

V&VN Congres Stomaverpleegkundigen  
11 november 2021

# Parastomale hernia

## *chirurgische opties en preventie*

A.L.A. (BOB) BLOEMENDAAL MD PHD

CHIRURG, REINIER DE GRAAF GASTHUIS, DELFT



# Achtergrond

Bij het aanleggen van een stoma maken we een (permanente) chirurgische hernia, ofwel een littekenbreuk.

De enige curatieve oplossing van een buikwandhernia is het sluiten van de hernia....,

...maar dit kan niet bij een parastomale hernia.





# Epidemiologie

Is er een verschil in incidentie van een PSH bij verschillende type stoma's?

Ja

Is er een verschil in ontstaan van een PSH op verschillende locaties (door de rectus, of lateraal van de rectus)?

Nee

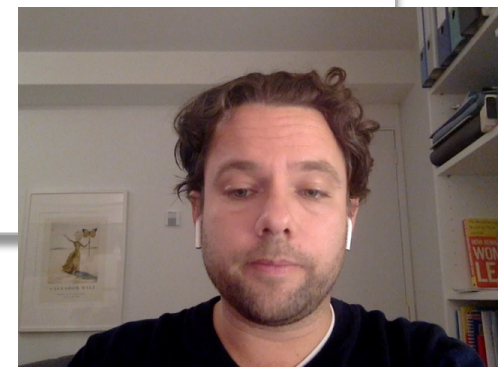


# Epidemiologie

Dubbelloops ileostoma

0% - 6.2%

Reference	Year	No. of patients	Parastomal hernia	Follow-up (months)
Leenen and Kuypers <sup>42</sup>	1989	153	3	—
Wexner <i>et al.</i> <sup>50</sup>	1993	83	1	2.3*
Chen and Stuart <sup>45</sup>	1996	72	1	4†
Gooszen <i>et al.</i> <sup>32</sup>	1998	32	2	—
Phang <i>et al.</i> <sup>51</sup>	1999	366‡	2	2 minimum
Edwards <i>et al.</i> <sup>33</sup>	2001	34	0	2†
Rullier <i>et al.</i> <sup>35</sup>	2001	107	2	3.5†
Sakai <i>et al.</i> <sup>34</sup>	2001	63	1	3.2†
Total		910	12 (1.3)	





# Epidemiologie

Eindständig ileostoma

1.3% - 28.3%

Reference	Year	No. of patients	Parastomal hernia	Follow-up (years)
Watts <i>et al.</i> <sup>47</sup>	1966	119	3	3.4*
Sjödahl <i>et al.</i> <sup>23</sup>	1988	45	1	7*
Weaver <i>et al.</i> <sup>48</sup>	1988	111	9	—
Williams <i>et al.</i> <sup>6</sup>	1990	46	13	6.5†
Leong <i>et al.</i> <sup>15</sup>	1994	150	16	9.2*
Carlsen and Bergan <sup>49</sup>	1995	224	4	2.6*
Mäkelä <i>et al.</i> <sup>27</sup>	1997	54	4	8*
Total		749	50 (6.7)	



# Epidemiologie

Dubbelloops colostoma

0% - 30.8%

Reference	Year	No. of patients	Site of stoma	Parastomal hernia	Follow-up (months)
Burns <sup>17</sup>	1970	88	S, T	1	—
Wara <i>et al.</i> <sup>29</sup>	1981	235	T	7	—
Browning and Parks <sup>30</sup>	1983	51	S, T	2	—
Boman-Sandelin and Fenyö <sup>31</sup>	1985	211	T	6	2.2*
Cheung <sup>26</sup>	1995	7	S	2	38.0†
Cheung <sup>26</sup>	1995	26	T	8	38.0†
Gooszen <i>et al.</i> <sup>32</sup>	1998	38	T	0	range 2.3–3
Edwards <i>et al.</i> <sup>33</sup>	2001	36	T	2	2.4†
Sakai <i>et al.</i> <sup>34</sup>	2001	63	T	0	96.0†
Rullier <i>et al.</i> <sup>35</sup>	2001	60	T	5	3.6†
Total		815		33 (4.0)	





# Epidemiologie

Eindständig colostoma

4% - 48.1%

Reference	Year	No. of patients	Parastomal hernia	Follow-up (months)
Quan <sup>16</sup>	1970	309	28	120* (60–300)
Burns <sup>17</sup>	1970	208	15	—
Harshaw <i>et al.</i> <sup>18</sup>	1974	99	9	—
Kronborg <i>et al.</i> <sup>19</sup>	1974	362	42	—
Marks and Ritchie <sup>20</sup>	1975	227	23	60* (12–72)
Burgess <i>et al.</i> <sup>21</sup>	1984	124	6	—
von Smitten <i>et al.</i> <sup>22</sup>	1986	54	26	48* (12–96)
Sjödahl <i>et al.</i> <sup>23</sup>	1988	81	7	84*
Allen-Mersh and Thomson <sup>24</sup>	1988	123	55	—
Porter <i>et al.</i> <sup>25</sup>	1989	130	14	35*
Londono-Schimmer <i>et al.</i> <sup>14</sup>	1994	203	43	66*
Cheung <sup>26</sup>	1995	156	56	38†
Mäkelä <i>et al.</i> <sup>27</sup>	1997	80	9	96†
Koltun <i>et al.</i> <sup>28</sup>	2000	25	1	84†
Total		2181	334 (15.3)	



# Epidemiologie

## Urinary conduit (Bricker)

4.1% - 35.4%

Table 3 Primary Outcome measures

Author	No of patients in the study	No of IC included in the study	Age (range)	Follow-up months (range)	No of PH (%)	Interval to diagnosis of PH (months)	Diagnostic criteria
Klein et al.	319	291	Mean 52 years	Median 35 (1-152)	12 (4.1%)	Mean 44	NR
Cheung et al.	316	123	Median 66 years	Median 38	34 (27.6%)	Mean 22.4	NR
Soulie et al.	73 (older than 75 years)	39	Median 79.3 years (75-89)	Median 14.4 (6-74)	3 (7.69%)	NR	NR
Madersbacher et al.	412	131 (long term survivors >5 years post op)	Median 62 years (15-82)	Median 98 (60-354)	18 (13.74%)	NR	NR
Knap et al.	268	195	Median 65 years	Median 2.6 years (0-9.5 years)	15 (7.69%)	NR	NR
Kouba et al.	137	137	Mean 71.5 years	Mean 29	19 (13.8%)	Mean 8.4 (6-30)	Clinical. Imaging requested only for clinical suspicion of PH
Khalil et al.	36	36 (long term survivors > 5 years)	Median 61 years (48-72)	Median 82 (61-118)	4 (11.11%)	NR	NR
Shimko et al.	1057	1045	Median 69 years (31-92)	Median 6.3 (0.1-29.1)	147 (14.06%)	Median 2.4 years (0.2-18.3)	NR
Pisters et al.	496	496	Mean	Median 16 (1-189)	61 (12.29%)	NR	Clinical examination
			Ant fixation 71.3 years (41-93)		Ant fascial fixation (43/281, 15.3%)		
			Post fixation 74.6 years (41-91)		Post fascial reinforcement (6/51, 11.7%)		
			No fixation 70.0 years (42-87)		No fascial fixation (12/ 164, 7.3%)		
Donahue et al.	433	386	Median 74 years (68-79)	NR	137 on radiology (35.4%) 93 clinical exam (24.09%)	27% (95% CI 22-33%) at 1 year 48% (95% CI 42-55%) at 2 years	CT/MRI 137 Type 1, 5 (4%), Type 2, 90 (66%) Type 3, 41 (30%) Clinical diagnosis 93



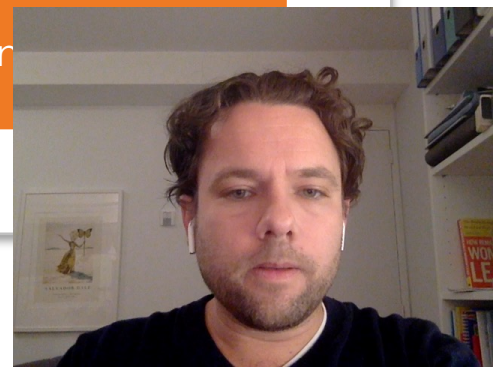
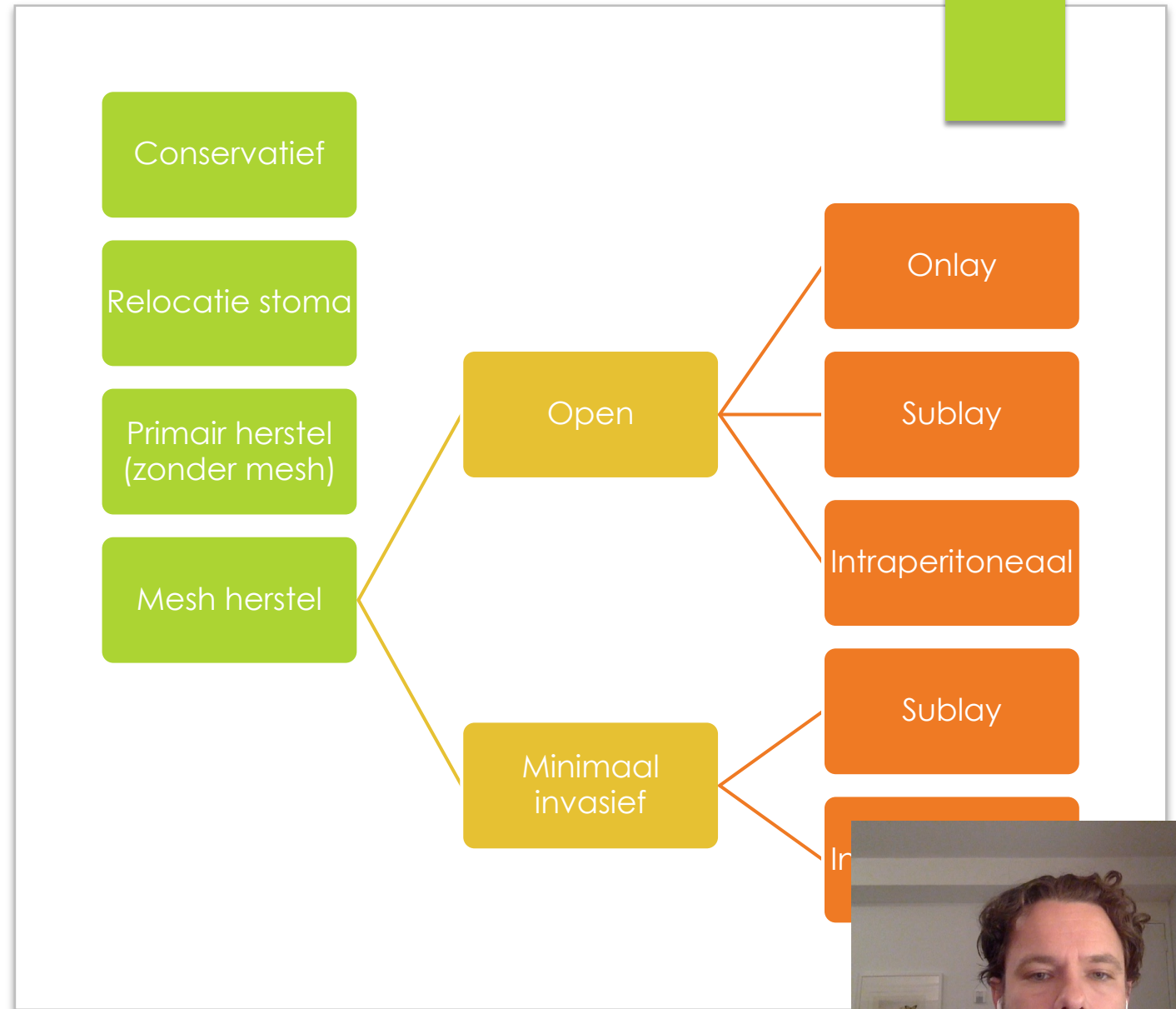
# Behandeling

Geen ideale behandeloptie, dus  
“shared decision making” is essentieel

Kans op succes vs. risico op complicaties



# Behandelopties

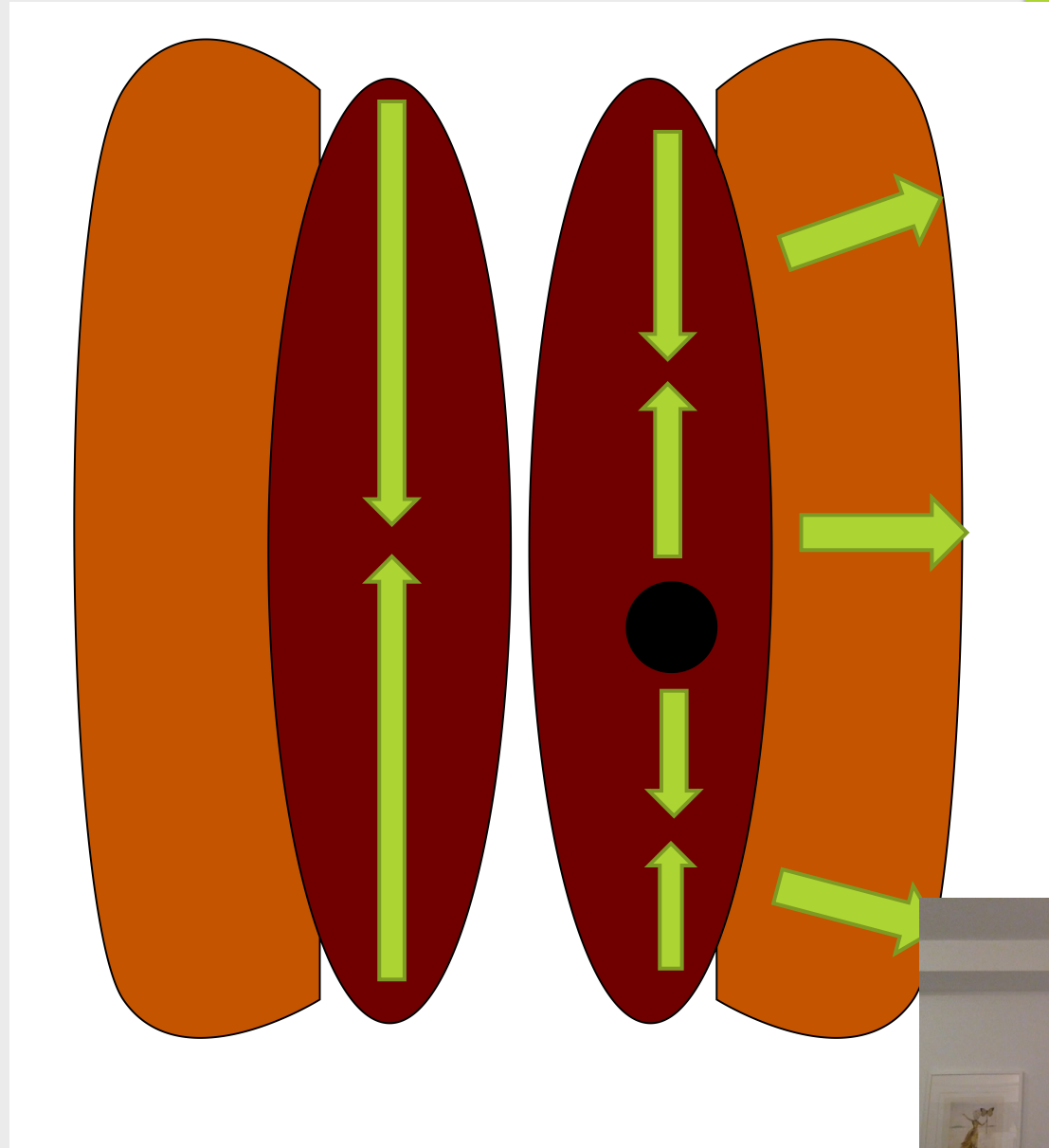


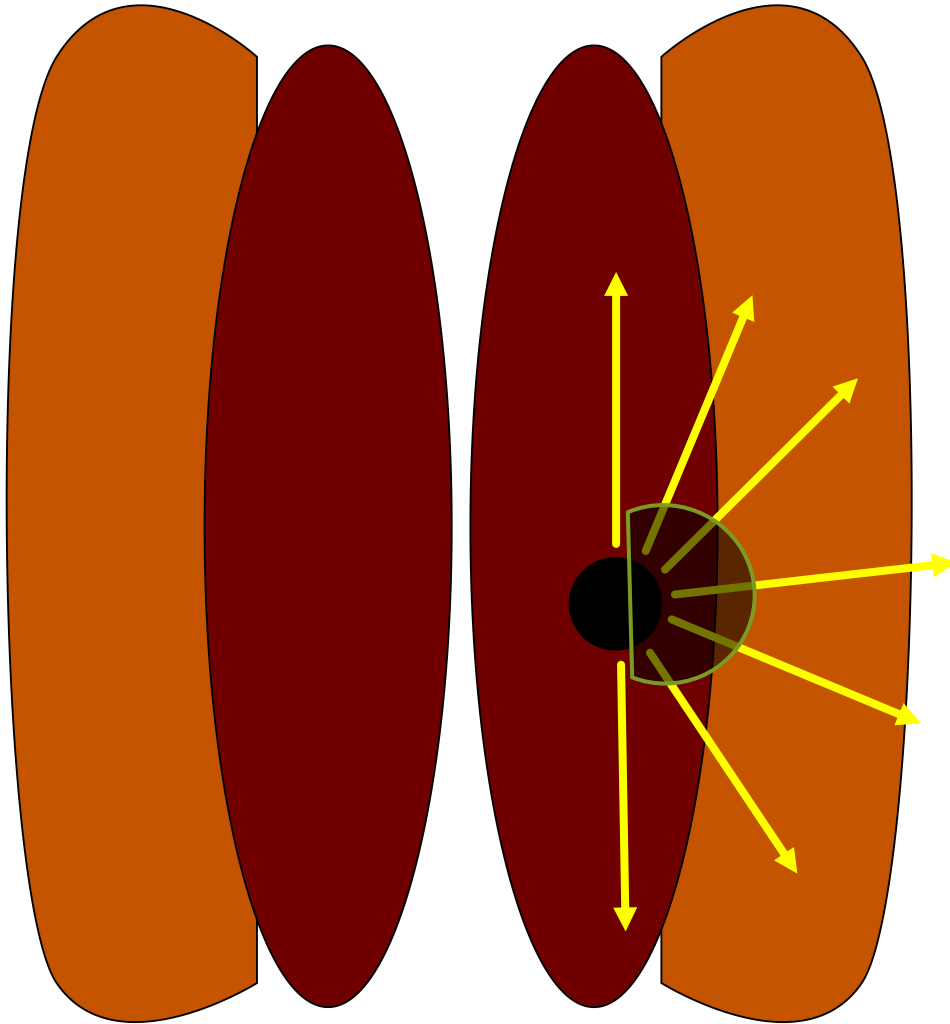


Behandeling

Conservatief

*Buikspieroefeningen*





Behandeling  
Conservatief





# Behandeling

## Conservatief

Buikband = symptoom bestrijding



# Behandeling

## Conservatief

Het grootste probleem van een parastomale hernia is de **vermindering van de kwaliteit van leven**

**Verbetering van de kwaliteit van leven** kan door **goede zorg, goede materialen, symptoom bestrijding, acceptatie, dieet, algemeen** **gezondheid, beleving etc.**





# Behandeling

## Relocatie

- ▶ Laparotomie + mobiliseren darm
- ▶ Kans op nieuwe PSH
- ▶ Kans op littekenbreuk in oude stomapoort
- ▶ Kans op littekenbreuk in operatielitteken



# Behandeling

Primair herstel

- ▶ Recurrence 59.7% - 100%
- ▶ Grote kans op wondinfectie





# Behandeling

## Open onlay

- ▶ Snelle veilige procedure
- ▶ Recurrence 17.2%
- ▶ Grote kans mesh-infectie
- ▶ Hele matige literatuur (<150 ptn)

Shakarchi *et al.* Tech Coloproctol (2014) 18



# Behandeling

## Open retromusculair

- ▶ Noodzaak tot (re)laparotomie
- ▶ Recurrence 6.9%
- ▶ Geen mesh infecties
- ▶ Hele matige literatuur (<80ptn)

Shakarchi *et al.* Tech Coloproctol (2014) 18:





# Behandeling

## Open intra-abdominaal

- ▶ Noodzaak tot (re)laparotomie
- ▶ Recurrence 9.2%
- ▶ Mesh infecties in 1.5%
- ▶ Hele matige literatuur (<70 ptn)

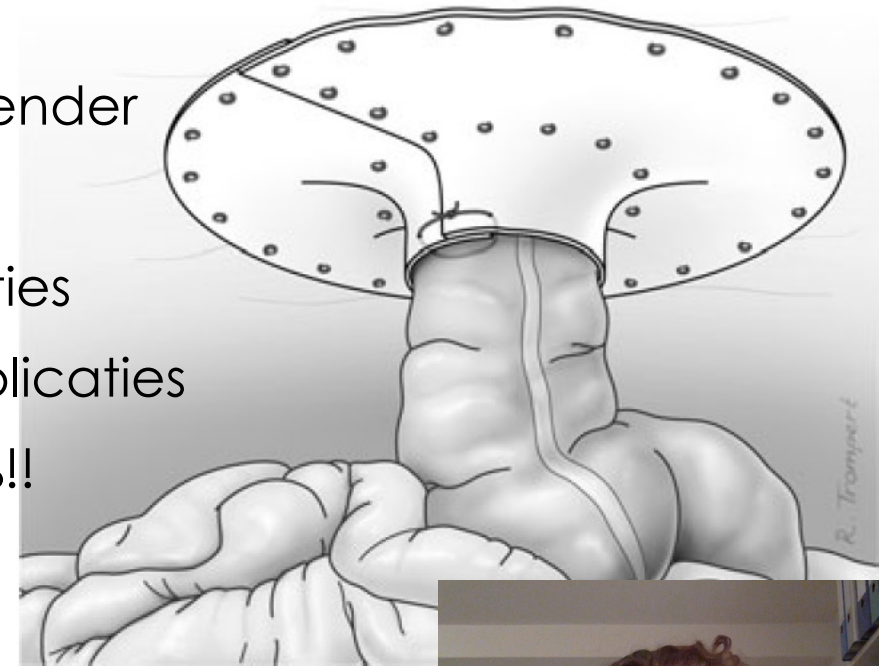
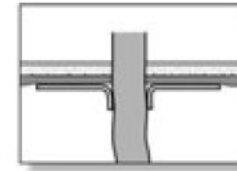
Shakarchi *et al.* Tech Coloproctol (2014) 18:



# Behandeling

## Laparoscopisch intra- abdominaal (Keyhole)

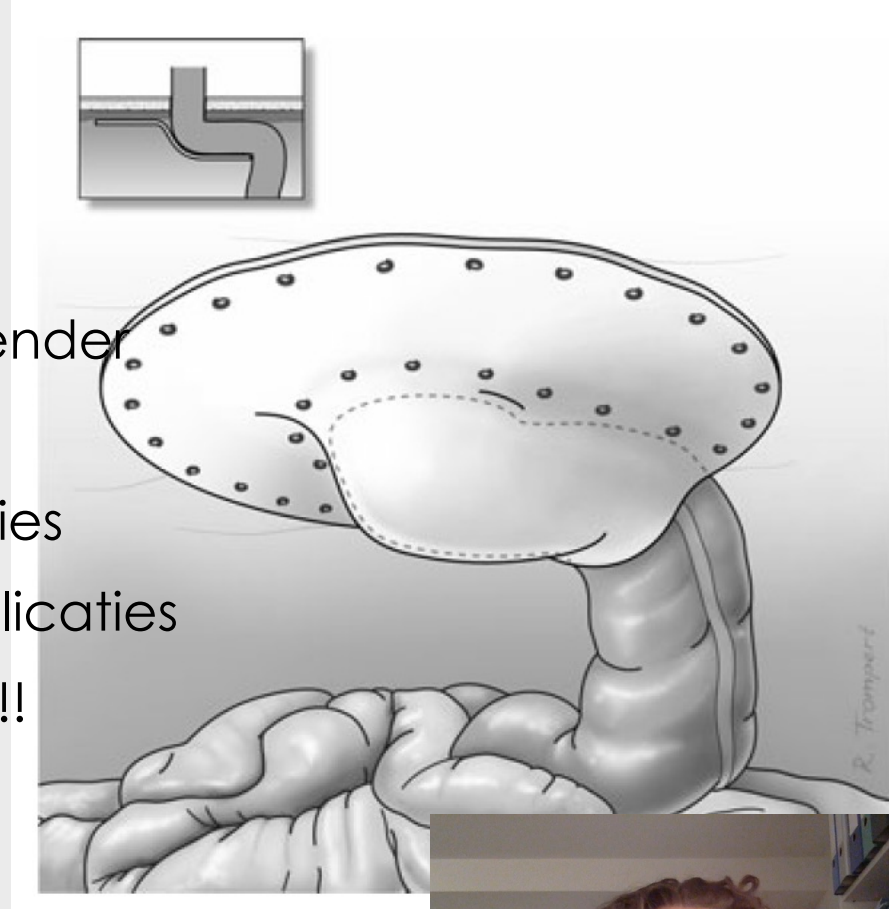
- ▶ Technisch uitdagender
- ▶ Laparoscopie
- ▶ Geen mesh infecties
- ▶ Geen wondcomplicaties
- ▶ Recurrence 34.6%!!





# Behandeling Laparoscopisch intra- abdominaal (Sugarbaker)

- ▶ Technisch uitdagender
- ▶ Laparoscopie
- ▶ Geen mesh infecties
- ▶ Geen wondcomplicaties
- ▶ Recurrence 11.6%!!



# Samengevat

**TABLE 7.** Summary of Pooled Proportions of Outcome Measures Per Surgical Technique for Parastomal Hernia Repair

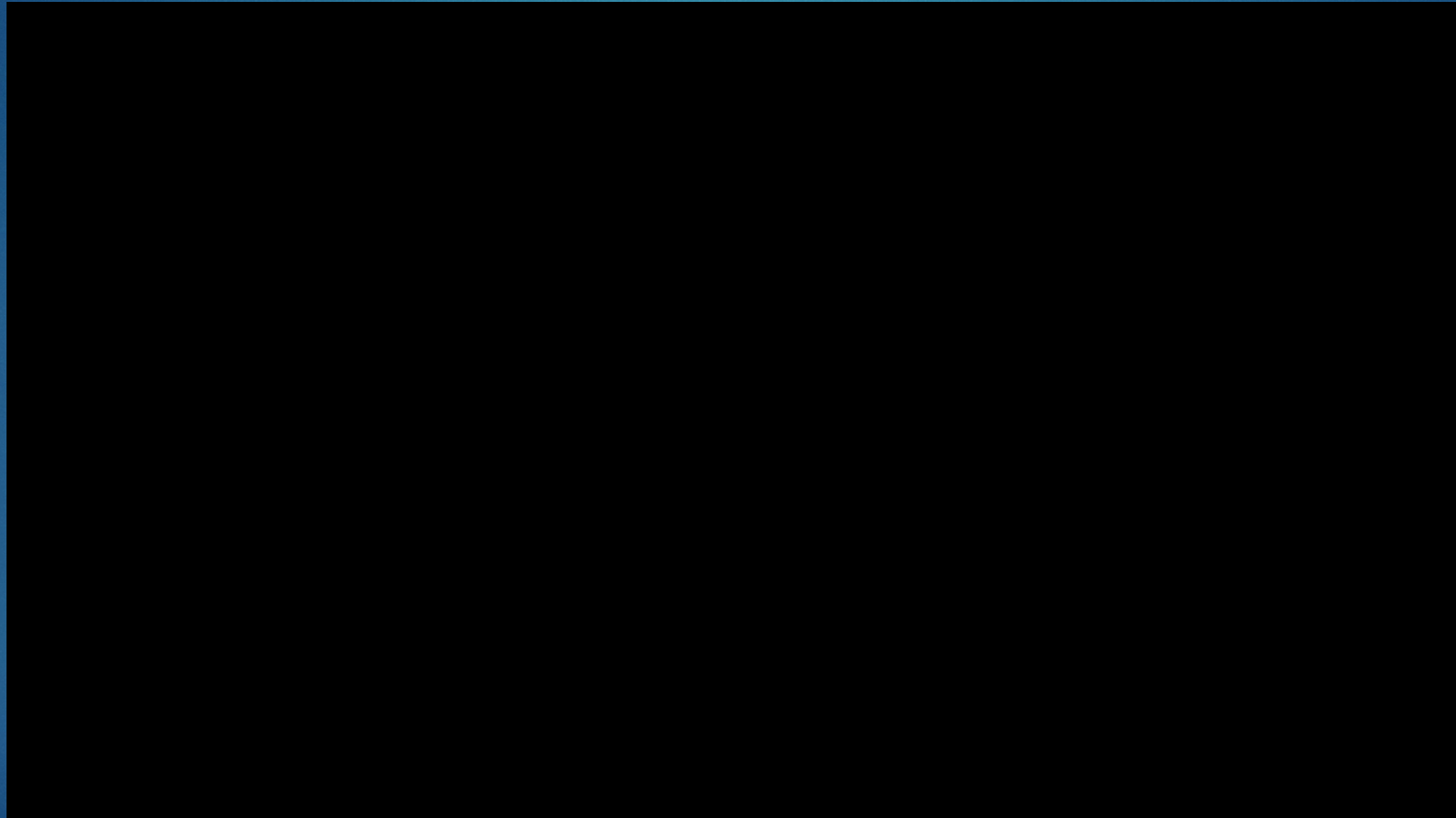
Technique	No. Studies	No. Repairs	Complications (95% CI)			Recurrence, %* (95% CI)
			Wound Infection	Mesh Infection	Other	
Suture repair	5	106	11.8% (6.1–20.2)	-	10.8% (5.3–18.9)	69.4% (59.7–78.3)
Onlay mesh	8	176	1.9% (0.4–5.5)	2.6% (0.7–6.4)	8.3% (4.5–13.7)	17.2% (11.9–23.4)
Sublay mesh	3	42	4.8% (0.6–16.2)	0% (0.0–8.4)	7.1% (1.5–19.5)	6.9% (1.1–17.2)
Open intraperitoneal mesh	5	65	-	-	-	-
Sugarbaker	1	20	5.0% (0.1–24.9)	0 (0.0–16.8)	10.0% (1.2–31.7)	15.0% (3.2–37.9)
Keyhole	4	45	2.2% (0.0–11.8)	2.2% (0.0–11.8)	17.8% (8.0–32.1)	7.2% (1.7–16.0)
All laparoscopic mesh	12	338	3.3% (1.6–5.7)	2.7% (1.2–5.0)	12.7% (10.2–17.5)	14.2% (10.7–18.0)
Sugarbaker	6	110	—	—	—	11.6% (6.4–18.0)
Keyhole	7	160	—	—	—	34.6% (13.1–60.3)
Sandwich	1	47	2.1%	0	2.1%	2.1%

\*Weighted pooled proportion using only studies with 12 months mean follow-up.





# Laparoskopische Sugarbaker

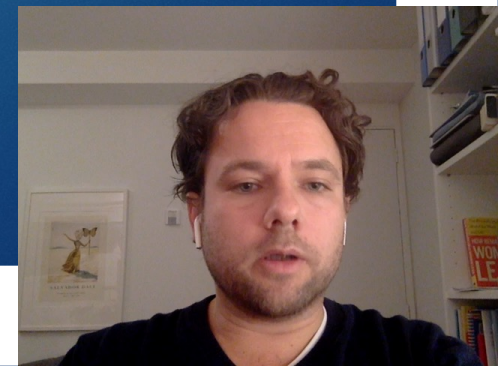




Best of both  
worlds?

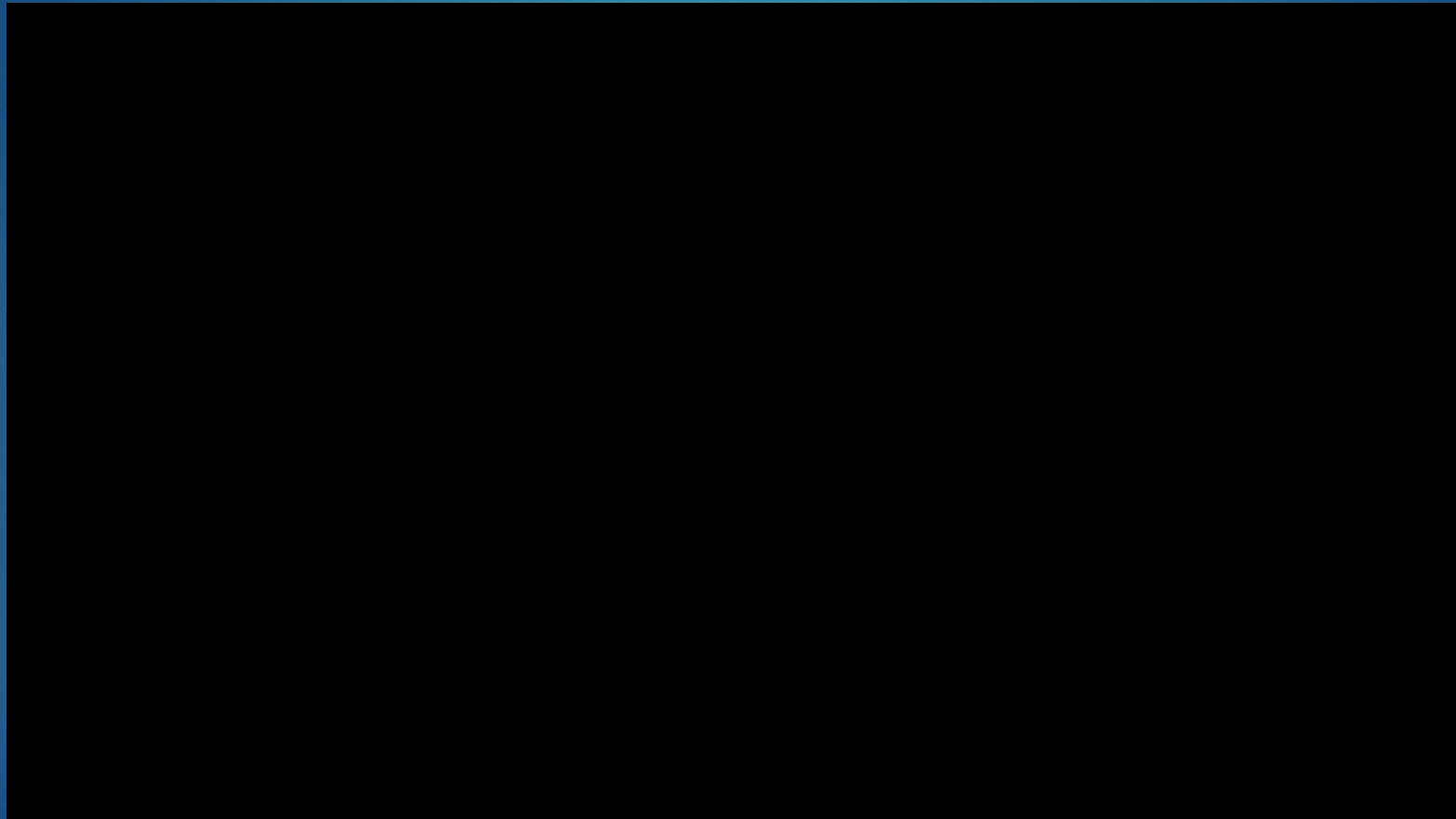
Minimaal invasieve retromusculaire  
mesh parastomale hernia repair

*Robot Pauli-repair*





# Recidief na laparoscopische Sugarbaker?



# Preventie

- ▶ PREVENT trial (Keyhole retromusculair)
  - ▶ PSH occurrence mesh: 4.5%
  - ▶ PSH occurrence zonder mesh: 24.2%
- ▶ Bertogglio (IPOM keyhole)
  - ▶ PSH occurrence mesh: 11%
  - ▶ PSH occurrence zonder mesh: 54%
    - ▶ Hernia (2021) 25:655–663





# Preventie Meta-analyse

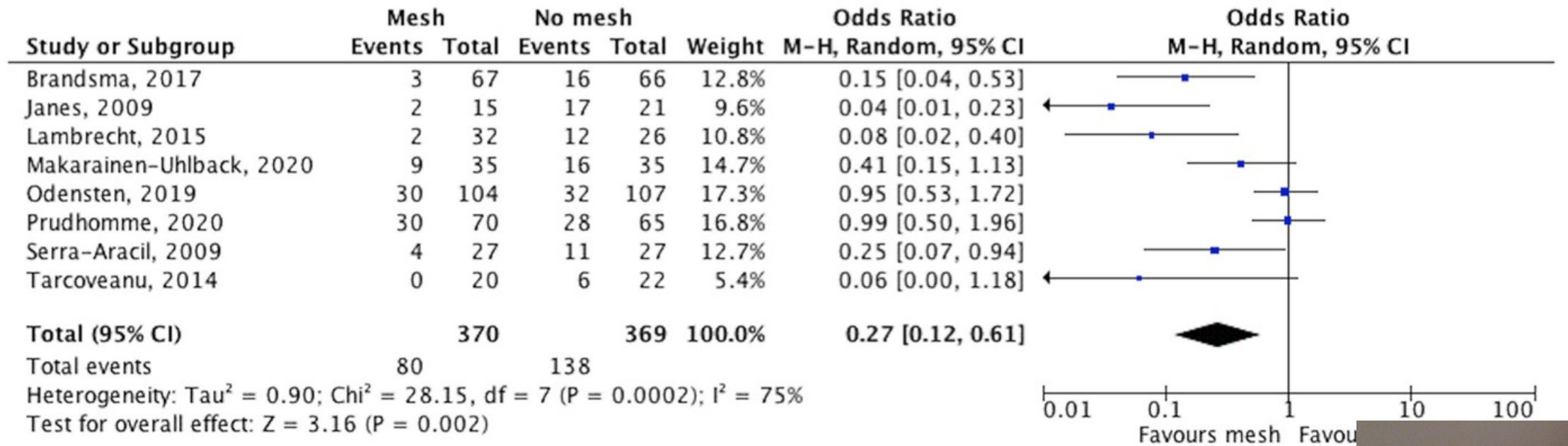
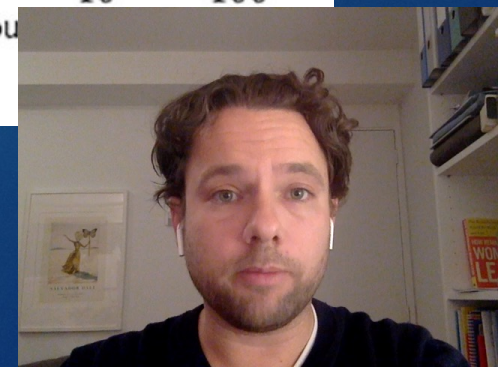
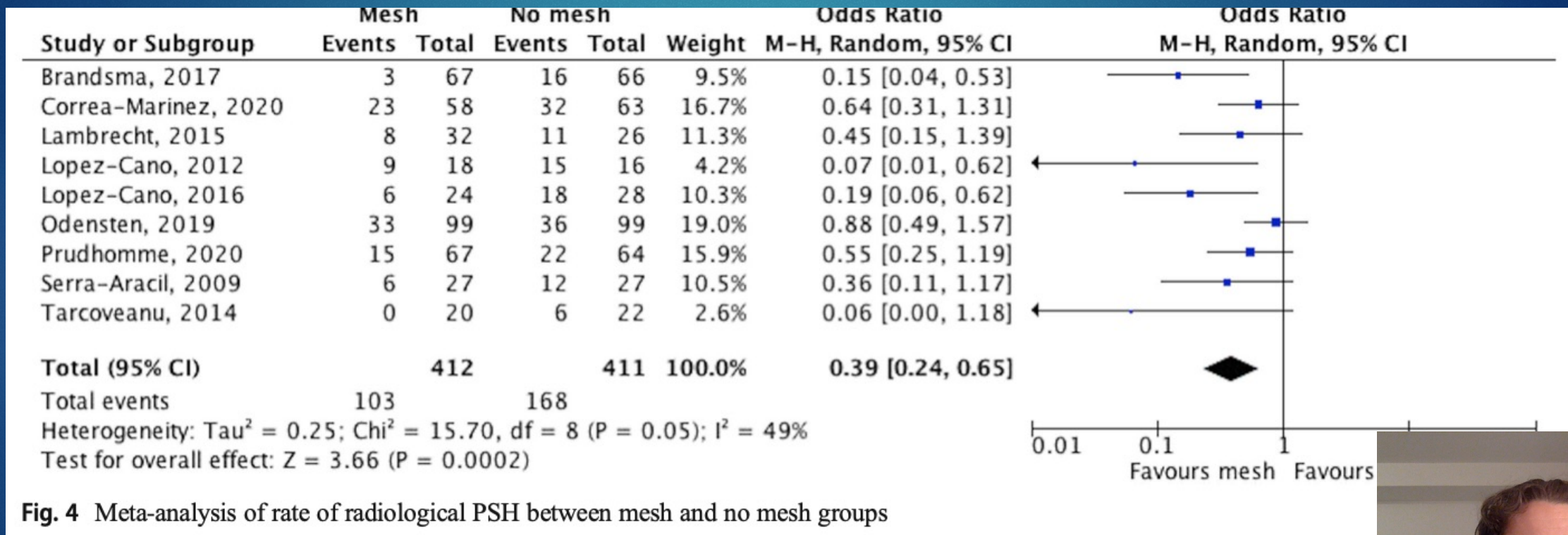


Fig. 3 Meta-analysis of rate of clinical PSH between mesh and no mesh groups

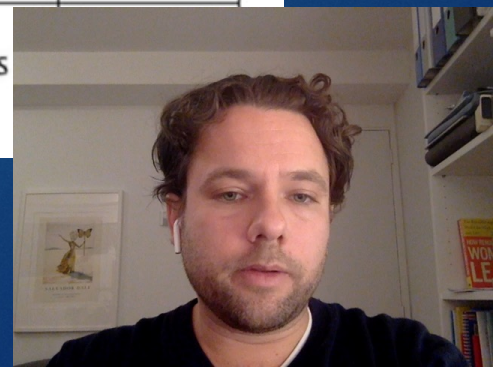




# Preventie Meta-analyse



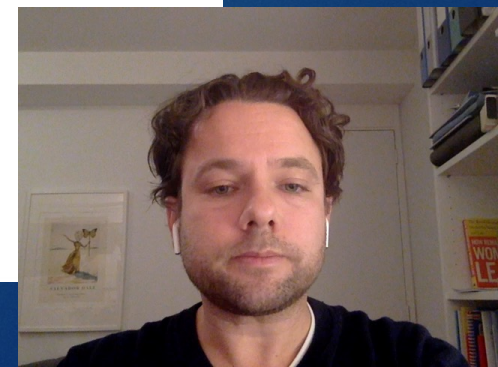
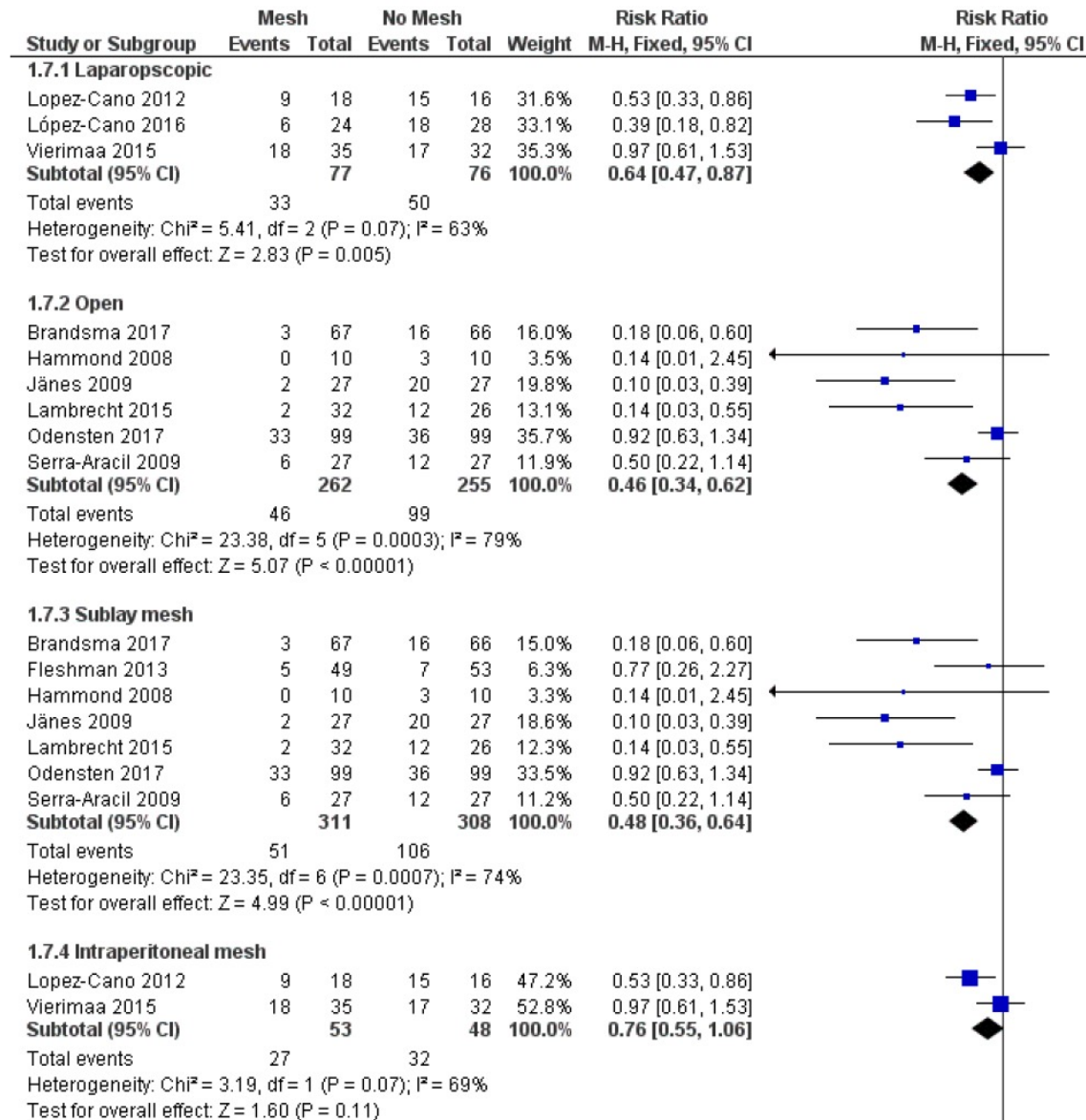
**Fig. 4** Meta-analysis of rate of radiological PSH between mesh and no mesh groups





# Mesh in welke laag?

Figure 8. Subgroup analysis of laparoscopic and open surgery.





*Does the use of a prophylactic mesh during stoma construction reduce the incidence of parastomal hernias?*

**Statements:** *High quality evidence supports the use of a prophylactic mesh during construction of a permanent end colostomy in elective surgery in reducing the incidence of parastomal hernia development.*

**Recommendation:** *It is recommended to use a prophylactic synthetic non-absorbable mesh when constructing an elective permanent end colostomy to reduce the parastomal hernia rate.*

**Quality of evidence:**

**Strength of recommendation:** *Strong*

**Recommendation:** *No recommendation to use a prophylactic mesh can be made for ileostomies or ileal conduit stomas, nor for the use of synthetic absorbable or biological meshes.*

**Quality of evidence:**

**Strength of recommendation:** *No*

# European Hernia Society

## Guidelines





Vragen?

