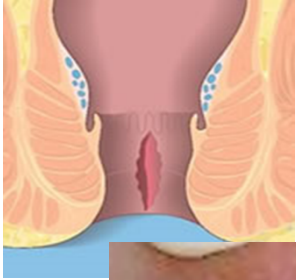


A. Acute fissure

B. Chronic fissure

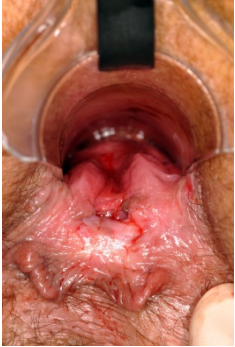
Acute anal fissure

Definition

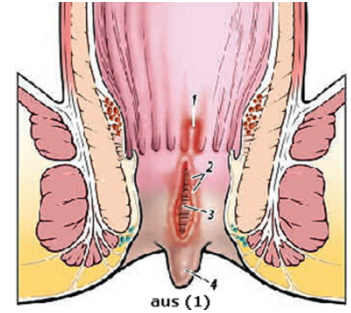


«Acute painful tear or split in the distal anal canal»

Chronic anal fissure



Definition



chronological

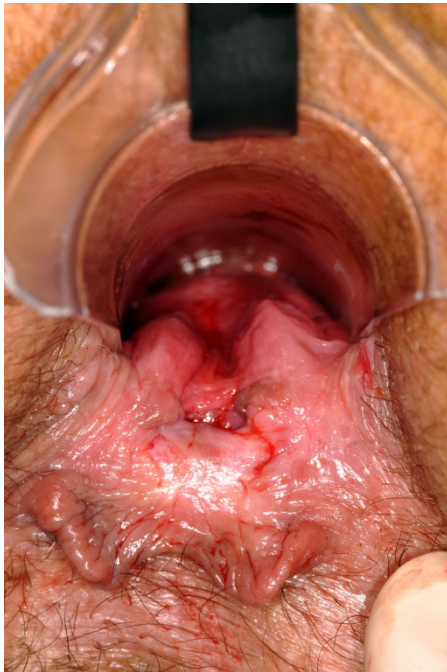
pain > 6 weeks

morphological

visible IAS-fibres

Chronic anal fissure

Definition



«the presence of visible transverse IAS-fibres at the base of a fissure of duration not less than 6 weeks»

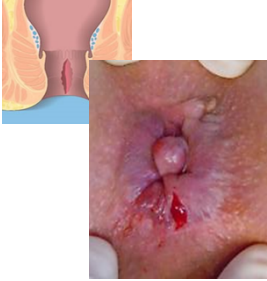
Acute anal fissure

Therapy



- A. Fibres and analgesics
- B. Glyceryl trinitrate (GTN)
- C. Nifedipin (Ca^{2+} -blocker)
- D. Botulinumtoxin A

Acute anal fissure



Healing rate

Fibres:

Glyceryl trinitrate

92%²

Healing rate $\approx$ 90%

(α -blocker)

86%³

Botulinumtoxin A

81%⁴

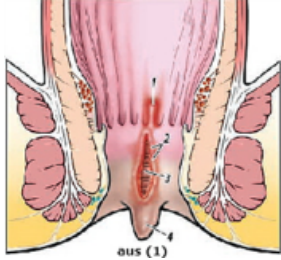
1. Jensen SI. BMJ 1984

2. Bacher H. Dis Colon Rectum 1997

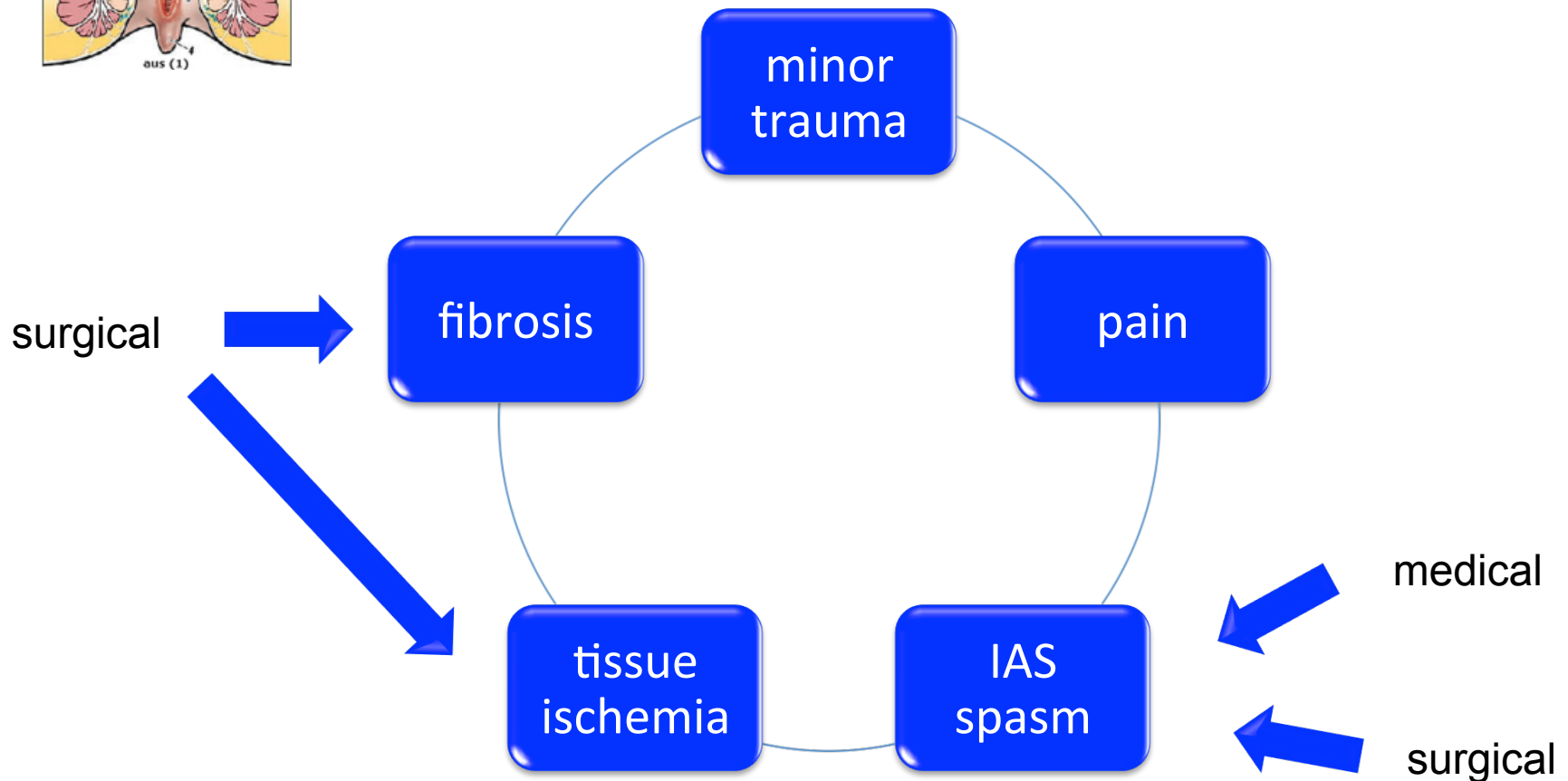
3. Katsinelos P. WJG 2006

4. Jost WH. Dis Colon Rectum 1993

Chronic anal fissure



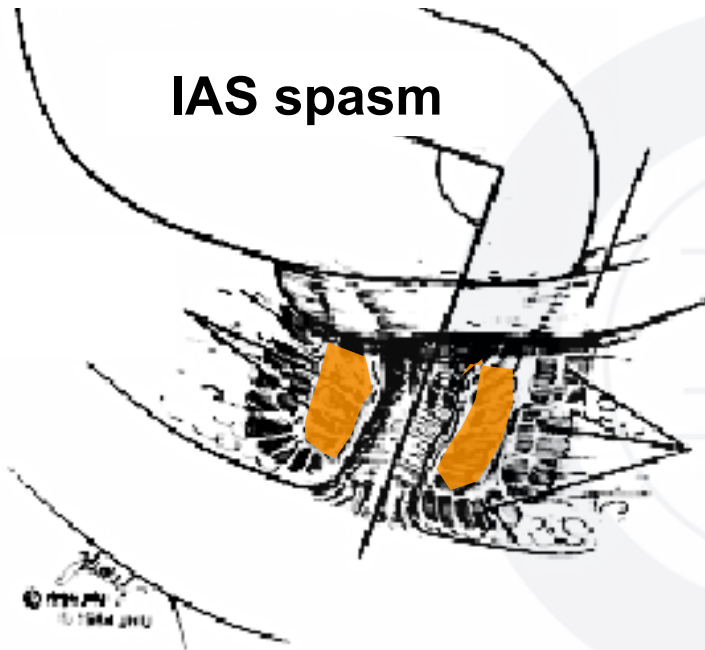
Pathogenesis



Chronic anal fissure

Medical treatment

Metaanalysis, 75 RCT, n=5031



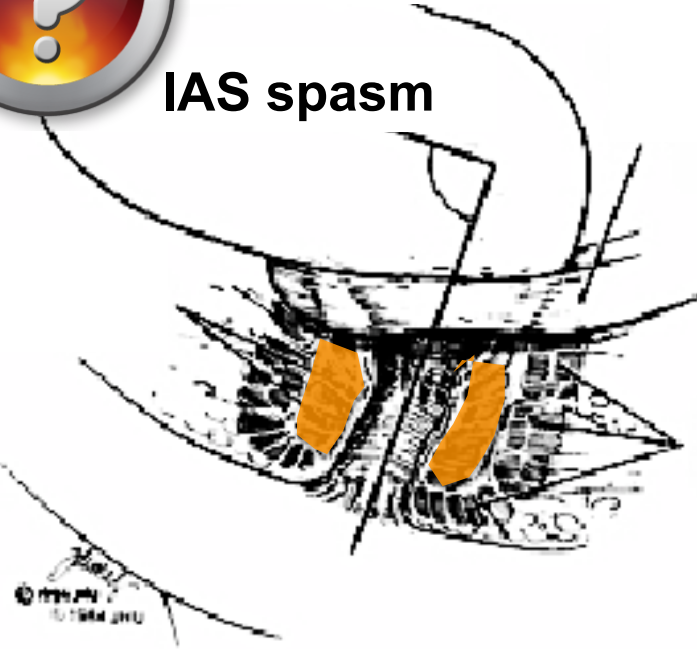
- Nitroglycerin 0.2%
- Ca^{2+} -blocker
- Botulinum Toxin A

Chronic anal fissure

Medical treatment



IAS spasm



A. Success rate $>50\%$

B. Success rate $<50\%$

Chronic anal fissure

Medical treatment

Metaanalysis, 75 RCT, n=5031

- Healing rate <50%
- Recurrence 50%

Chronic anal fissure



Medical treatment

Metaanalysis, 75 RCT, n=5031

GTN 0.2%

vs.

Placebo

49%

healed
($p < 0.0009$)

36%

Chronic anal fissure

Medical treatment

Metaanalysis, 75 RCT, n=5031

GTN 0.2%

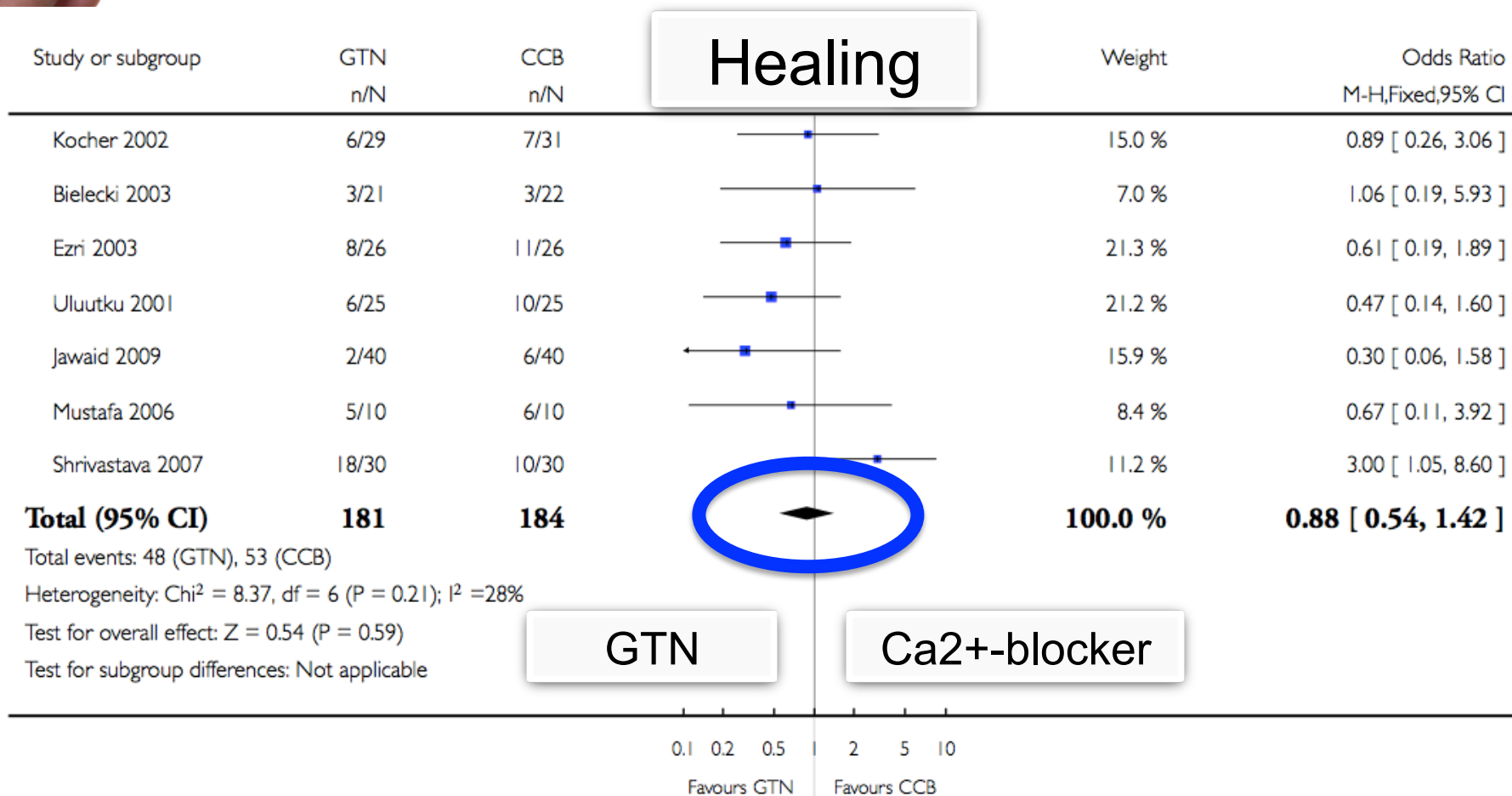
- 30% with headache
- 5.5 x than placebo



Chronic anal fissure



Medical treatment



Chronic anal fissure

Medical treatment

Metaanalysis, 75 RCT, n=5031

Botox®



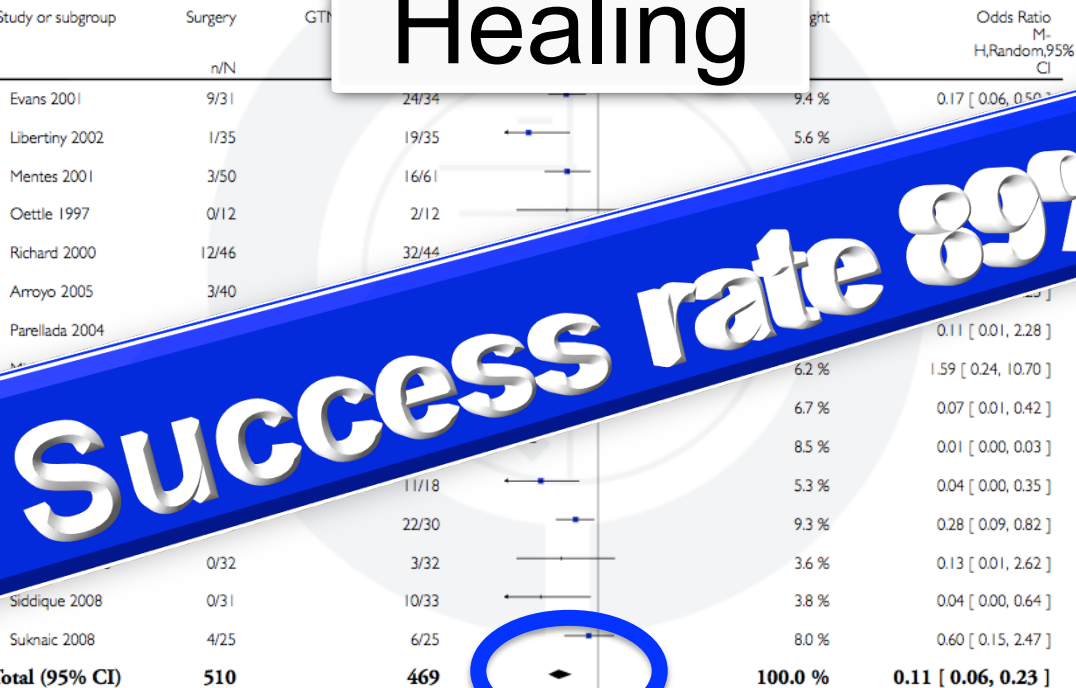
- Not better than placebo
- Not better than nitro or Ca²⁺blocker

Chronic anal fissure

Medical vs. surgical

Metaanalysis, 75 RCT, n=5031

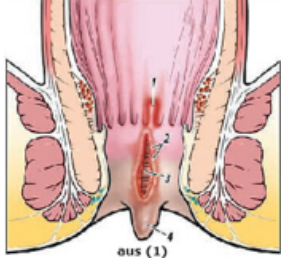
Healing



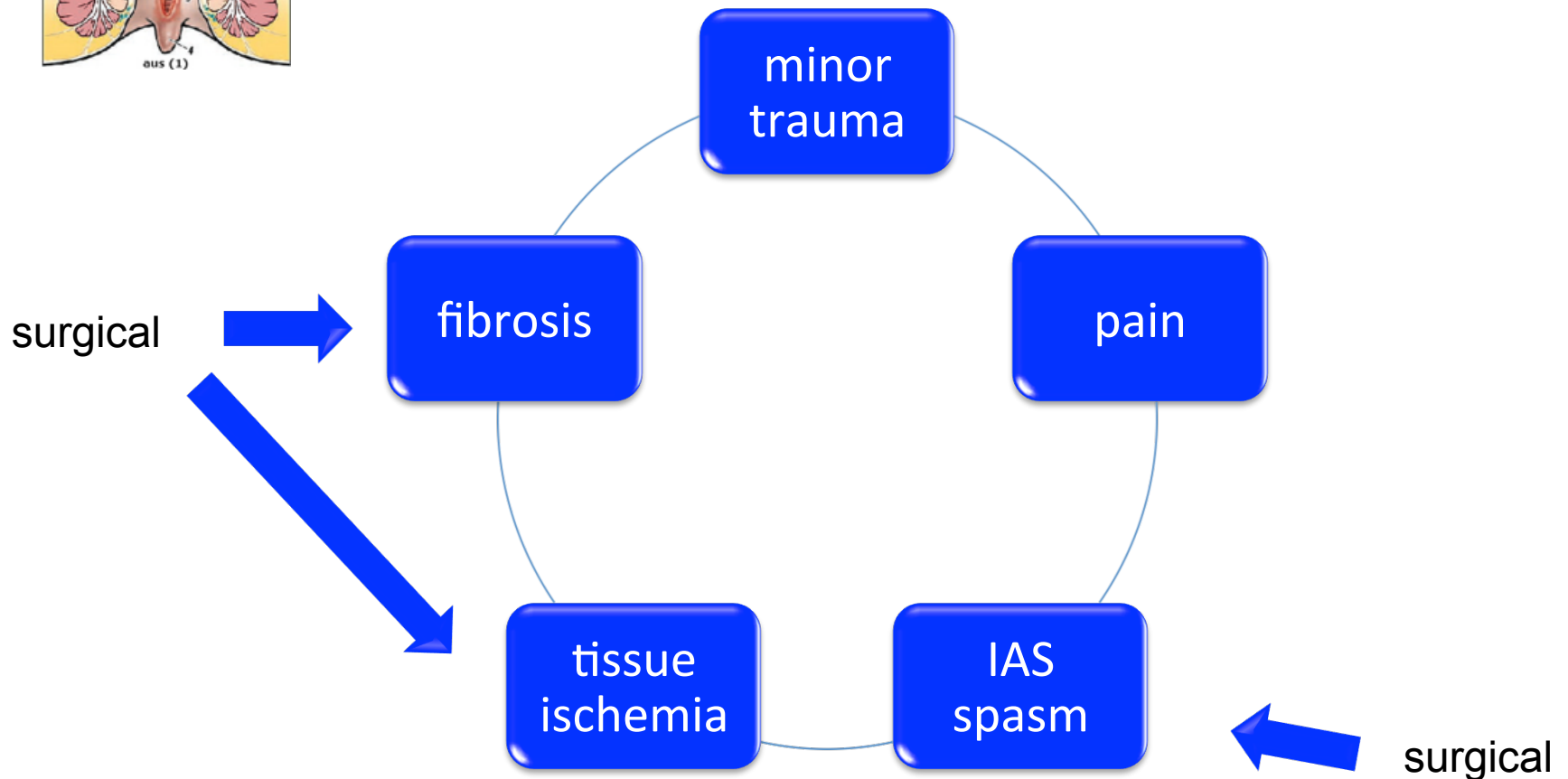
surgical

medical

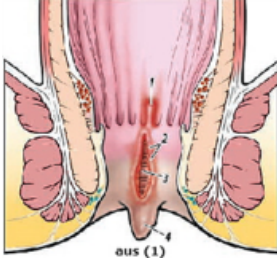
Chronic anal fissure



Surgical therapy



Chronic anal fissure



Surgical therapy

fibrosis

tissue
ischemia

IAS
spasm

- Fissurectomy
- Dermal Flap (e.g. V-Y)
- **CO-2 Laser ?**

- Manual anal stretch
- Lateral internal sphincterotomy
- **Balloon dilatation**

CO₂-Laser

Evidence

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed ("Fissure in Ano"[Mesh]) AND "Lasers"[Mesh]

RSS Save search Advanced

Article types
Customize ...

Text availability

Display Settings: ☒ Summary, Sorted by Recently Added

Results: 2

Not fissure

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed ("Fissure in Ano"[Mesh]) AND Laser

RSS Save search Advanced

Article types
Clinical Trial
Review
Customize ...

Display Settings: ☒ Summary, 20 per page, Sorted by Recently Added

Results: 1 to 20 of 27

<< First <

1 series

- ☐ [\[Treatment of fissure in ano by the method of laser coagulation\].](#)
23. Babaev OG, Skobelkin OK, Khodzhanepesov K.
Khirurgiia (Mosk). 1990 Jun;(6):21-4. Russian.
PMID: 2214569 [PubMed - indexed for MEDLINE]

Case report



44 yr old male

1. Medical treatment 3 mts.
2. 2x Botox and balloon dilatation
3. After 4 month recurrence

Case report

Further steps



- A. medical treatment
- B. Balloon dilatation
- C. CO-2 Laser
- D. Refer to surgeon

Chronic anal fissure



Surgical therapy

fibrosis

tissue
ischemia

IAS
spasm

- Fissurectomy
- Dermal Flap (e.g. V-Y)

- Manual anal stretch
- Lateral internal sphincterotomy

Chronic anal fissure

Surgical therapy



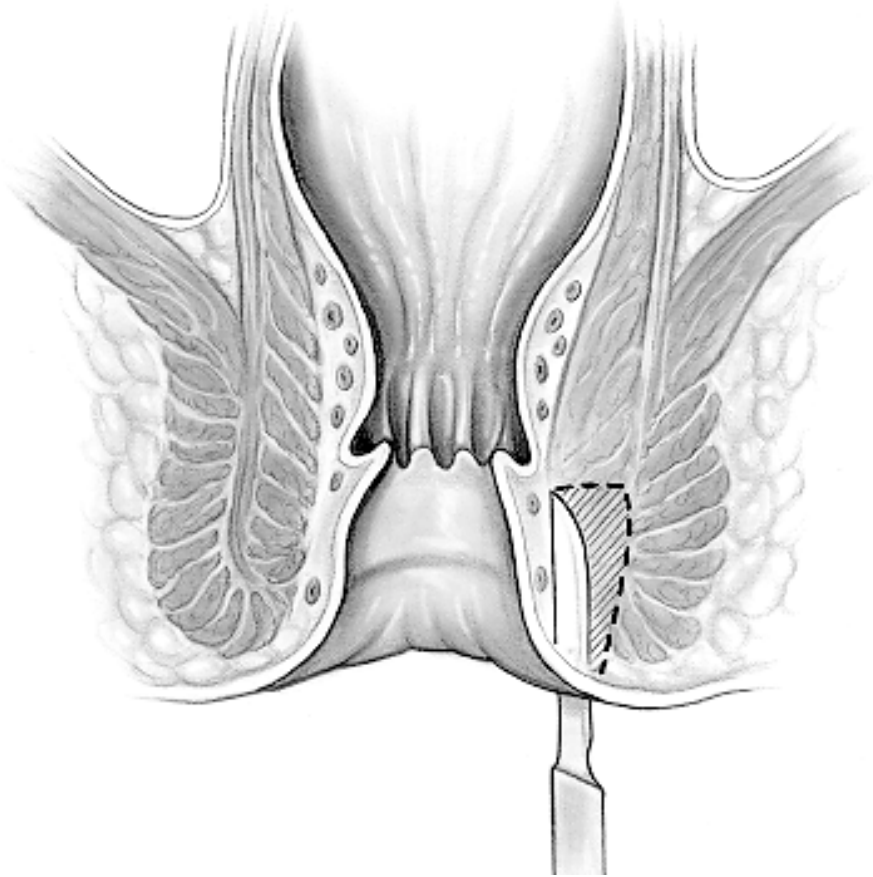
Healing

Incontinence

Manual anal stretch



Lateral internal sphincterotomy

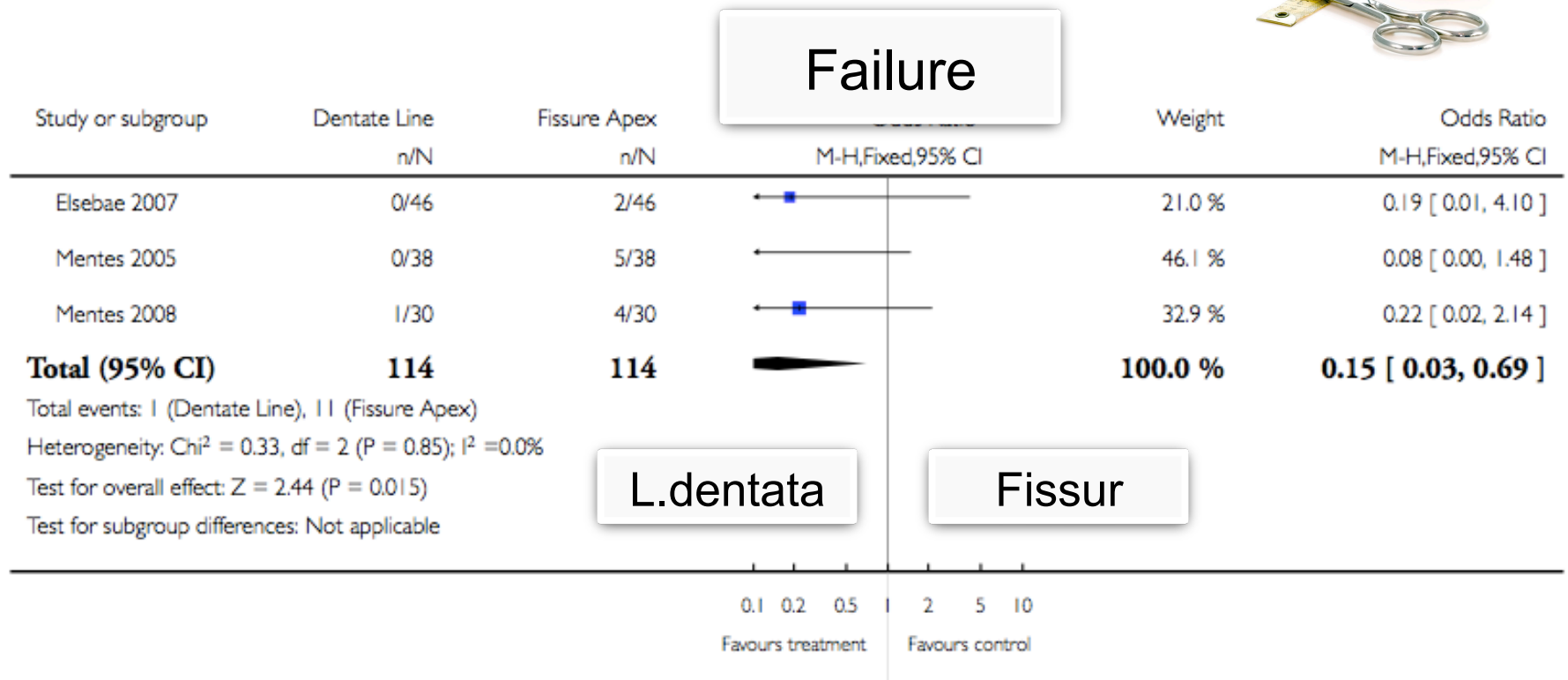


Reduces anal pressure by
25-30%

Healing rate > 90%

Lateral internal sphincterotomy

Length of sphincterotomy



Lateral internal sphincterotomy



Flatus: up to 36%

Liquids: up to 21%

Solids: up to 5%

Lateral internal sphincterotomy

Incontinence after sphincterotomy

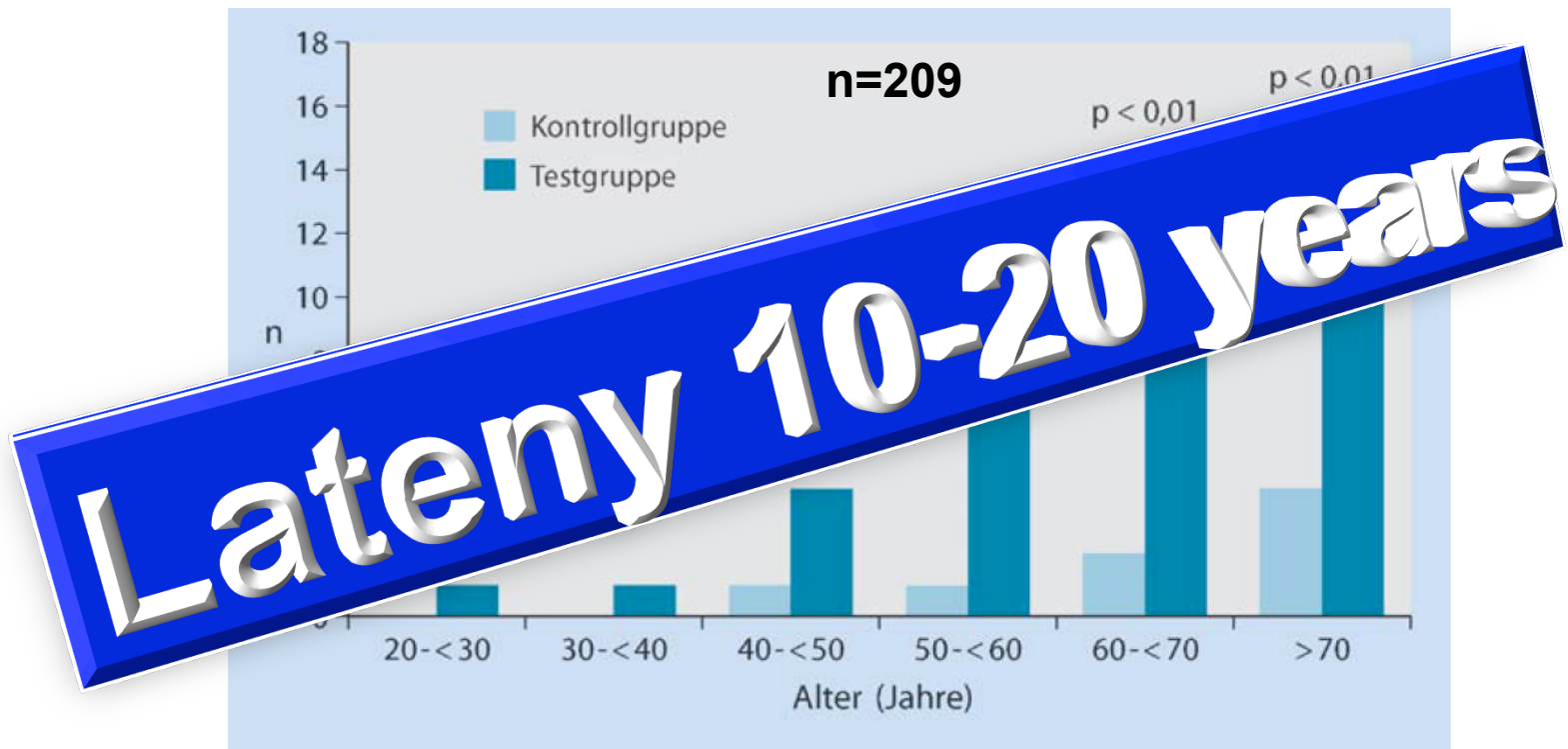
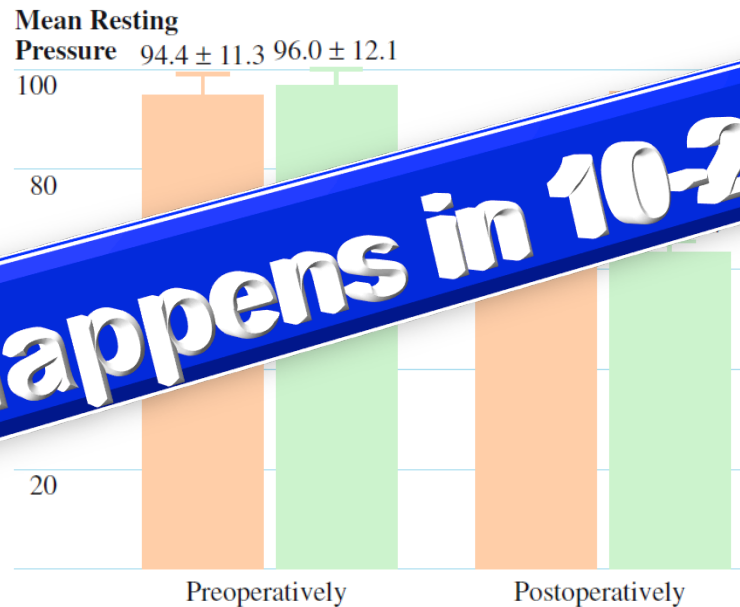


Abb. 3 ▲ Anzahl der Patienten mit analer Inkontinenz zum Zeitpunkt der Nachuntersuchung nach Sphinkteromyotomie (Testgruppe) im Vergleich zu Patienten gleichen Alters ohne koloproktologische Erkrankung oder Voroperation (Kontrollgruppe)

LIS versus Pneumatic Dilatation

Mean resting pressure

RCT, n=49, follow-up 2 yrs



Reduction of $\approx 30\%$

LIS versus Pneumatic Dilatation



Chronic anal fissure



Surgical therapy

fibrosis

tissue
ischemia

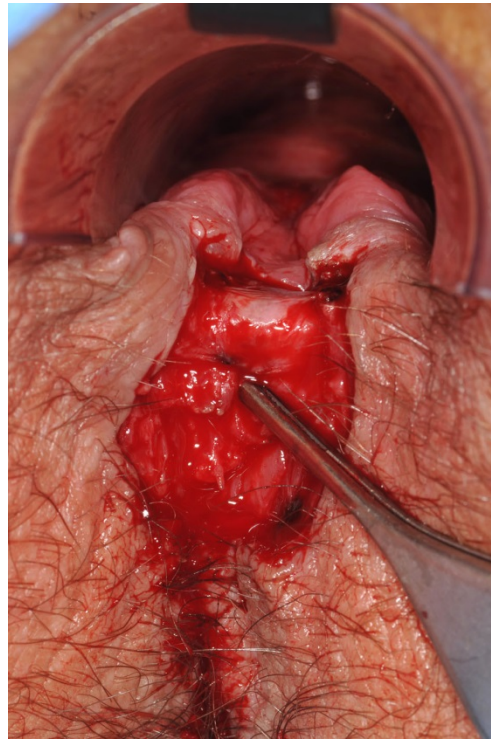
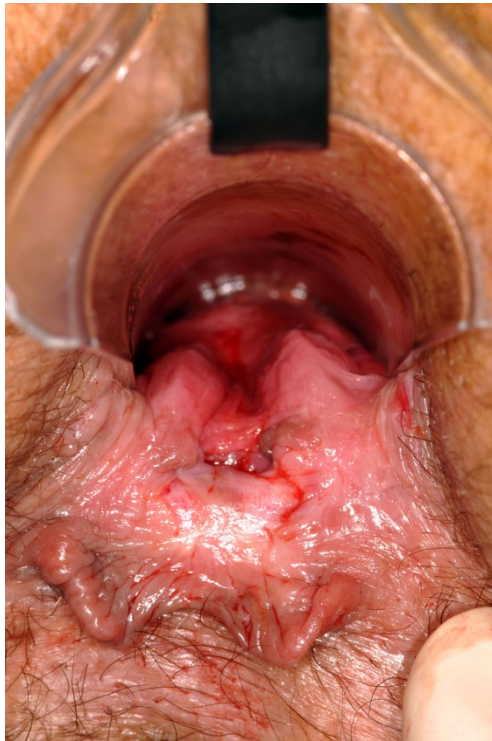
IAS
spasm

- Fissurectomy
- Dermal Flap (e.g. V-Y)

- Manual anal stretch
- Lateral internal sphincterotomy

Fissurectomy

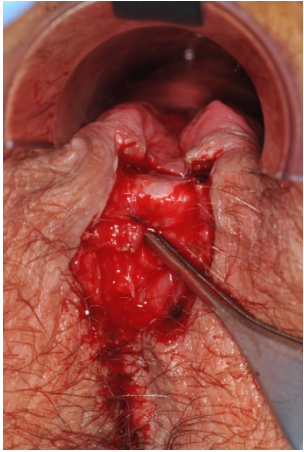
Concept



1. Fibrosis, scar tissue
2. Mechanical factors
(*papillae, skin tags*)
3. IAS spasm
(*Nifedipin/Botox*)

Fissurectomy

Short term



Healing rate : 4 mts: 93%

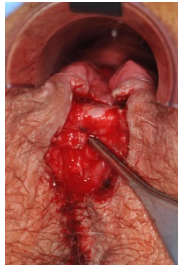
12 mts: 79%

Transient mild incontinence 5-7%

Fissurectomy

Long term

Case-match, n=53, median follow-up 8.2 years



+

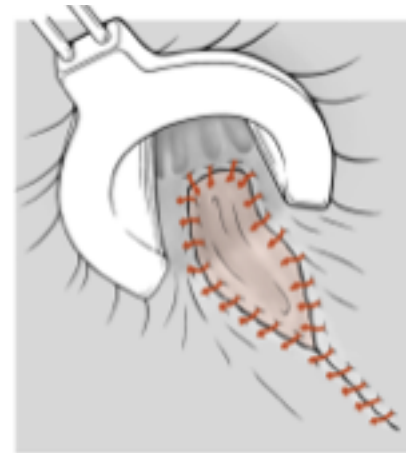
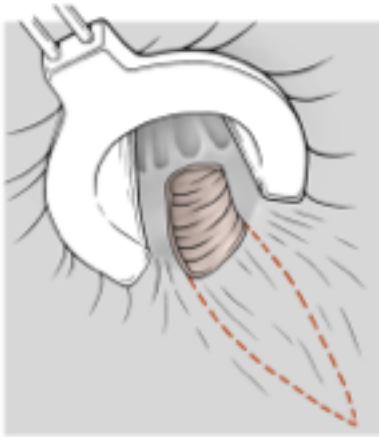


Isosorbiddinitrate ointment

- Healing rate 88%
- Vaizey score: fissurectomy 0.8 vs. 0.4 ctrl-group ($p=0.19$)
- 90% would do it again !

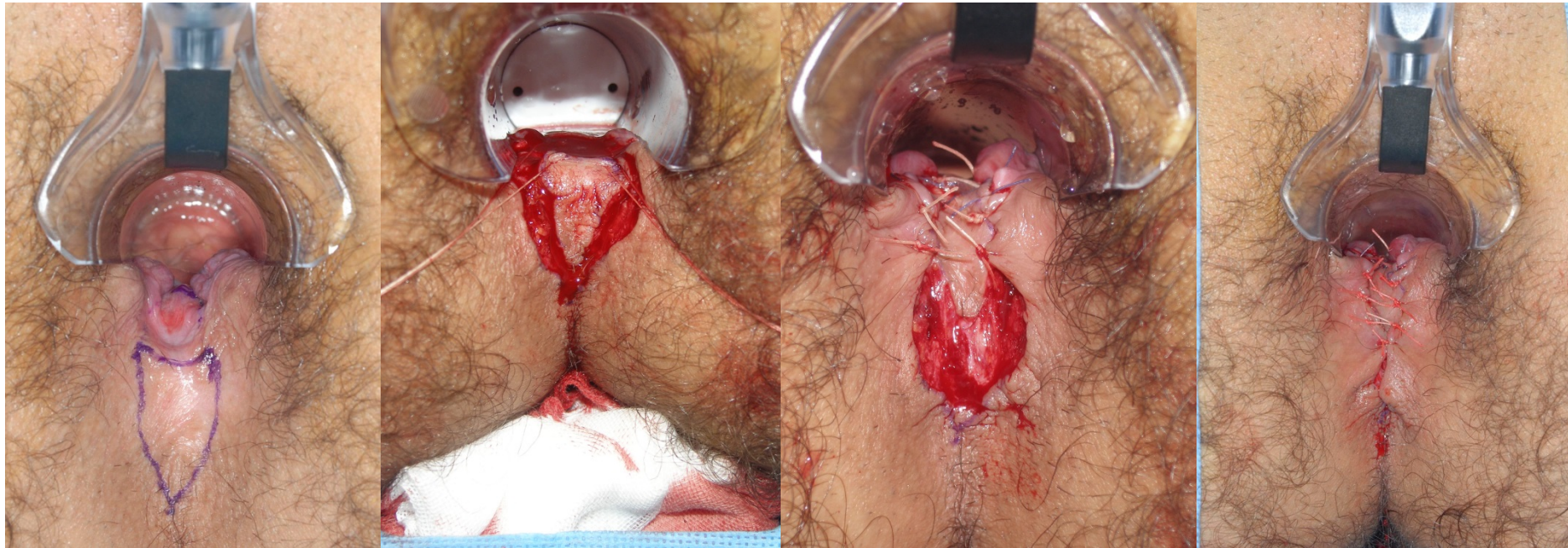
Dermal flap

V-Y- flap



Dermal flap

V-Y- flap



Dermal flap

V-Y- flap

prospective, n=54
follow-up: 6 mts.



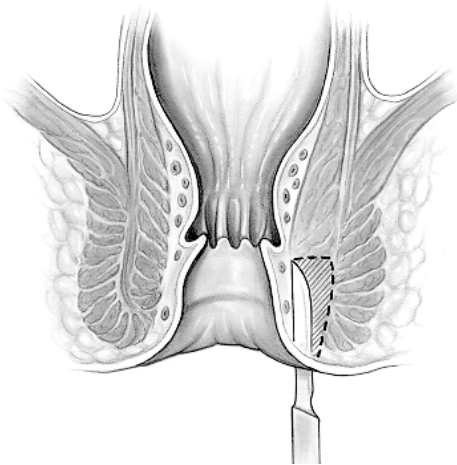
Healing rate 98%

Complications:	bleeding:	7%
	dehiscence	6%

Dermal flap (rectangular-flap)

Long-term

prospective, n=60
follow-up: 70 mts.



Healing rate 100%

VS.



48%

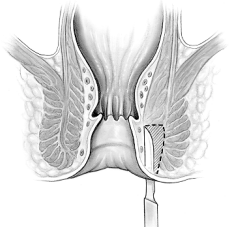
Mild incontinence

6%

Dermal flap

Healing rate

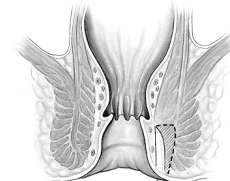
RCT, n=150, follow-up: 12 mts.



vs.

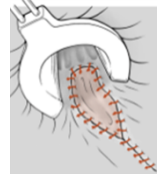


vs.



tailored

+



84%

48%

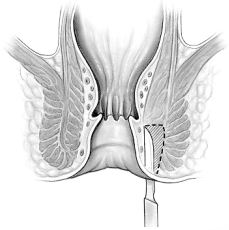
94%

$p < 0.01$

Dermal flap

Incontinence

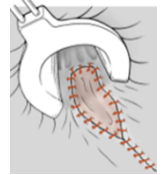
n=150, follow-up: 12 mts.



vs.



+



tailored

flap = safe

14%

0%

2%

Case report

Further steps



- A. Fissurectomy
- B. Dermal flap
- C. Balloon dilatation
- D. Sphincterotomy

Algorithm chronic anal fissure



- Medical



- Fissurectomy



- Dermal flap



- LI-sphincterotomy

Better safe than sorry !



Thank you

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