(SONDE)VOEDING OP MAAT VAN DE PATIËNT

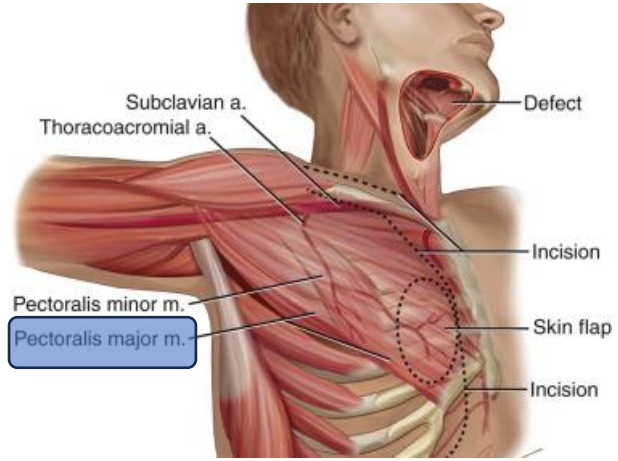
KURT BOEYKENS- VITAZ ZIEKENHUIS SINT-NIKLAAS

- VERPLEEGKUNDIG SPECIALIST NUTRITIE
- COÖRDINATOR NST
- NURSING RESEARCHER

Casus

- Leeftijd: man, 68 jaar
- Gewicht: 61 kg, volgens pt nooit meer dan 65 kg/ 1m76.
- BMI: 19,7
- Fysicus
- Roker, vroeger overmatig ethylgebruik
- VG: linker stemband tumor waarvoor radiotherapie in 2010

Casus

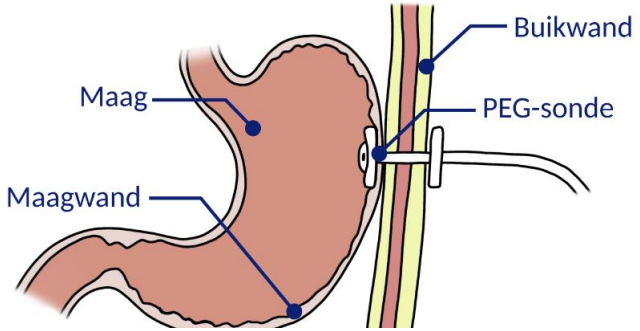


- **2022 (november)**
  - Opnieuw NKO-tumor
    - Biopt tongbasis: maligne tumoraal infiltraat, passend bij invasief spinocellulair carcinoom
  - Medisch behandelplan:
    - Laryngo-pharyngectomie + halsevidement bilateraal + flap (pectoralis major)//universitair ZH
    - Gevolg:
      - Mogelijks blijvende dysfagie
      - Verlies spraak
      - Blijvend tracheostoma

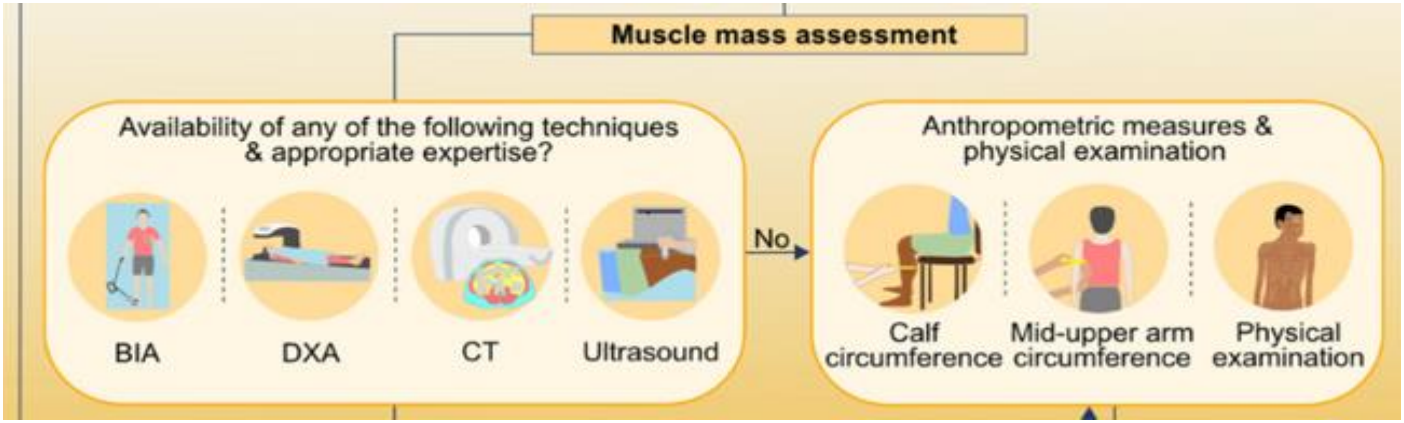
Casus

- **2022 (december)**
  - Vraag arts tot dringend pre-ambulant PEG-consult bij het Nutritieteam na de radicale heelkunde universitair
  - Redenen =
    - Ernstige dysfagie
    - Ernstige ondervoeding: gewichtsverlies van +/- 10 kg (heden 50,7 kg (van 61 kg pré-OK) dus BMI +/- 16,4!)
    - Nabehandeling met chemo-radiotherapie gezien positief snedevlak bij heelkunde

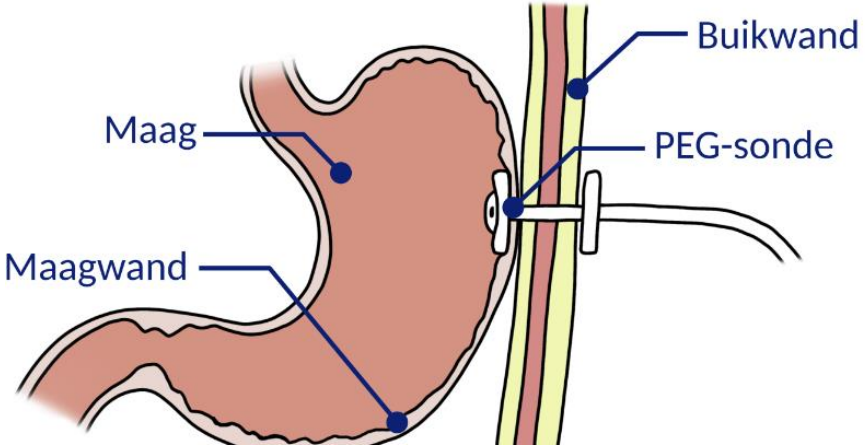
(Pré)PEG-consult



- Nutritionele screening & assessment
- Antropometrisch bilan
  - Habitueel gewicht
  - BMI
  - % gewichtsverlies
  - Spiermassaverlies: subjectief (kuitomtrek, bovenarmomtrek, BIA,…)
  - Ernst van ondervoeding volgens **GLIM-criteria**



(Pré)PEG-consult



- Gastro-intestinale problemen
- Voedselintake
- ADL
- Labo-parameters: CRP, puntdeficiënties,…
- Medicatie (pré-PEG en evt. later via de sonde)
- Sociaal, financieel, familiaal, beroep
- Demo-PEG: vragen & antwoorden (plaatsing, opties voedingstherapie, HEN, nazorg, tegemoetkoming,….)
- Informed consent, info-brochure

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

History: Boxes 1 - 4 are designed to be completed by the patient.
[Boxes 1-4 are referred to as the PG-SGA Short Form (SF)]

Patient Identification Information

1. Weight *(See Worksheet 1)*

In summary of my current and recent weight:

I currently weigh about _____kg
I am about _____ cm tall

One month ago I weighed about _____ kg
Six months ago I weighed about _____ kg

During the past two weeks my weight has:

☐ decreased (1) ☐ not changed (0) ☐ increased (0)

Box 1 ☐

2. Food intake: As compared to my normal intake, I would rate my food intake during the past month as

☐ unchanged (0)
☐ more than usual (0)
☐ less than usual (1)

I am now taking

☐ *normal food* but less than normal amount (1)
☐ little solid food (2)
☐ only liquids (3)
☐ only nutritional supplements (3)
☐ very little of anything (4)
☐ only tube feedings or only nutrition by vein (0) **Box 2** ☐

3. Symptoms: I have had the following problems that have kept me from eating enough during the past two weeks (check all that apply)

☐ no problems eating (0)
☐ no appetite, just did not feel like eating (3)
☐ nausea (1)
☐ constipation (1)
☐ mouth sores (2)
☐ things taste funny or have no taste (1)
☐ problems swallowing (2)
☐ pain; where? (3) _____
☐ other (1)** _____
☐ vomiting (3)
☐ diarrhea (3)
☐ dry mouth (1)
☐ smells bother me (1)
☐ feel full quickly (1)
☐ fatigue (1)

**Examples: depression, money, or dental problems

Box 3 ☐

4. Activities and Function:
Over the past month, I would generally rate my activity as:

☐ normal with no limitations (0)
☐ not my normal self, but able to be up and about with fairly normal activities (1)
☐ not feeling up to most things, but in bed or chair less than half the day (2)
☐ able to do little activity and spend most of the day in bed or chair (3)
☐ pretty much bed ridden, rarely out of bed (3)

Box 4 ☐

The remainder of this form is to be completed by your doctor, nurse, dietitian, or therapist. Thank you.

Additive Score of Boxes 1-4 ☐ **A**

email: faithotterymdphd@gmail.com or info@pt-global.org

Scored Patient-Generated Subjective Global Assessment (PG-SGA)

Worksheet 1 – Scoring Weight Loss

To determine score, use 1-month weight data if available. Use 6-month data only if there is no 1-month weight data. Use points below to score weight change and add one extra point if patient has lost weight during the past 2 weeks. Enter total point score in Box 1 of PG-SGA.

Weight loss in 1 month	Points	Weight loss in 6 months
10% or greater	4	20% or greater
5-9.9%	3	10- 19.9%
3-4.9%	2	6- 9.9%
2-2.9%	1	2- 5.9%
0-1.9%	0	0- 1.9%

Numerical score from Worksheet 1 ☐

Additive Score of Boxes 1-4 (See Side 1) ☐ **A**

5. Worksheet 2 – Disease and its relation to nutritional requirements:

Score is derived by adding 1 point for each of the following conditions:

- ☐ Cancer
- ☐ AIDS
- ☐ Pulmonary or cardiac cachexia
- ☐ Chronic renal insufficiency
- ☐ Presence of decubitus, open wound or fistula
- ☐ Presence of trauma
- ☐ Age greater than 65

Other relevant diagnoses (specify) _____

Primary disease staging (circle if known or appropriate) I II III IV Other ____

Numerical score from Worksheet 2 ☐ **B**

6. Worksheet 3 – Metabolic Demand

Score for metabolic stress is determined by a number of variables known to increase protein & caloric needs. **Note:** Score fever intensity or duration, whichever is greater. The score is additive so that a patient who has a fever of 38.8 °C (3 points) for < 72 hrs (1 point) and who is on 10 mg of prednisone chronically (2 points) would have an additive score for this section of 5 points.

Stress	none (0)	low (1)	moderate (2)	high (3)
Fever	no fever	> 37.2 and < 38.3	≥ 38.3 and < 38.8	≥ 38.8 °C
Fever duration	no fever	< 72 hours	72 hours	> 72 hours
Corticosteroids	no corticosteroids	low dose (< 10 mg prednisone equivalents/day)	moderate dose (≥ 10 and < 30 mg prednisone equivalents/day)	high dose (≥ 30 mg prednisone equivalents/day)

Numerical score from Worksheet 3 ☐ **C**

7. Worksheet 4 – Physical Exam

Exam includes a subjective evaluation of 3 aspects of body composition: fat, muscle, & fluid. Since this is subjective, each aspect of the exam is rated for degree. Muscle deficit/loss impacts point score more than fat deficit/loss. Definition of categories: 0 = no abnormality, 1+ = mild, 2+ = moderate, 3+ = severe. Rating in these categories is *not* additive but are used to clinically assess the degree of deficit (or presence of excess fluid).

Muscle Status				
temples (temporalis muscle)	0	1+	2+	3+
clavicles (pectoralis & deltoids)	0	1+	2+	3+
shoulders (deltoids)	0	1+	2+	3+
interosseous muscles	0	1+	2+	3+
scapula (latissimus dorsi, trapezius, deltoids)	0	1+	2+	3+
thigh (quadriceps)	0	1+	2+	3+
calf (gastrocnemius)	0	1+	2+	3+
Global muscle status rating	**0**	**1+**	**2+**	**3+**

Fat Stores				
orbital fat pads	0	1+	2+	3+
triceps skin fold	0	1+	2+	3+
fat overlying lower ribs	0	1+	2+	3+
Global fat deficit rating	**0**	**1+**	**2+**	**3+**

Fluid status				
ankle edema	0	1+	2+	3+
sacral edema	0	1+	2+	3+
ascites	0	1+	2+	3+
Global fluid status rating	**0**	**1+**	**2+**	**3+**

Point score for the physical exam is determined by the overall subjective rating of the total body deficit.

No deficit	score = 0 points
Mild deficit	score = 1 point
Moderate deficit	score = 2 points
Severe deficit	score = 3 points

Again, muscle deficit/loss takes precedence over fat loss or fluid excess.

Numerical Score for Worksheet 4 ☐ **D**

Total PG-SGA Score (Total numerical score of A+B+C+D) ☐

Clinician Signature _____ RD RN PA MD DO Other _____ Date _____

Global PG-SGA Category Rating (Stage A, Stage B or Stage C) ☐

Worksheet 5 – PG-SGA Global Assessment Categories

	Stage A	Stage B	Stage C
Category	**Well-nourished**	**Moderate/suspected malnutrition**	**Severely malnourished**
Weight	No weight loss **OR** recent non-fluid wt gain	≤ 5% loss in 1 month (≤10% in 6 months) **OR** Progressive weight loss	> 5% loss in 1 month (>10% in 6 months) **OR** Progressive weight loss
Nutrient intake	No deficit **OR** Significant recent improvement	Definite decrease in intake	Severe deficit in intake
Nutrition Impact Symptoms (NIS)	None **OR** significant recent improvement allowing adequate intake	Presence of NIS (Box 3 of PG-SGA)	Presence of NIS (Box 3 of PG-SGA)
Functioning	No deficit **OR** Significant recent improvement	Moderate functional deficit **OR** Recent deterioration	Severe functional deficit **OR** Recent significant deterioration
Physical Exam	No deficit **OR** chronic deficit but with recent clinical improvement	Evidence of mild to moderate loss of muscle mass &/or muscle tone on palpation &/or loss of SQ fat	Obvious signs of malnutrition (e.g., severe loss muscle, fat, possible edema)

Nutritional Triage Recommendations: Additive score is used to define specific nutritional interventions including patient & family education, symptom management including pharmacologic intervention, and appropriate nutrient intervention (food, nutritional supplements, enteral, or parenteral triage).

First line nutrition intervention includes optimal symptom management.

Triage based on PG-SGA point score

0-1	No intervention required at this time. Re-assessment on routine and regular basis during treatment.
2-3	Patient & family education by dietitian, nurse, or other clinician with pharmacologic intervention as indicated by symptom survey (Box 3) and lab values as appropriate.
4-8	Requires intervention by dietitian, in conjunction with nurse or physician as indicated by symptoms (Box 3).
≥ 9	Indicates a critical need for improved symptom management and/or nutrient intervention options.

email: faithottervmdphd@gmail.com or info@pt-global.org

Diagnosis of malnutrition according to GLIM criteria

One phenotypic criterion

Involuntary weight loss

>5% within past 6 months,
or >10% beyond 6 months

Low BMI (kg/m²)

◆ <20 if <70 years, or <22 if >70 years;
◆<18.5 if <70 years, or <20 if >70 years*

Reduced muscle mass (cm²/m²)

Male: SMI <46.96
Female: SMI <32.46

One etiologic criterion

Reduced food intake

≤50% of energy
requirement past 1 week

Inflammation

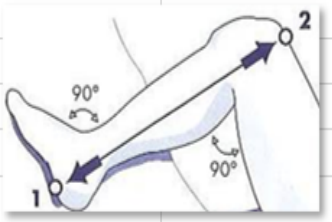
NLR >5

Comparison of the GLIM criteria with specific screening tool for diagnosing malnutrition in hospitalized patients with cirrhosis: A descriptive cross-sectional study

Wanting Yang MM, Gaoyue Guo MM, Lihong Mao MM, Yangyang Hui MM, Xiaoyu Wang MD, PhD, Zihan Yu MM, Mingyu Sun MM, Yifan Li MM, Xiaofei Fan MD, PhD ... See all authors

2022

Malnutritie: schema voor assesment, diagnose en inschatting van ernst (GLIM)		
Stap 1. Verzamel onderstaande parameters en vul enkel de gele vakken in.		
Hoe oud bent u? (in jaren)	**68**	
Geslacht	man	
Hoe groot bent u? (m,cm bv. 1,70)	**1,76**	
Hoeveel weegt u? (in kg)	**50,7**	
Hoeveel kg bent u ongewild verloren in de laatste 6 maand?	**10**	
Hoeveel kg bent u ongewild verloren over een periode van meer dan 6 maand?	**10**	
Stap 2. Berekening (gebeurt automatisch)		
BMI	16,4	
Lage BMI	Ernstig	
Ongewild gewichtsverlies binnen de laatste 6 maand (%)	20%	
Ongewild gewichtsverlies over een periode meer dan 6 maand (%)	20%	
Stap 3. Is er sprake van ondervoeding?	Ja	
Stap 4. Bepaling van ernst van ondervoeding	ernstig	
	Neem contact op met een diëtiste. Nood aan verder onderzoek en voedingsbehandeling	



Measure between the point of the elbow (olecranon process) and the midpoint of the prominent bone of the wrist (styloid process) (left side if possible).

HEIGHT (m)	Men (<65 years)	1.94	1.93	1.91	1.89	1.87	1.85	1.84	1.82	1.80	1.78	1.76	1.75	1.73	1.71
	Men (>65 years)	1.87	1.86	1.84	1.82	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.67
	Ulna length (cm)	32.0	31. 5	31.0	30. 5	30.0	29. 5	29.0	28.5	28.0	27.5	27.0	26. 5	26.0	25. 5
HEIGHT (m)	Women (<65 years)	1.84	1.83	1.81	1.80	1.79	1.77	1.76	1.75	1.73	1.72	1.70	1.69	1.68	1.66
	Women (>65 years)	1.84	1.83	1.81	1.79	1.78	1.76	1.75	1.73	1.71	1.70	1.68	1.66	1.65	1.63
HEIGHT (m)	Men (<65 years)	1.69	1.67	1.66	1.64	1.62	1.60	1.58	1.57	1.55	1.53	1.51	1.49	1.48	1.46
	Men (>65 years)	1.65	1.63	1.62	1.60	1.59	1.57	1.56	1.54	1.52	1.51	1.49	1.48	1.46	1.45
	Ulna length (cm)	25.0	24. 5	24.0	23. 5	23.0	22. 5	22.0	21. 5	21.0	20. 5	20.0	19. 5	19.0	18. 5
HEIGHT (m)	Women (<65 years)	1.65	1.63	1.62	1.61	1.59	1.58	1.56	1.55	1.54	1.52	1.51	1.50	1.48	1.47
	Women (>65 years)	1.61	1.60	1.58	1.56	1.55	1.53	1.52	1.50	1.48	1.47	1.45	1.44	1.42	1.40

Correcte indicatie?

Endoscopic management of enteral tubes in adult patients – Part 1: Definitions and indications. European Society of Gastrointestinal Endoscopy (ESGE) Guideline

ESGE

Authors
Marianna Arvanitakis[1], Paraskevas Gkolfakis[1], Edward J. Despott[2], Asuncion Ballarin[1], Torsten Beyna[3], Kurt Boeykens[4], Peter Elbe[5,6], Ingrid Gisbertz[7], Alice Hoyois[1], Ofelia Mosteanu[8], David S. Sanders[9], Peter T. Schmidt[10,11], Stéphane M. Schneider[12], Jeanin E. van Hooft[13]

2020

Endoscopic management of enteral tubes in adult patients – Part 2: Peri- and post-procedural management. European Society of Gastrointestinal Endoscopy (ESGE) Guideline

ESGE

Authors
Paraskevas Gkolfakis[1], Marianna Arvanitakis[1], Edward J. Despott[2], Asuncion Ballarin[1], Torsten Beyna[3], Kurt Boeykens[4], Peter Elbe[5,6], Ingrid Gisbertz[7], Alice Hoyois[1], Ofelia Mosteanu[8], David S. Sanders[9], Peter T. Schmidt[10,11], Stéphane M. Schneider[12], Jeanin E. van Hooft[13]

VITAZ

ALGEMENE INDICATIE

- Wanneer sondevoeding meer dan 4 weken moet worden gegeven.
- Wanneer er geen microsonde kan geplaatst worden.

RECOMMENDATION

ESGE recommends the use of temporary feeding tubes placed through a natural orifice (either nostril) in patients expected to require EN for less than 4 weeks. If it is anticipated that EN will be required for more than 4 weeks, percutaneous access should be considered, depending on the clinical setting.

Strong recommendation, low quality evidence.

RECOMMENDATION

ESGE recommends proceeding with careful case-by-case selection of patients under consideration for EN and the type of enteral access to be used. Regarding percutaneous endoscopically inserted enteral tubes, a preprocedural checklist should be available, according to local arrangements.

Strong recommendation, low quality evidence.

VITAZ

(NUTRITIONELE) INDICATIES

- Mentale insufficiëntie (vb.CVA, ALS)
  - Ernstige Dysfagie
- Chemo-RT hoofdhals gebied (+/- profylactisch)
- Slokdarmtumoren
- Radio-oesophagitis
- Langdurige beademing
- Laryngectomie
- Evacuatie(decompressie)
- Duo-Dopa therapie jejunaal

Assessment by a multidisciplinary clinical nutrition team before percutaneous endoscopic gastrostomy placement reduces early postprocedure mortality

I Tanswell [1], D Barrett, C Emm, W Lycett, C Charles, K Evans, S D Hearing

One week post-PEG mortality fell from 10%-20% in previous years to 0% in the index year ($p < .02$).

2007

Reduced 30-day gastrostomy placement mortality following the introduction of a multidisciplinary nutrition support team: a cohort study

C L Hvas [1 2], K Farrer [2], B Blackett [3], H Lloyd [3], P Paine [4 5], S Lal [2 5]

Journal of Human Nutrition and Dietetics

2018

Thirty-day mortality reduced from 10% (5/52) to 2% (3/147) ($P = 0.01$)

CONTRA-INDICATIES

ESPEN guidelines on artificial enteral nutrition—Percutaneous endoscopic gastrostomy (PEG) 2005

- Sepsis (R)/hoge inflammatie
- Peritonitis (A)
- Stollingstoornissen (PTT< 50%, TR < 50.000) (A)
- Albumine < 2,5 g/l (R)
- Ernstige ascites (A): evt. eerst ascitespunctie
- Erosieve gastritis en maagzweren (R)
- Peritoneale carcinomatose (R)
- Anorexia nervosa, ernstige psychose, beperkte levensverwachting (A)
- VP-shunt/ PD/milde tot matige ascites (geen echte contra-indicatie meer)

R = relatief
A = aboluut

VOORBEREIDING

- Plaatjesremmers of anti-aggregantia?
- Anti-coagulantia?
- NOACs/DOACs?

RECOMMENDATION

ESGE recommends that percutaneous tube placement (PEG, PEG-J, or D-PEJ) should be considered to be a procedure with high hemorrhagic risk and that, in order to reduce this risk, specific guidelines for antiplatelet or anticoagulant use should be followed strictly.

Strong recommendation, low quality evidence.

Endoscopy in patients on antiplatelet or anticoagulant therapy, including direct oral anticoagulants: British Society of Gastroenterology (BSG) and European Society of Gastrointestinal Endoscopy (ESGE) guidelines

2016

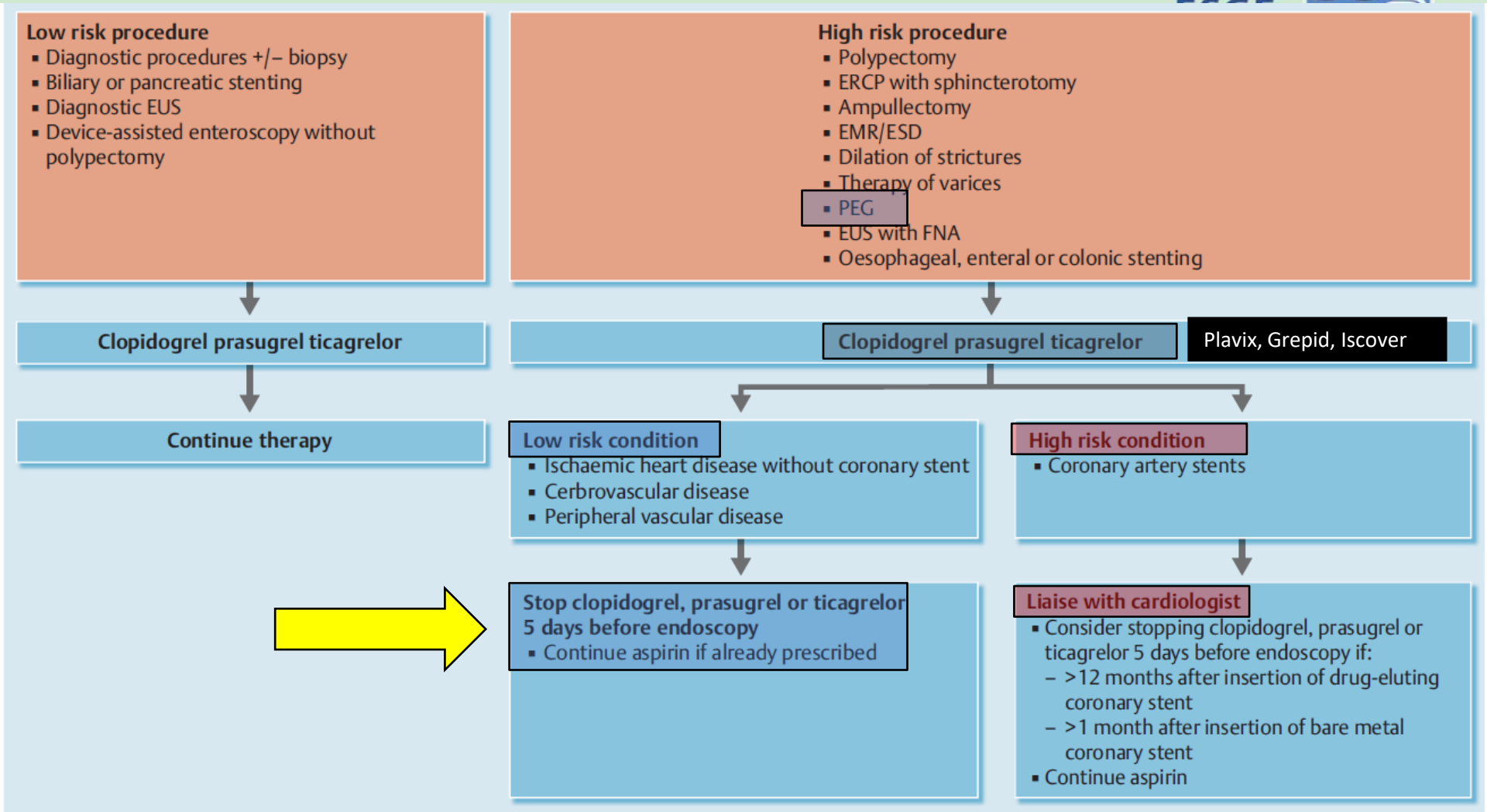
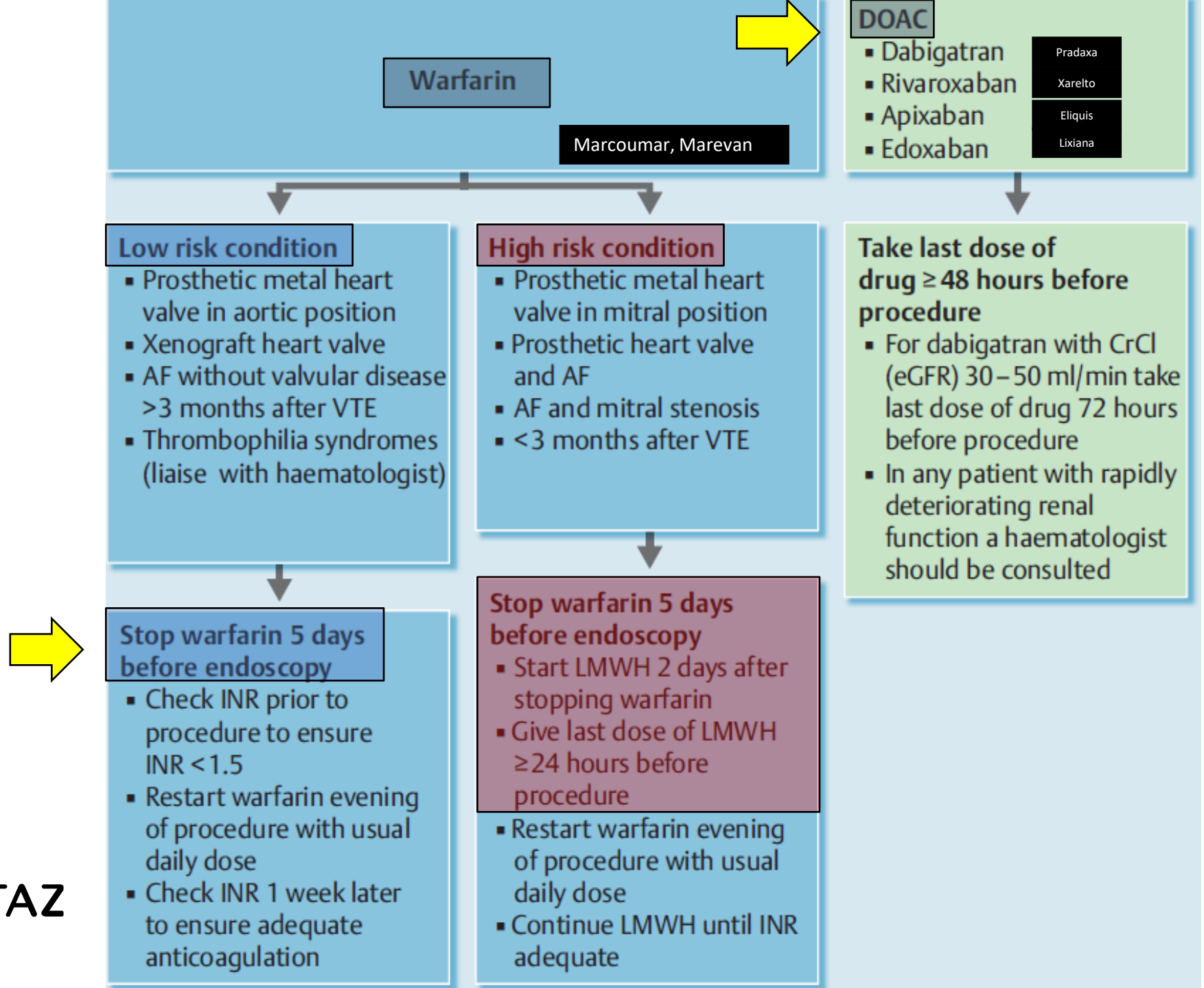


Fig. 1 Guidelines for the management of patients on P2Y12 receptor antagonist antiplatelet agents undergoing endoscopic procedures.


Warfarin
Marcoumar, Marevan
DOAC
Dabigatran
Rivaroxaban
Apixaban
Edoxaban
Pradaxa
Xarelto
Eliquis
Lixiana
Low risk condition
Prosthetic metal heart valve in aortic position
Xenograft heart valve
AF without valvular disease >3 months after VTE
Thrombophilia syndromes (liaise with haematologist)
High risk condition
Prosthetic metal heart valve in mitral position
Prosthetic heart valve and AF
AF and mitral stenosis
<3 months after VTE
Take last dose of drug ≥48 hours before procedure
For dabigatran with CrCl (eGFR) 30–50 ml/min take last dose of drug 72 hours before procedure
In any patient with rapidly deteriorating renal function a haematologist should be consulted
Stop warfarin 5 days before endoscopy
Check INR prior to procedure to ensure INR <1.5
Restart warfarin evening of procedure with usual daily dose
Check INR 1 week later to ensure adequate anticoagulation
Stop warfarin 5 days before endoscopy
Start LMWH 2 days after stopping warfarin
Give last dose of LMWH ≥24 hours before procedure
Restart warfarin evening of procedure with usual daily dose
Continue LMWH until INR adequate

VITAZ

Just before placement

RECOMMENDATION

ESGE recommends the intravenous administration of a prophylactic single dose of a beta-lactam antibiotic (or appropriate alternative antibiotic, in the case of allergy) to decrease the risk of post-procedural wound infection.

Strong recommendation, moderate quality evidence.

Penicilline, cefalosporine, carbapenem,.

NAZORG: direct na plaatsing

- Inspectie insteekplaats
  - nabloeden
- Na 4 uur kan bij de meeste patiënten gestart worden met sondevoeding

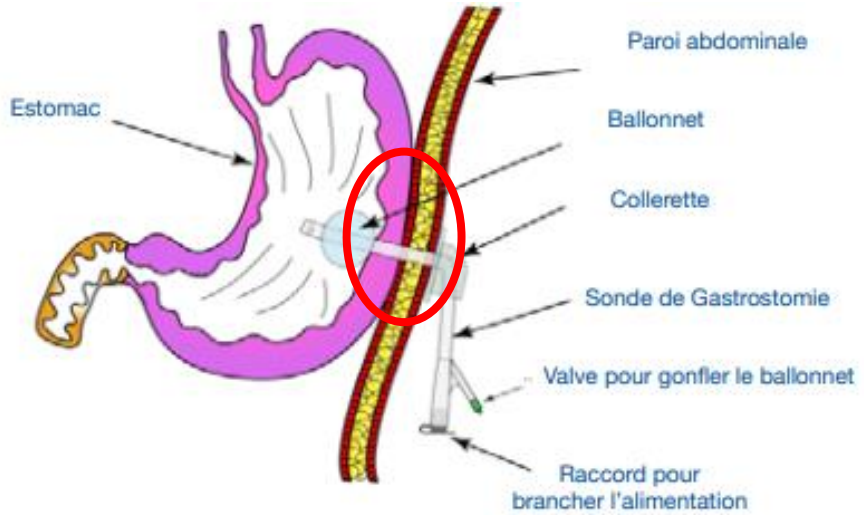
RECOMMENDATION

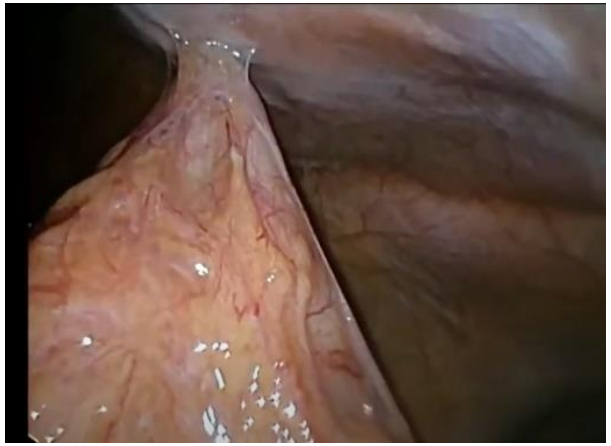
ESGE recommends that EN may be started within 3 to 4 hours after uncomplicated placement of an PEG or PEG-J. Strong recommendation, high quality evidence.

Nazorg: eerste 7 dagen

DOEL =

- Voorkomen peristomale infecties
- Vergroeien van maag-en buikwand
  - Vormen van het gastrostoma





VITAZ

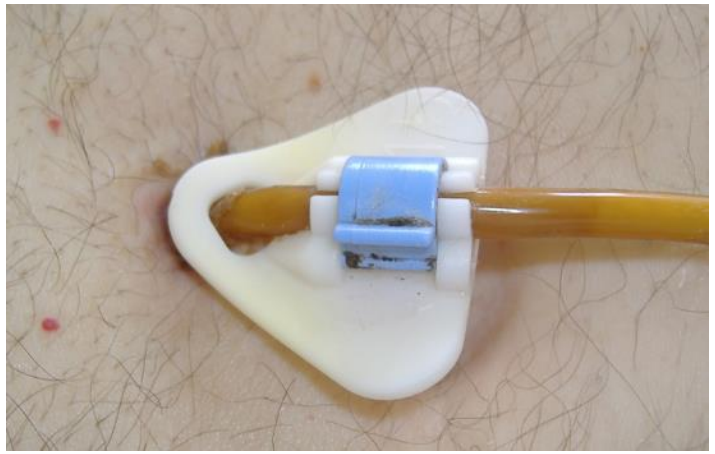
Nazorg: eerste 7 dagen

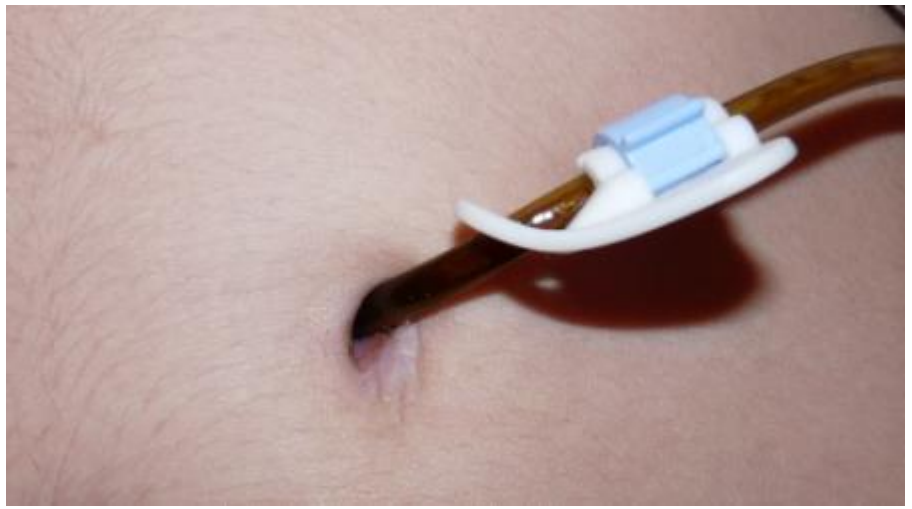
DAV-dagelijks

- Ontsmetten insteekplaats
  - Externe plaat iets optillen
- Externe plaat iets losser na plaatsing (vb. 0,5 cm)
- Compres onder plaat of rond de sonde
- Extra compres boven plaat
- Afdekverband: kleefstrook minimaal op PEG
  - Geen PUR-film!!!
- Niet baden
- Douchen mits bescherming of direct nadien verbandwissel

NAZORG: vanaf dag 8

- Insteekplaats droog en zuiver?
- Ja: Verband mag maar is niet nodig (voorkomt wel zijdelingse tractie)
- Evt. gesplit compres onder plaat
- Wassen met water en (neutrale) zeep 2 tot 3 x/week





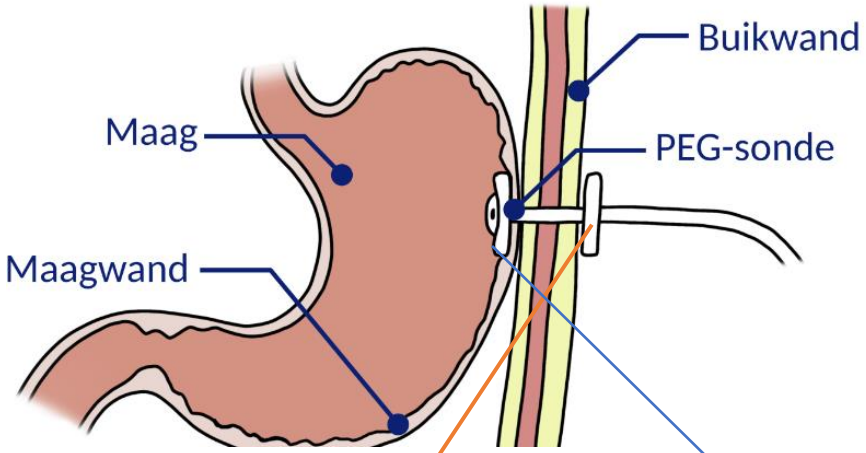
NAZORG: vanaf dag 15

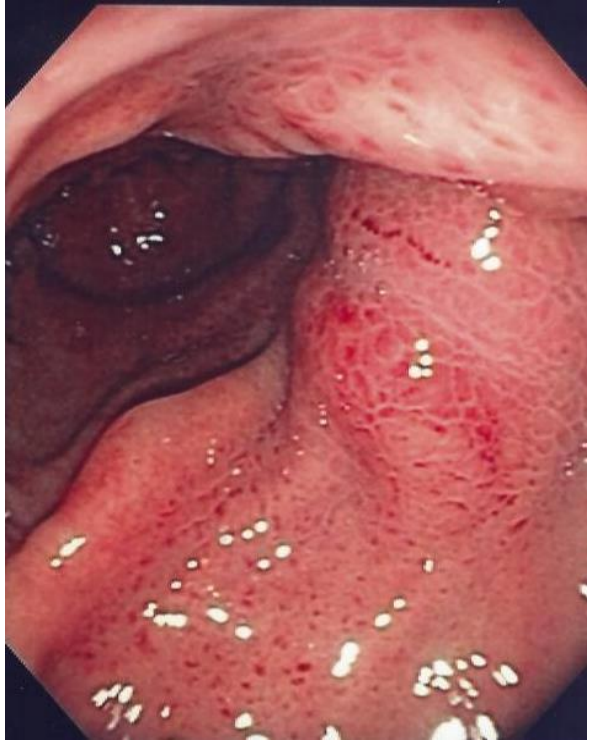
- **Dompelen**: minstens 2 x/week uitwendige plaat naar boven schuiven en PEG naar beneden duwen in het stoma (3-10 cm)
- Ongeveer: 1-2 cm speling tussen huid en plaat
- Douchen en baden is toegelaten

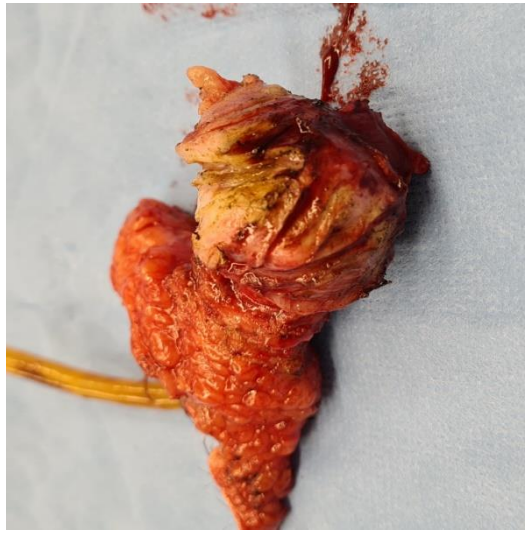
RECOMMENDATION

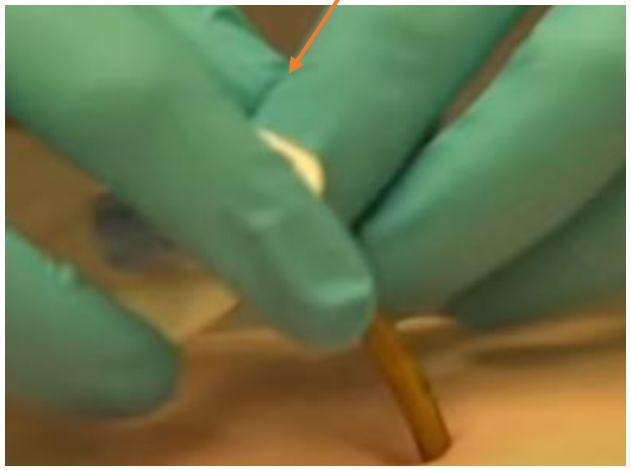
ESGE recommends that daily tube mobilization (pushing inward) along with a loose position of the external PEG bumper (1 – 2 cm from the abdominal wall) could mitigate the risk of buried bumper syndrome (BBS) development. Strong recommendation, low quality evidence.

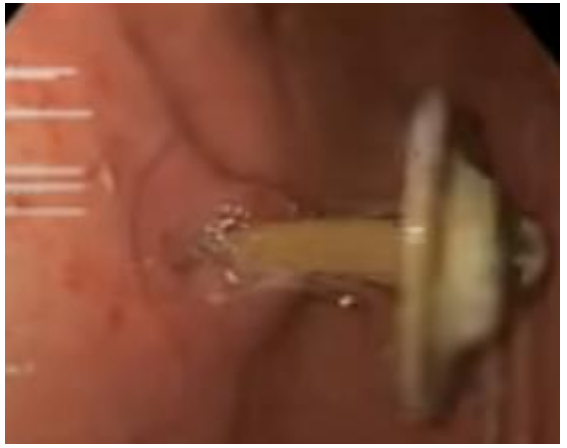
https://www.youtube.com/watch?v=tcGiYn1EOGE


Buikwand
Maag
PEG-sonde
Maagwand



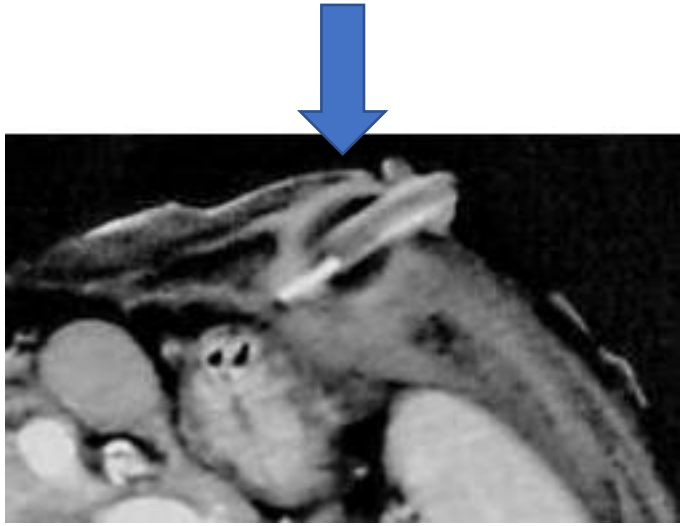


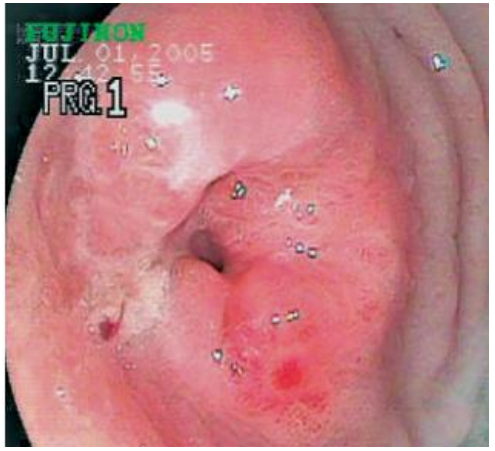




A case of buried bumper syndrome in a patient with a balloon-tipped percutaneous endoscopic gastrostomy tube

UCTN





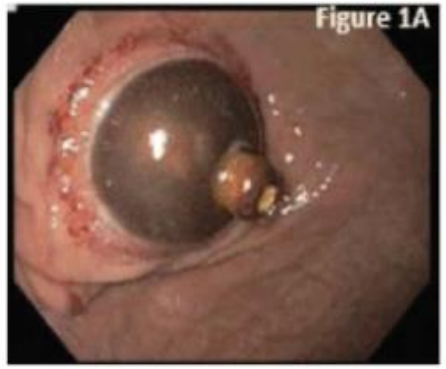
Journal of Clinical Gastroenterology and Treatment

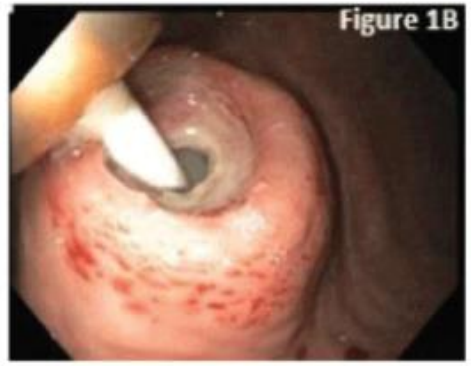
DOI: 10.23937/2469-584X/1510007

Buried Balloon: A Novel Complication from Percutaneous Radiologic Gastrostomy Tube Placement

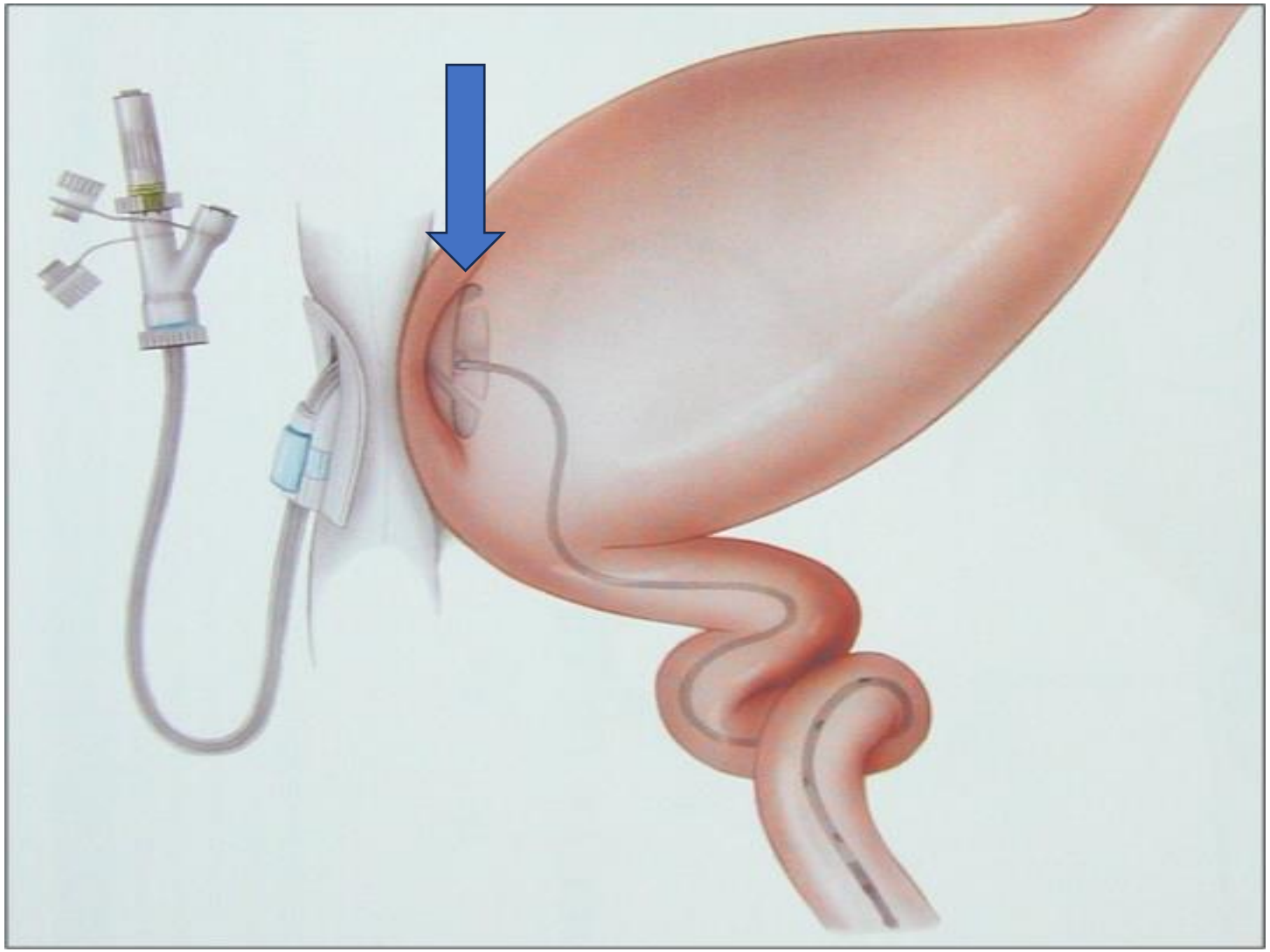
Meghana Vellanki[1*], Steve B Clayton[2] and Patrick Brady[1]

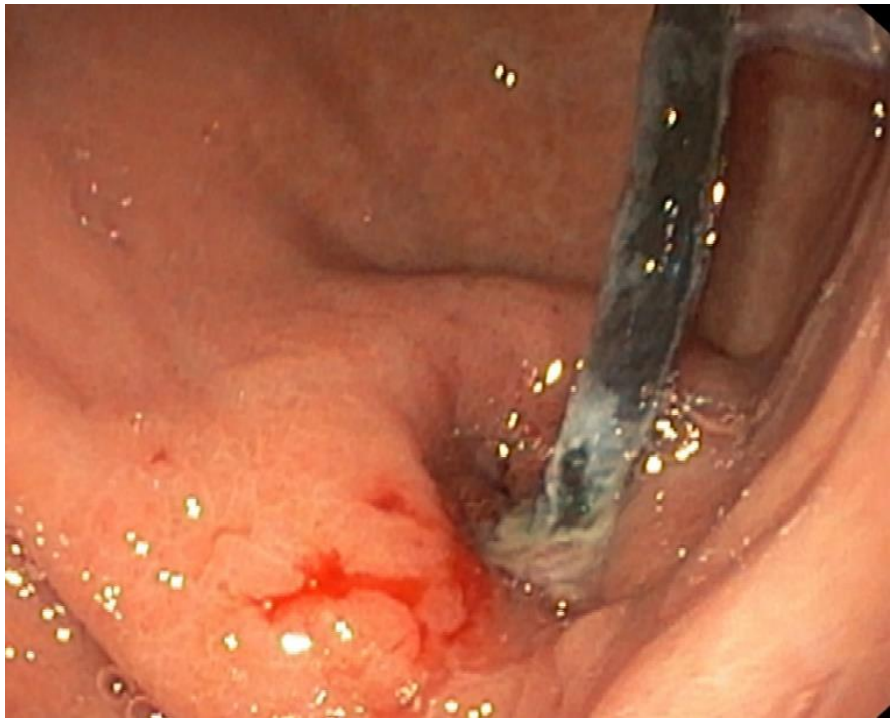
Case 1





VITAZ





HOE SONDEVOEDING TOEDIENEN?

ESPEN Guideline

ESPEN practical and partially revised guideline: Clinical nutrition in the intensive care unit

Pierre Singer [a, *], Annika Reintam Blaser [b, c], Mette M. Berger [d], Philip C. Calder [e], Michael Casaer [f], Michael Hiesmayr [g], Konstantin Mayer [h], Juan Carlos Montejo-Gonzalez [i], Claude Pichard [j], Jean-Charles Preiser [k], Wojciech Szczeklik [l], Arthur R.H. van Zanten [m], Stephan C. Bischoff [n]

CLINICAL NUTRITION

2023

14) Continuous rather than bolus EN should be used. (R9, B, 95%)

Clinical Nutrition 39 (2020) 5–22

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

ESPEN Guideline

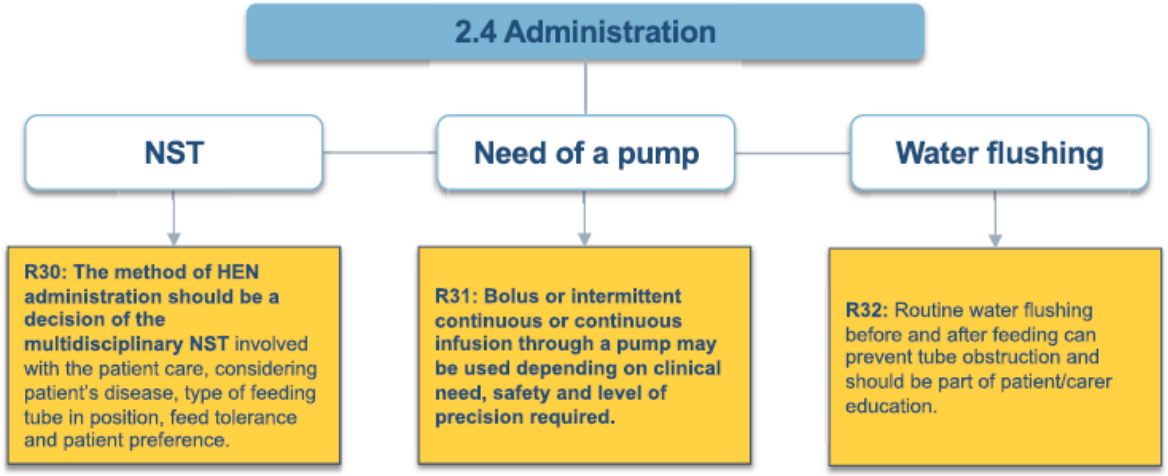
ESPEN guideline on home enteral nutrition

Stephan C. Bischoff [a, *], Peter Austin [b, c], Kurt Boeykens [d], Michael Chourdakis [e], Cristina Cuerda [f], Cora Jonkers-Schuitema [g], Marek Lichota [h], Ibolya Nyulasi [i], Stéphane M. Schneider [j], Zeno Stanga [k], Loris Pironi [l]

[a] University of Hohenheim, Institute of Nutritional Medicine, Stuttgart, Germany
[b] Pharmacy Department, Oxford University Hospitals NHS Foundation Trust, Oxford, UK
[c] University College London School of Pharmacy, London, UK
[d] AZ Nikolaas Hospital, Nutrition Support Team, Sint-Niklaas, Belgium
[e] School of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece
[f] Hospital General Universitario Gregorio Marañón, Nutrition Unit, Madrid, Spain
[g] Amsterdam University Medical Center Location AMC, Amsterdam, the Netherlands
[h] Intestinal Failure Patients Association "Appetite for Life", Cracow, Poland
[i] Department of Nutrition, Department of Rehabilitation, Nutrition and Sport, Latrobe University; Department of Medicine, Monash University, Australia
[j] Gastroenterology and Nutrition, Centre Hospitalier Universitaire, Université Côte d'Azur, Nice, France
[k] Division of Diabetes, Endocrinology, Nutritional Medicine and Metabolism, Bern University Hospital and University of Bern, Switzerland
[l] Center for Chronic Intestinal Failure, St. Orsola-Malpighi University Hospital, Bologna, Italy

61 aanbevelingen

Hoe HEN toedienen?



- Beslissing (klinisch) voedingsteam
- Rekening houdend met onderliggende ziekte
- Type van sonde
- Gastro-intestinale (in)tolerantie
- Voorkeur van de patiënt

ESPEN HEN richtlijn: aanbeveling 30

Infusion timing and sleep habits of adults receiving home parenteral and enteral nutrition: A patient-oriented survey study

Hassan S. Dashti PhD, RD[1,2,3,4] | Jordan J. Rhyner BS[1] |
Kris M. Mogensen MS, RD-AP[5] | Meghna Godbole BS[1] | Richa Saxena PhD[1,2,3,4]
Charlene Compher PhD, RD[6] | Marion F. Winkler PhD, RD[7]

Journal of Parenteral & Enteral Nutrition

2023

- Nachtelijke sondevoeding
  - Meest gebruikte methode
    - Vrijheid overdag!
  - Verstoord slaappatroon (o.a. urineren)
  - Negatieve impact op bioritme

Hoe HEN toedienen?

- Bolus (enkel in maag), portie, intermittent of continue toediening
- Tolerantie/veiligheid/nutritionele noden
- Voorkeur van de patiënt

Bolus feeding into the stomach is considered more physiological. There is no evidence that bolus feeding predisposes to diarrhea, bloating, aspiration compared to continuous feeding

ESPEN HEN richtlijn: aanbeveling 31

VITAZ

Sondevoedingsopties

- Nocturaal (over 8-10-12 uur of langer indien intolerantie vb. over 14 tot 16 uur)
- Gebruik rugzak
  - Vb. rolstoel, vermijden statief, verplaatsingen
- Combinaties!
  - Vb. bolus overdag en nachtelijke sondevoeding

Casus

- Man wil zoveel mogelijk zelfstandig/onafhankelijk zijn
- Weigert uiteindelijk thuisverpleging voor de voedingszorg (enkel de nazorg van de PEG zolang aseptische zorg nodig is)
- Vrouw wil ook alles aanleren
- Eet nog een beetje vloeibare voeding maar eerder minimaal
- Voorstel = bolusvoeding via de PEG

HOEVEEL SONDEVOEDING TOEDIENEN?

Contents lists available at ScienceDirect

Clinical Nutrition

journal homepage: http://www.elsevier.com/locate/clnu

2021

ESPEN Guideline

ESPEN practical guideline: Clinical Nutrition in cancer

Maurizio Muscaritoli [a, *], Jann Arends [b], Patrick Bachmann [c], Vickie Baracos [d], Nicole Barthelemy [e], Hartmut Bertz [b], Federico Bozzetti [f], Elisabeth Hütterer [g], Elizabeth Isenring [h], Stein Kaasa [i], Zeljko Krznaric [j], Barry Laird [k], Maria Larsson [l], Alessandro Laviano [a], Stefan Mühlebach [m], Line Oldervoll [n], Paula Ravasco [o], Tora S. Solheim [p], Florian Strasser [q], Marian de van der Schueren [r, s], Jean-Charles Preiser [t], Stephan C. Bischoff [u]

- TEE: 25-30 Kcal/kg/LG/dag
- Eiwit: > 1 tot 1,5 g/kg/dag

3) We recommend, that total energy expenditure (TEE) of cancer patients, if not measured individually, be assumed to be similar to healthy subjects and generally ranging between 25 and 30 kcal/kg/day. (B2-1)

4) We recommend that protein intake should be above 1 g/kg/day and, if possible up to 1.5 g/kg/day. (B2-2)

5) We recommend that vitamins and minerals be supplied in amounts approximately equal to the recommended daily allowance and discourage the use of high-dose micronutrients in the absence of specific deficiencies. (B2-4)

Casus

- 51 kg x 25 Kcal/kg/LG/dag = 1275 Kcal/dag
- 51 kg x 30 Kcal/kg/LG/dag = 1530 Kcal/dag
- 51 kg x 1,2 g/eiwit/kg/LG/dag = 61,2 g/dag
- 51 kg x 1,5 g/eiwit/kg/LG/dag = 76,5 g/dag

Pré-diagnose gewicht was 61 kg

Voedingsbehandelplan

Isosource Proteinfibre Simple link (per 250 ml)	
Eiwit	17 g
Kcal (1,3 Kcal/ml)	333
Vezels	3,7 g
Sporenelementen en vitamines	

- 5 flesjes
- 1665 Kcal/85 g eiwit/18,5 g vezels

VITAZ

Vrij vocht?

CALORIC STRENGTH	FREE WATER RANGE
• 1.0 cals/ml	• 83% – 85% per liter
• 1.2 cals/ml	• 81% – 82% per liter
• 1.5 cals/ml	• 76% – 78% per liter
• 2.0 cals/ml	• 69% – 72% per liter

- 250 ml x 5 = 1250 ml/dag
- 80% = 1000 ml
- Dus nog extra bolussen indien onvoldoende orale inname
  - NB Telkens na toedienen simple link
  - Of water in lege simple link

Kost?

- 2,3 - 2,5 euro/250ml (5x/dag = 345 – 384 euro/maand)
- Tegemoetkoming = 148 euro/maand (opleg 197 – 236 euro/maand)
- Geen huur pomp (minimum 40 euro/maand)
- Geen huur/kost rugzak
- Geen pompsets


Nestlé
Compleat


Nestlé
Compleat


Nestlé
Compleat


Nestlé
Compleat


Nestlé
Compleat


Nestlé
Compleat


STOMA

VITAZ

Casus

- 19-12-2022: PEG-plaatsing (50,7 kg)
- 11-01-23: 51,3 kg (onco dagziekenhuis/chemo-RT)
- Per os: yoghurt, pudding, gemixte groenten, vleesjus, room, frisdank
- Naar 4 x Simple link i.p.v. 5/dag
- 25-01-23: terug 2,5 kg kwijt (last van pyrosis+++, start PPI)
  - Laatste kuur chemo en quasi einde RT
  - PEG: etter aan de insteekplaats en veel wild vlees

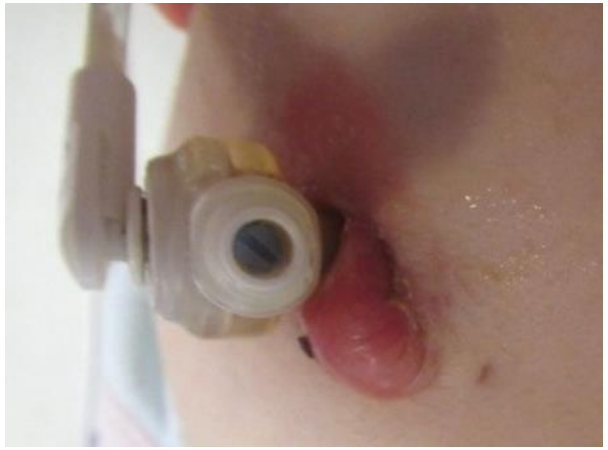
PEG-COMPLICATIES

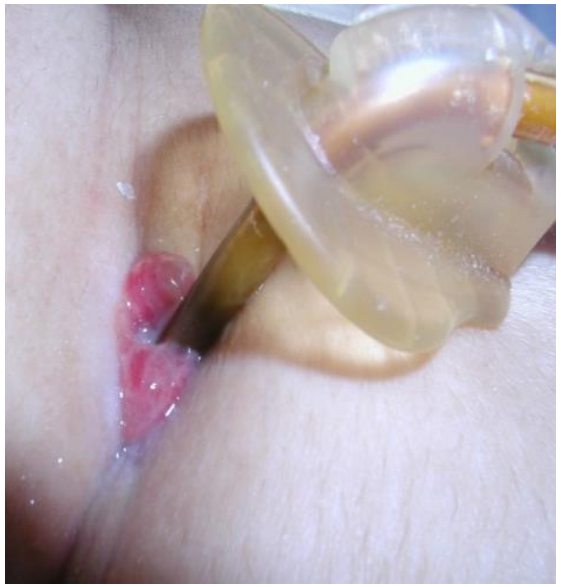
Complicaties

- Acute peristomale pijn
- Chronische pijn
- Bloeding
- Lekkage
- **Infectie**
- **Hypergranulatieweefsel**
- Materiaaldefecten
- Buried bumper
- Gastrocutane fistel

Hypergranulatie

- Wild vlees
- Vorming van fibreus weefsel en nieuwe bloedvaten (angiogenese)
- Reden = te veel frictie/(zijdelingse) tractie +/- infectie





VITAZ

Treatment for hypergranulation at gastrostomy sites with sprinkling salt in paediatric patients.

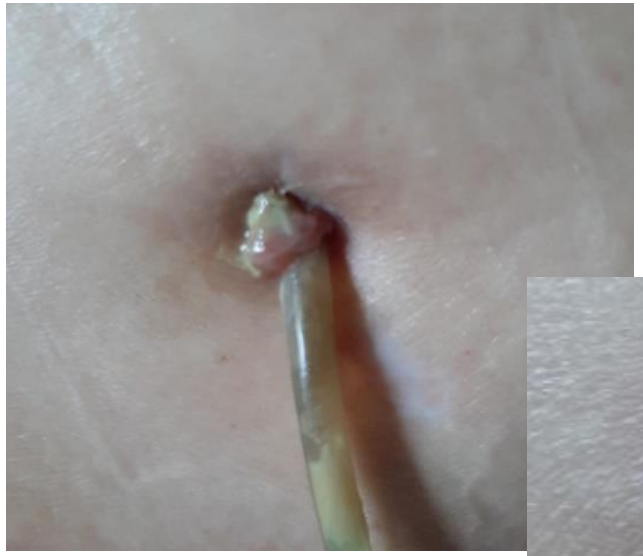
Tanaka H[1], Arai K, Fujino A, Takeda N, Watanabe T, Fuchimoto Y, Kanamori Y.

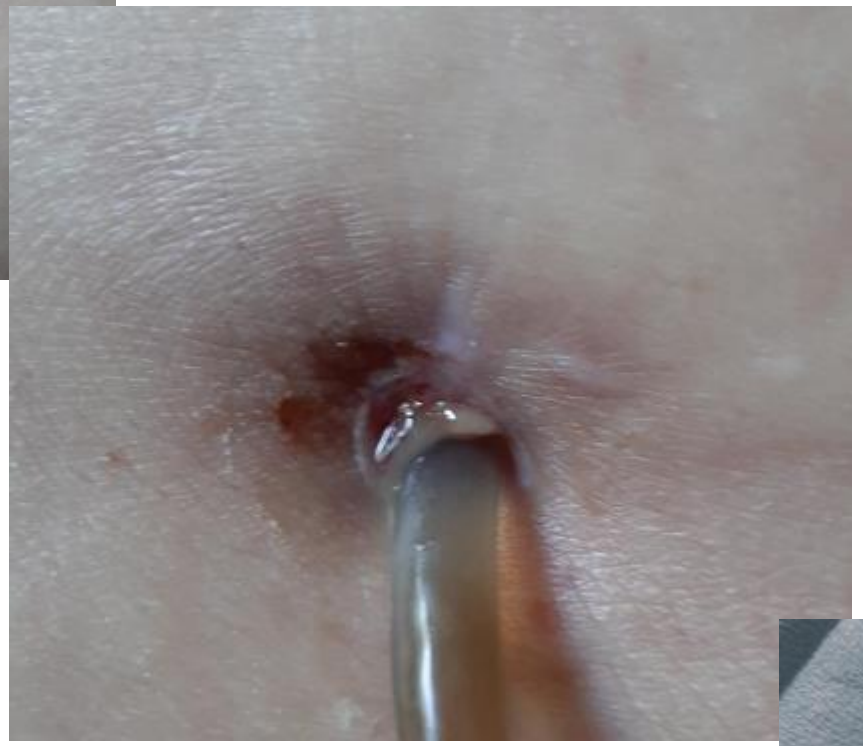
JWC

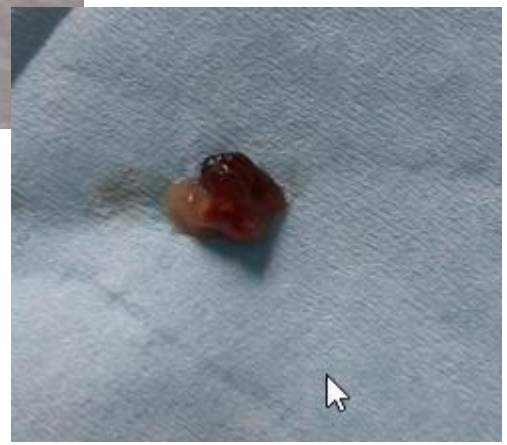
2013

- Hypergranulation = oedematous tissue
- N = 8 (paediatric patients)
- Daily 1/3 of 5 ml teaspoon salt ‘sprinkled’ over the tissue
- Treatment period: 3 days-2 months
- Positive result in all patients but 5/8 recurrence but successfully repeated treatment afterwards
- 1 skin erosion: salt irrigated 10 minutes after application

VITAZ





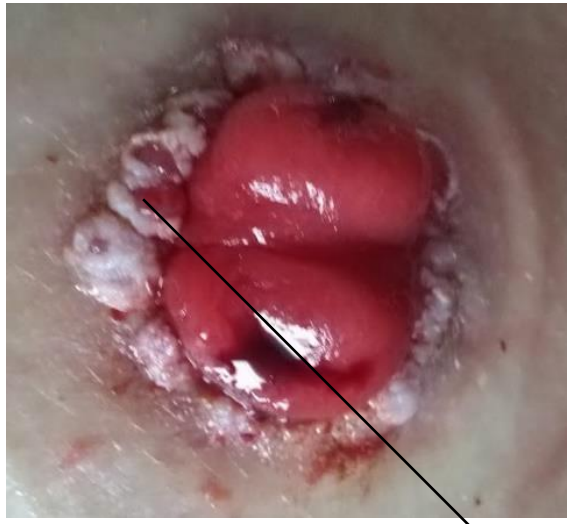


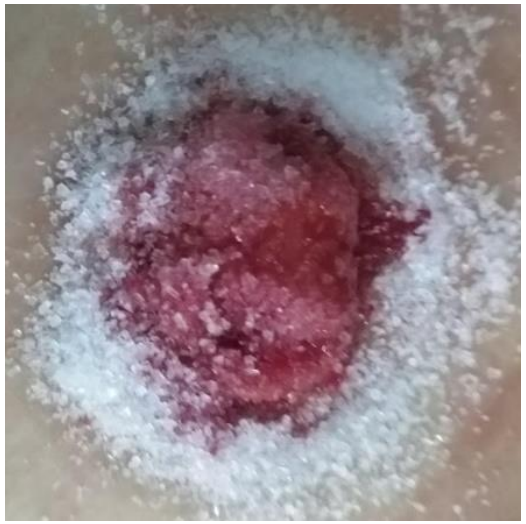
Casus stomacare Belgium

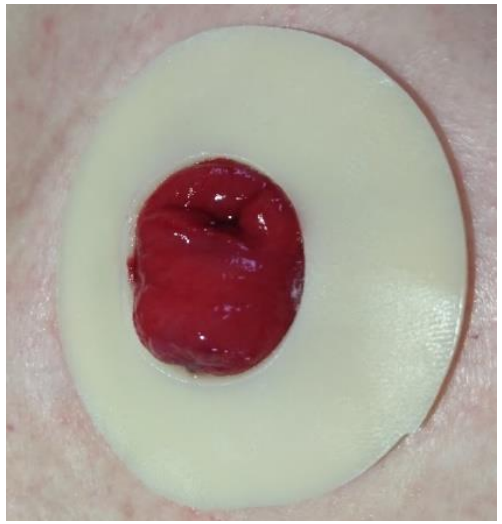
Behandeling van circulaire granulomen bij een patiënte met een tijdelijk ileostoma

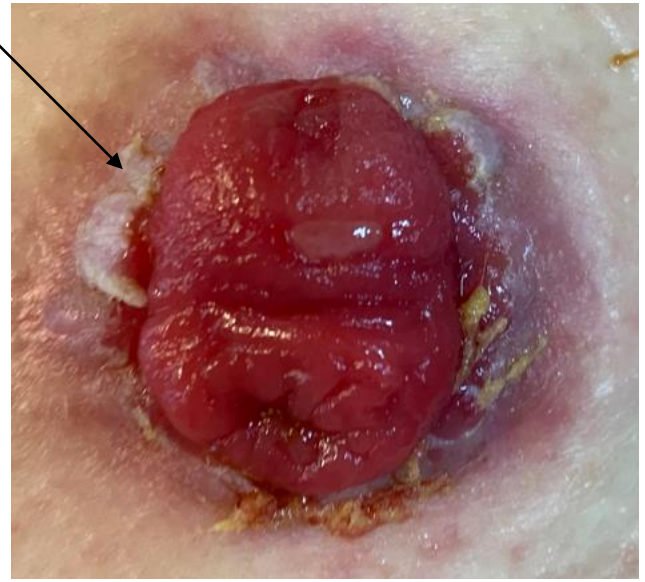
- Het zout werd bij elke plaatwissel aangebracht = 3x/week en gedurende een 5 tal minuten.
- Nadien werd het zout verwijderd en de huid gereinigd met gewoon water.
- Vervolgens werd een pastaring en de huidplaat aangebracht.
- Het zout werd als ‘pijnlijk’ ervaren, maar zeker draaglijk

Resultaat na 10 dagen:









VITAZ

Peristomale infectie

- Antimicrobiële gel
  - Reinigen en drogen
  - Eerst huidprotectie! (barrièrefilm)
  - Iso-betadine gel (‘druppel’) op insteekplaats en met een spatel intsteekplaats ‘bepleisteren’+ indompelen na D14

RECOMMENDATION

ESGE recommends local antiseptic measures and daily dressing changes for minor (nonextending) wound infections and broad-spectrum antibiotics for more severe infections.

Strong recommendation, low quality evidence.

- Geen AB-zalven!
- Ernstige infecties: breedspectrum AB

VITAZ

Casus

- 19-12-2022: PEG-plaatsing (50,7 kg)
- 11-01-23: 51,3 kg (onco dagziekenhuis/chemo-RT)
- Per os: yoghurt, pudding, gemixte groenten, vleesjus, room, frisdank
- Naar 4 x Simple link i.p.v. 5/dag
- 25-01-23: terug 2,5 kg kwijt (last van pyrosis+++, start PPI)
  - Laatste kuur chemo en quasi einde RT
  - PEG: etter aan de insteekplaats en veel wild vlees

- 05-06-23: 54-55 kg, zeer moeilijke orale intake (sequellen RT?)
  - 4 tot 5 Simple links/dag
  - Periodiek zoutapplicatie op wild vlees (TVK)/zo onder controle

Casus (laatste consult 09-23)

- PEG-insteek OK, soms wat last van wild vlees, sonde was wel niet gespoeld
- 55,4 kg = stabiel
- Hij gebruikt niet langer de simple links, in plaats daarvan bestelde hij zelf bij Hatimed: Isosource Proteïn fibre 1000 ml en 500 ml.

- Op de 500 ml zet hij dan de dop van de simple link waardoor hij deze in bolus kan leegduwen. Daarvoor monteert hij links en rechts twee spanklemmen op de fles zodat hij zelf niet moet leegduwen.
- Hij bestelt ook liters omdat die goedkoper zijn + minder afval

Tot slot

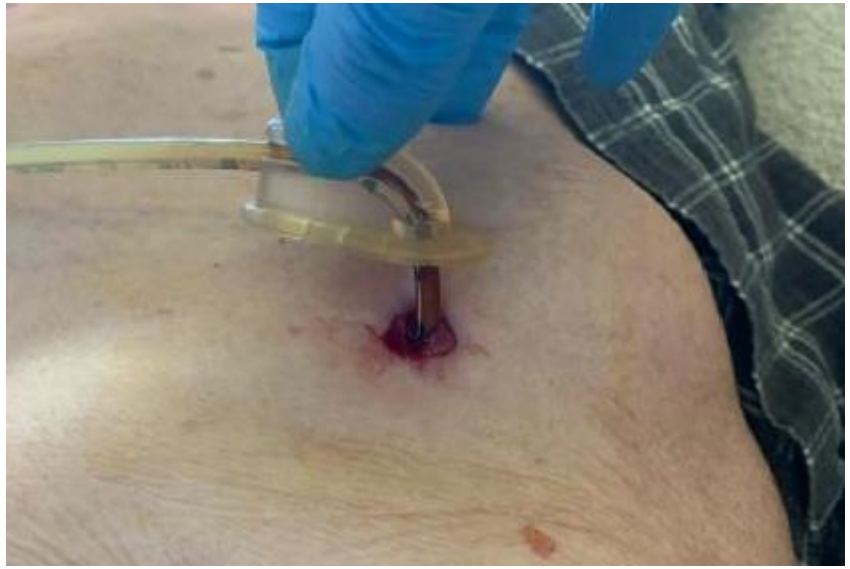
- Hij geeft 500 ml in de ochtend en eet maaltijden 's middags en 's avonds (nog steeds moeizaam)
- Zijn ambitie is om aan 60 kg te geraken en dan pas SV te stoppen
- Hij bewaart indien gebruik van de liter de overige helft in de koelkast

5/10/2023

- Beste Eline en Kurt,
  Bijgaand een foto van de thuisverpleegkundige.
  De laatste week is er terug wat wild vlees aangroei.
  Ik moet binnenkort op 17 oktober op controle bij Dr om 17 uur.
  Het zou niet slecht zijn om dit eens te controleren.
  Ik stuur jullie later nog mijn commentaar voor de dokters, oa ivm voeding.

  Laat me weten of ik langs kan komen.

  Beste groeten




VRAGEN?
VITAZ
STERK IN ZORG
EN DAT MAG!
DANK VOOR JULLIE AANDACHT!