

Fine with all beverages...hot or cold



Nutritional Nabs

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Objectives:

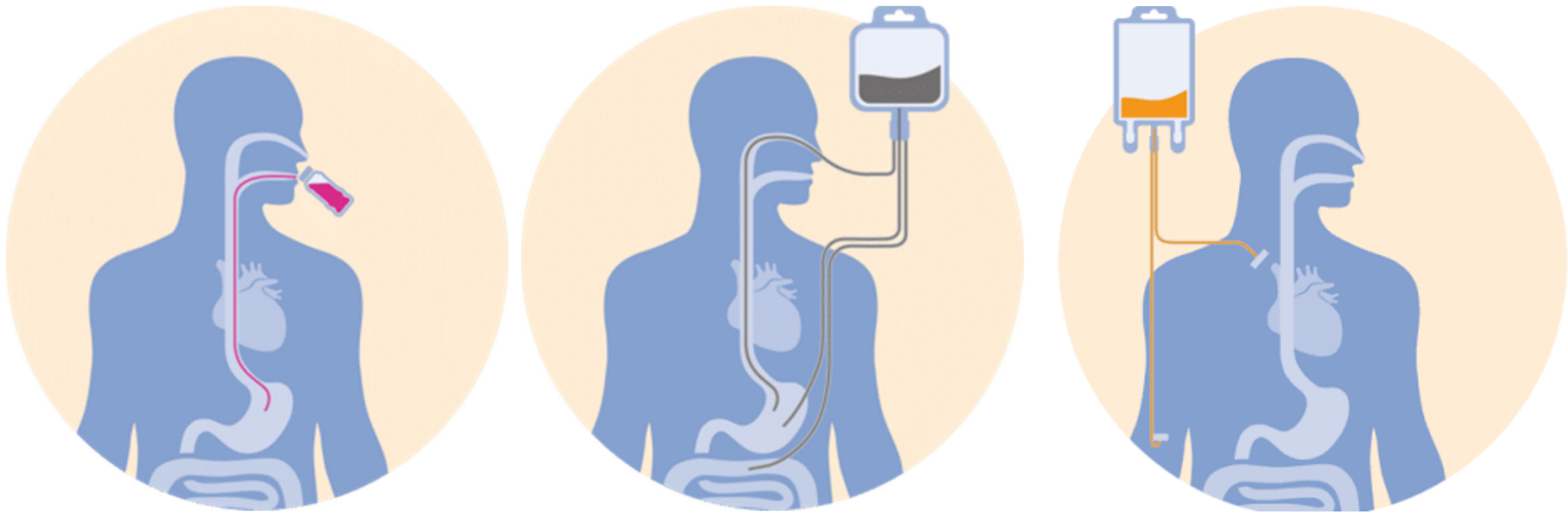
- Compare routes of supplemental nutrition
- Revise nutrition plan based on tolerance
- Recommend nutritional approach to pancreatitis and stroke patients
- Describe clinical presentations of nutrition-based diseases

My Personal Objectives:

- Share my lessons learned the hard way
- Intellectually engage you with your nutrition consult
- Avoid the term kcal



Overview of Supplemental Nutrition



What can I add?



- Scheduled anti-emetics
- Snacks
- Family involvement
- Glasses, dentures

What can I remove?



“To date, improvements in dietary quality rather than restrictive dietary counseling have shown benefits ... with restrictive approaches to HF sodium or fluid intake not yielding clear outcome benefits and small studies suggesting associations between restrictive diets and undernutrition” (A Scientific Statement From the American Heart Association, 2026)

“The presence of malnutrition-protein-energy wasting (PEW) suggests the need to avoid or postpone protein restriction, particularly in the presence of stable kidney function and considering the patient's preferences and quality of life. ” (Clinical Nutrition, 2023)

Oral Nutritional Supplementation

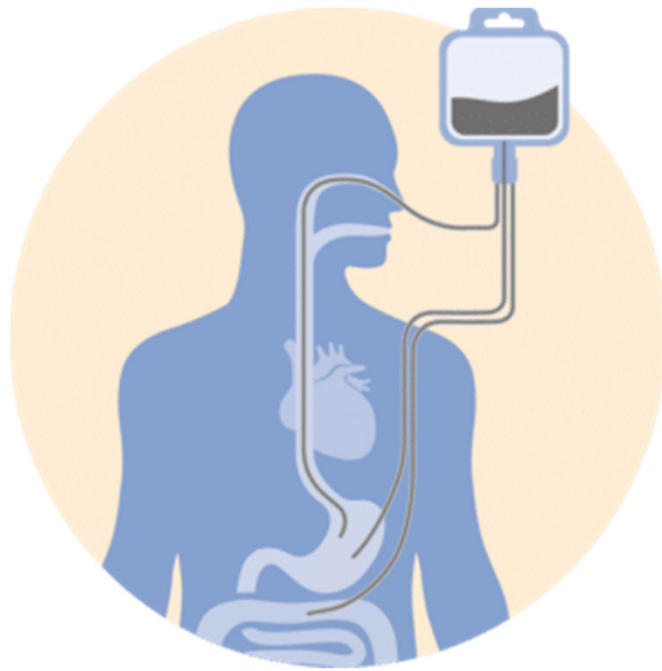
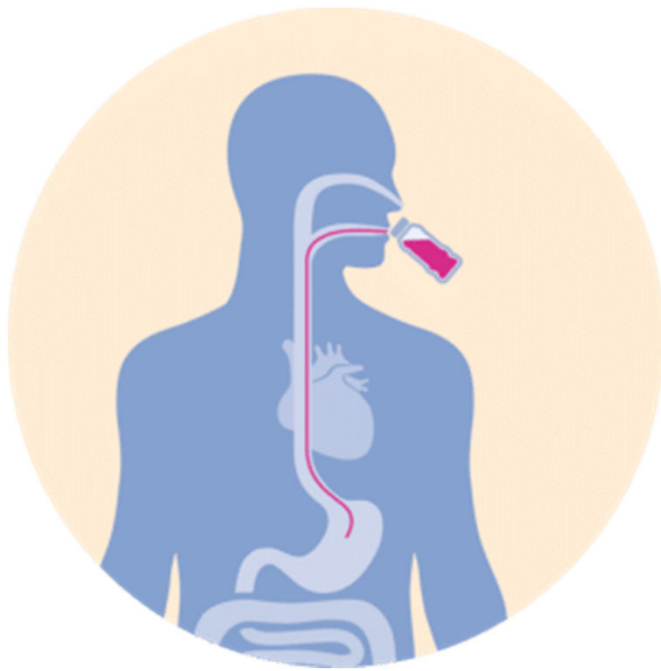


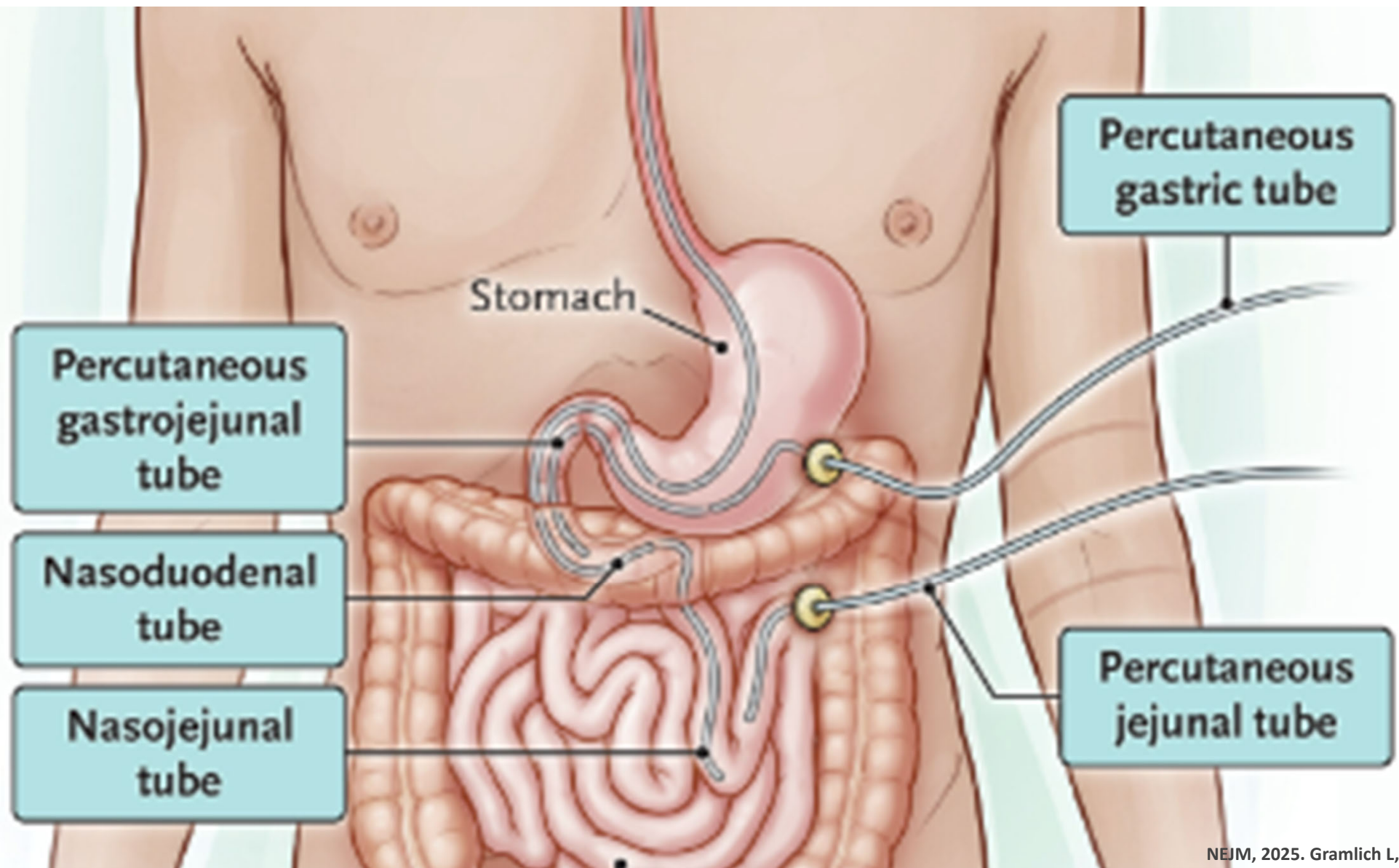
EFFORT trial: 30 day mortality NNT ~37

NOURISH trial: 90 day mortality NNT ~20

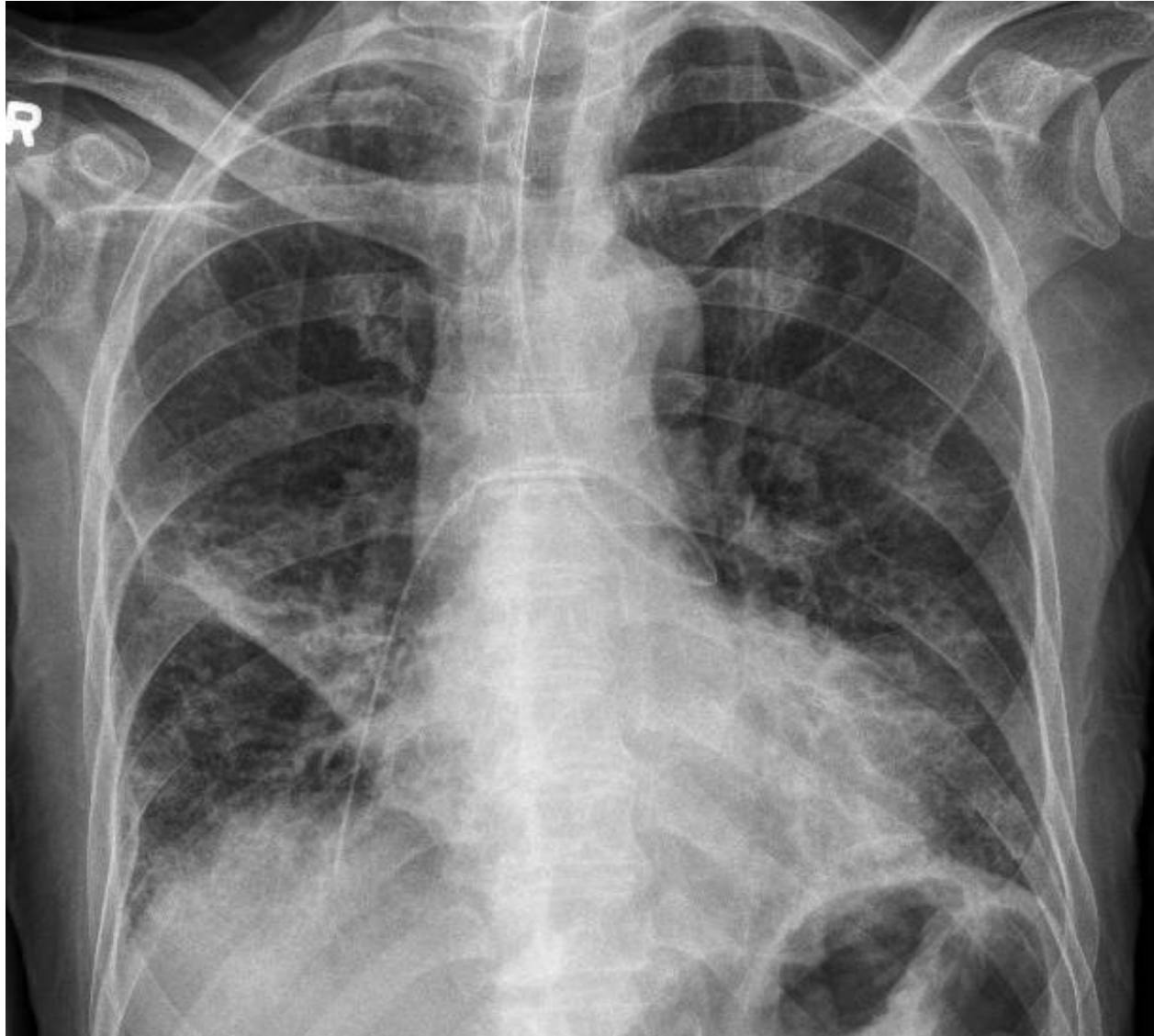
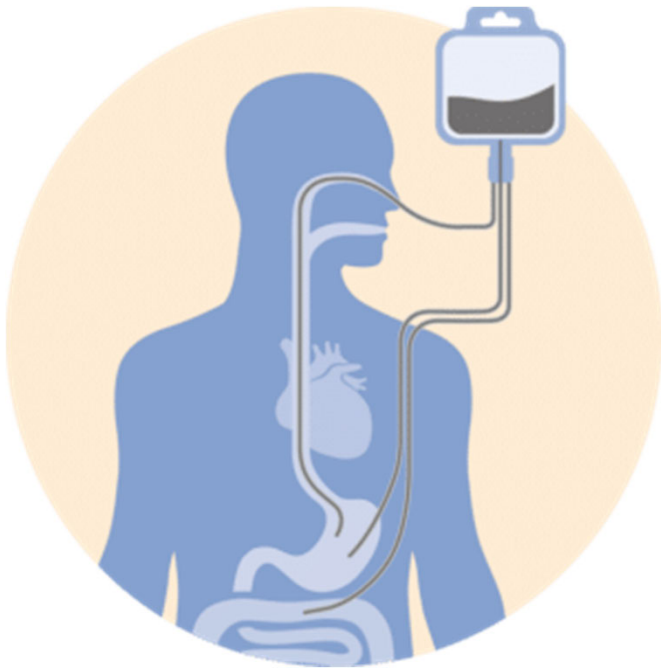
Cochrane Summary (2026):

Oral nutritional supplements (ONS) may reduce all-cause mortality. Absolute risk difference 57 fewer deaths per 1000 people (17-79, 95% CI)

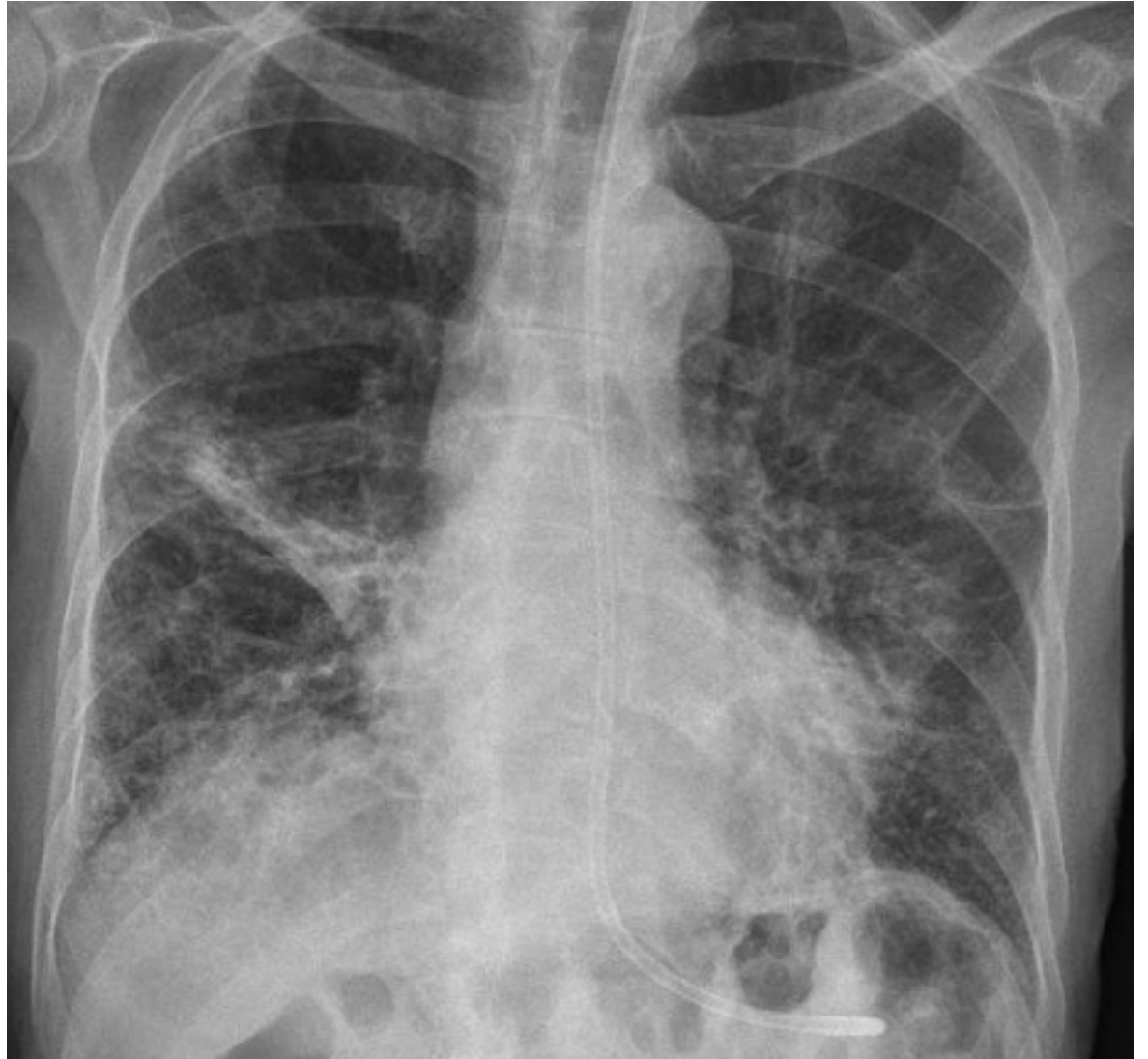
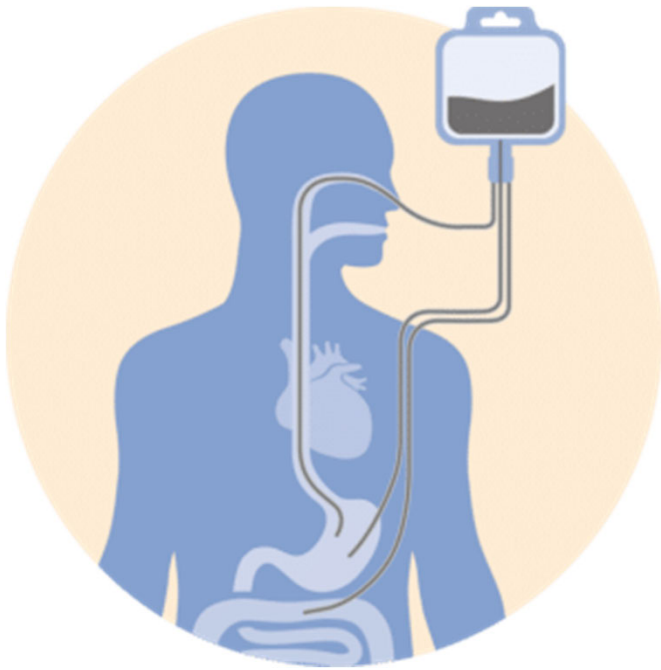




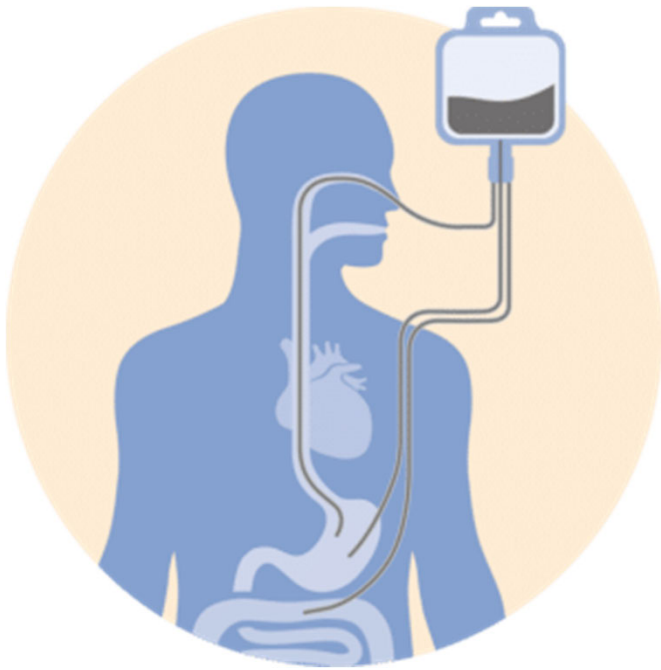
Now what?



Now what?



NG v Post-Pyloric Feeds

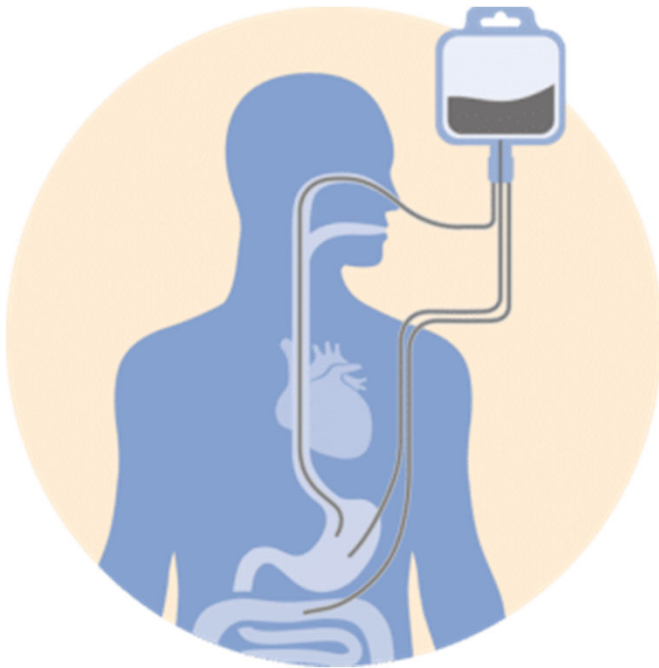


A nasogastric or orogastric feeding tube should be used as the initial access device for starting EN in a hospitalized patient (Conditional recommendation, very low level of evidence)

Conversion to a post-pyloric feeding tube should be carried out **only when** gastric feeding has been shown to be poorly tolerated or the patient is at high risk for aspiration
(Strong recommendation, mod - high level of evidence)

ACG Clinical Guideline, 2016

How long can I keep an NG?



ACG: <4 weeks

AGA: <3-4 weeks

NEJM: <4-6 weeks

Risks:

- Sinusitis
- Nasal injury
- Aspiration PNA
- Nutrition gap



Diarrhea after TF



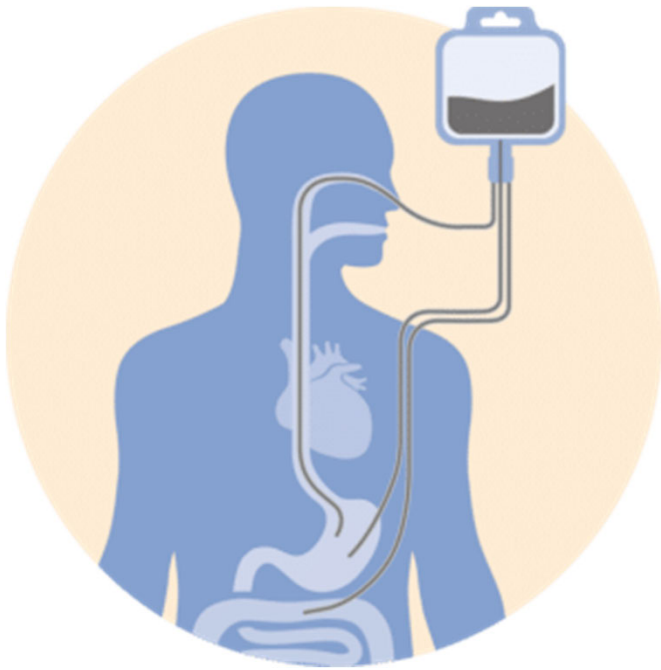
Refeeding Syndrome



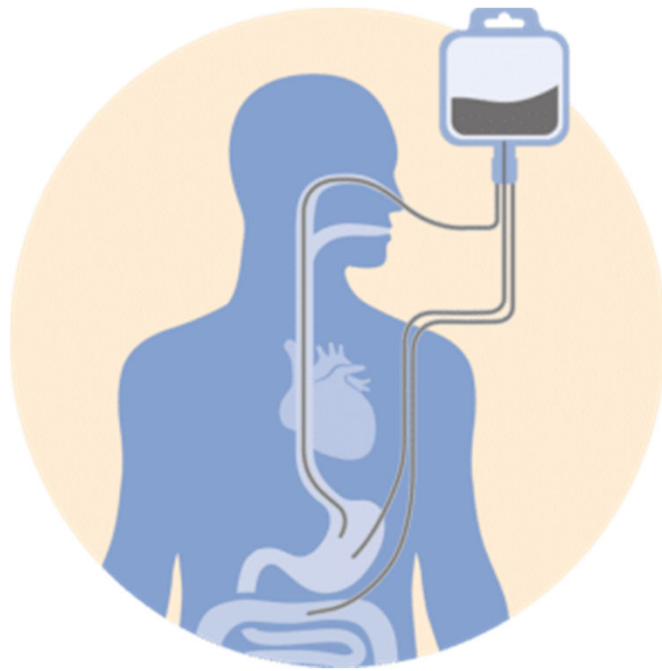
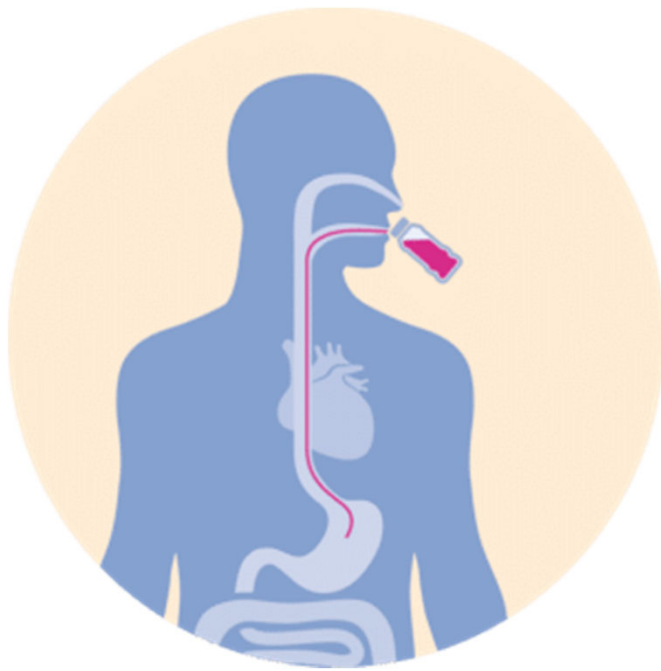
“The incidence of RFS varied from 0% to 62%”
(Clinical Nutrition, 2021)

- Phos, K, Mg intracellular shift
- Aggressive e-lyte replacement
- Consider ppx phos + Mg
- Ppx thiamine

Other Quick Tips



- DON'T check gastric residuals or check for bowel sounds
 - If you insist, only hold if >500 mL residual
- DO transition from 14 Fr+ in ~5 days
- DO choose volume-based > rate-based feeding



TPN for Dummies



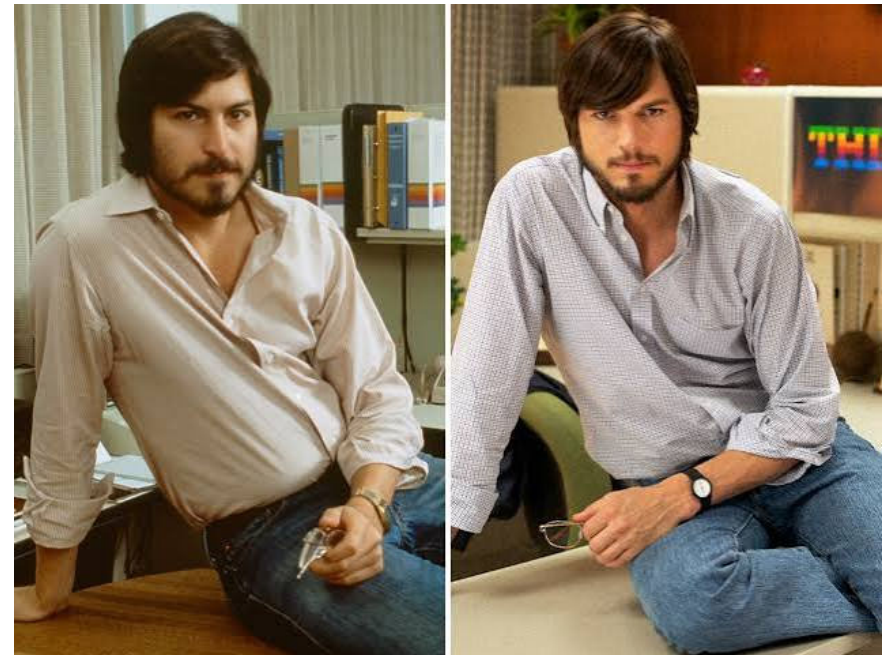
If a patient is **at high nutritional risk** on admission to the hospital and EN is not feasible, **PN should be initiated as soon as possible** (strong recommendation, moderate level of evidence).

Supplemental PN should be considered for the patient already on enteral tube feeding only after 7 to 10 days, when unable to meet >60% of energy and/or protein requirements by the enteral route alone. Initiating supplemental PN prior to this 7–10-day period in those patients already receiving EN does not improve outcomes and may be detrimental to the patient (strong recommendation, moderate level of evidence).

ACG Clinical Guideline, 2016

Case 1

- AK is a 34 yo male who presented with epigastric pain. Found to have pancreatitis by imaging + lab work-up in ED and admitted overnight for management.
- Consider your nutritional plan



ACG Pancreatitis

Nutrition in AP

- | | |
|--|---|
| 10. In patients with mild AP, we suggest early oral feeding (within 24–48 hr) as tolerated by the patient compared with the traditional NPO approach | Conditional recommendation, low quality of evidence |
| 11. In patients with mild AP, we suggest initial oral feeding with low-fat solid diet rather than a stepwise liquid to solid approach | Conditional recommendation, low quality of evidence |

Sauer, B., Yang, A., Conwell, D. L., Gardner, T. B., Yadlapati, R. H., Sheth, S. G., Tenner, S., & Vege, S. S. (2023). American College of Gastroenterology Guidelines: Management of Acute Pancreatitis. *American Journal of Gastroenterology*, 119(3), 419–437.

TWDFNR: Mild Pancreatitis NPO or Clears

Why You Think It Helps:

- Food → Pancreas Exocrine Stim
→ Pain/Inflammation
- Gut rest

Why It Doesn't Work

- Prevention of Gut Translocation
→ Pancreas Tissue
- “Gut rousing”

Take Home:

Put in low fat diet. Have patients use their “common” sense.

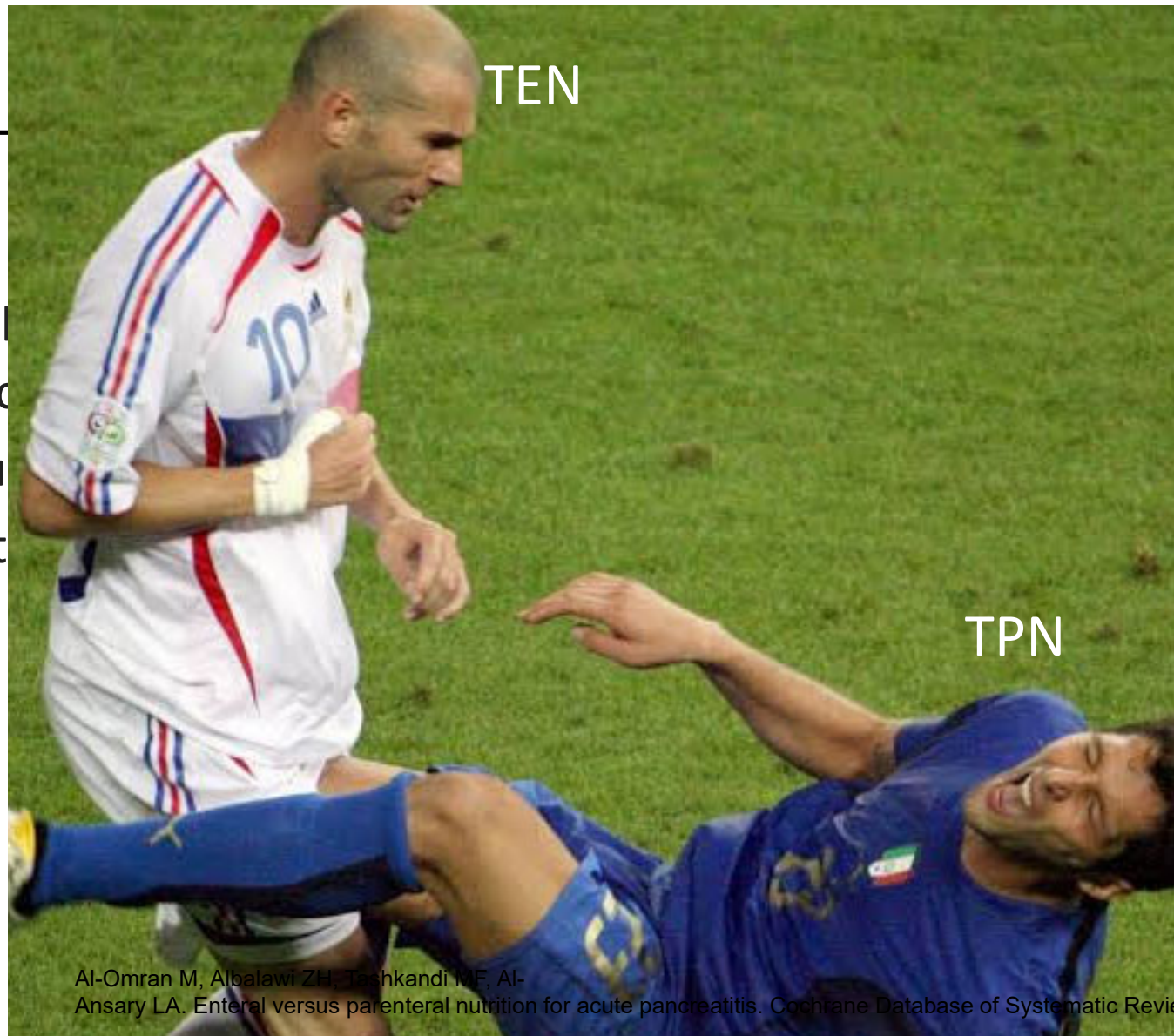
Case 1B

- Despite AK's best attempts, he is unable to eat much at all by 72 hours in. He is having bowel movements with no evidence of obstruction, not actively vomiting.
- Consider your nutritional plan



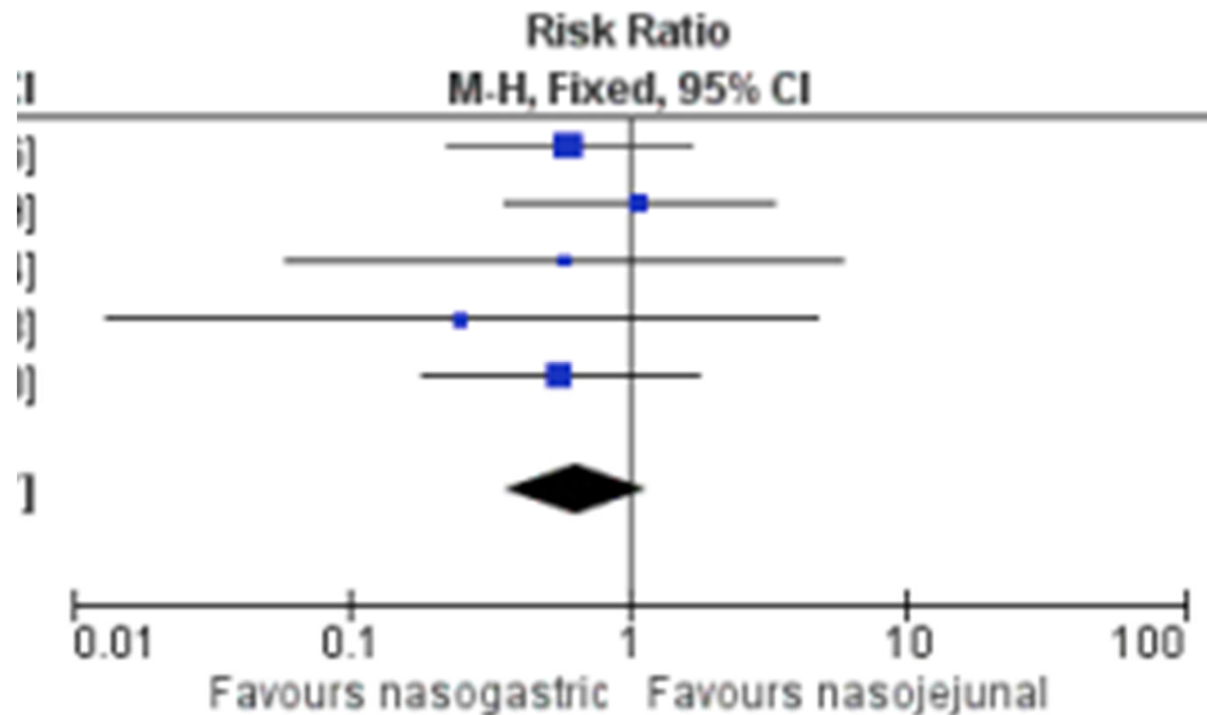
TEN >> TPN

- Mortality [1]
- Infectious complications
- Organ failure
- Surgical intervention



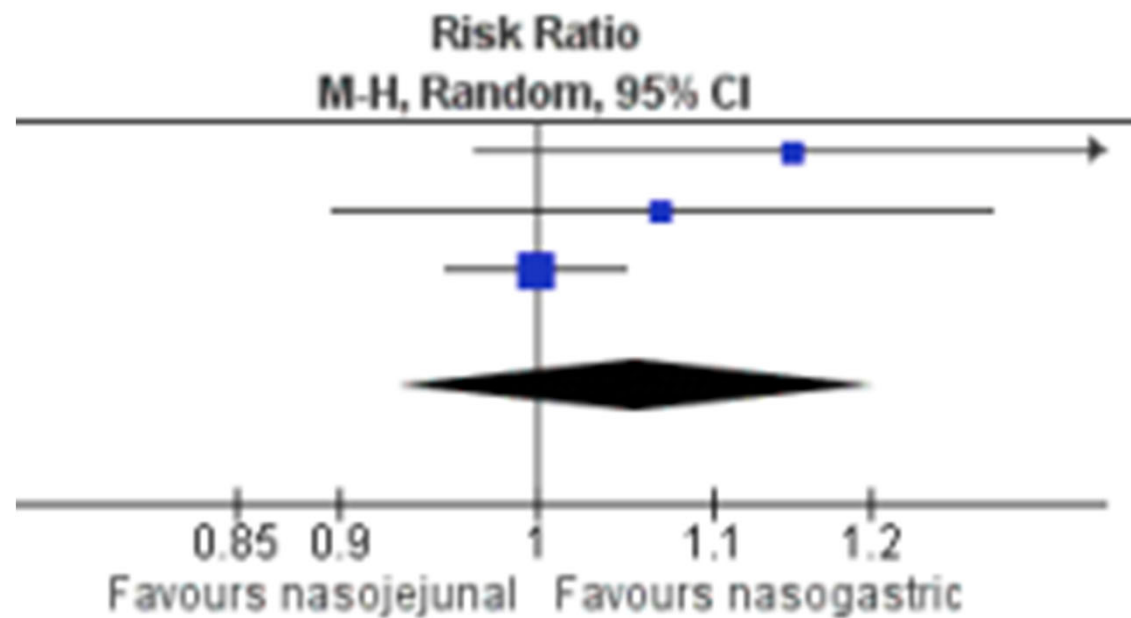
Al-Omran M, Albalawi ZH, Tashkandi MF, Al-Ansary LA. Enteral versus parenteral nutrition for acute pancreatitis. Cochrane Database of Systematic Reviews. 2010;(1):CD002837.

Pancreatitis: NG v NJ Mortality



Dutta AK, Goel A, Kirubakaran R, Chacko A, Tharyan P. Nasogastric versus nasojejunal tube feeding for severe acute pancreatitis. Cochrane Database of Systematic Reviews 2020, Issue 3. Art. No.: CD010582. DOI: 10.1002/14651858.CD010582.pub2.

Pancreatitis: NG v NJ Success



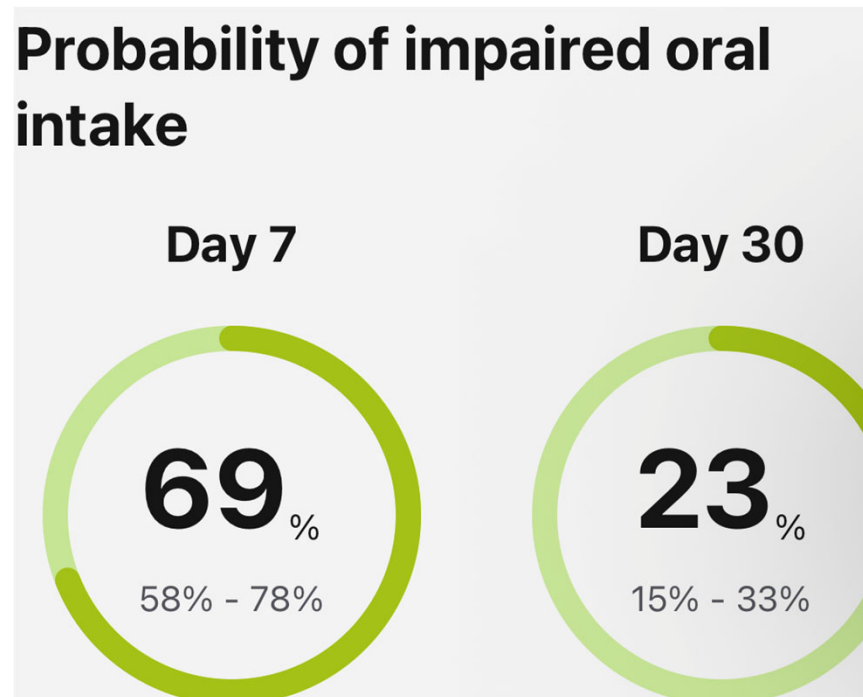
Case 2

- DS is a 72 yo male presenting with a stroke. He fails speech evaluation on D1 and again on D3.
- You discuss with family plan for potential NG. They ask if patient can skip straight to PEG.

COR	LOE	Recommendations
1	B-R	1. In patients with AIS, enteral diet should be started within 7 days of admission after an AIS. ^{1–6}
1	B-NR	2. In patients with AIS, nutritional screening is recommended to direct nutritional management early into hospitalization, preferably within 48 hours of admission, with a nutritional screening or assessment tool that has been validated in patients with acute stroke. ^{2–9}
2a	B-NR	3. In patients with AIS with dysphagia, it is reasonable to use nasogastric tubes initially for feeding within the first 7 days and to place percutaneous gastrostomy tubes in patients with longer anticipated persistent inability to swallow safely (>2–3 weeks). ¹

Prabhakaran, S., Gonzalez, N. R., Zachrison, K. S., Adeoye, O., Alexandrov, A. W., Ansari, S. A., . . . Zink, E. (2026). 2026 guideline for the early management of patients with acute ischemic stroke: A guideline from the American Heart Association/American Stroke Association. *Stroke*.

PRESS Score in ICH



Galovic M, Stauber AJ, Leisi N, et al. Development and Validation of a Prognostic Model of Swallowing Recovery and Enteral Tube Feeding After Ischemic Stroke. *JAMA Neurol.* 2019;76(5):561–570. doi:10.1001/jamaneurol.2018.4858

Calculate ?

Age i

☐ ≤ 70 ☒ ≥ 70

Stroke severity i
NIH Stroke Scale (NIHSS) at admission

☐ ≤ 5 ☒ 6 to 13 ☐ ≥ 14

Stroke location i
Lesion of frontal operculum

☒ NO ☐ YES

Risk of aspiration i
Any 2 scale

☐ 0 to 3 ☐ 4 to 5 ☒ 6

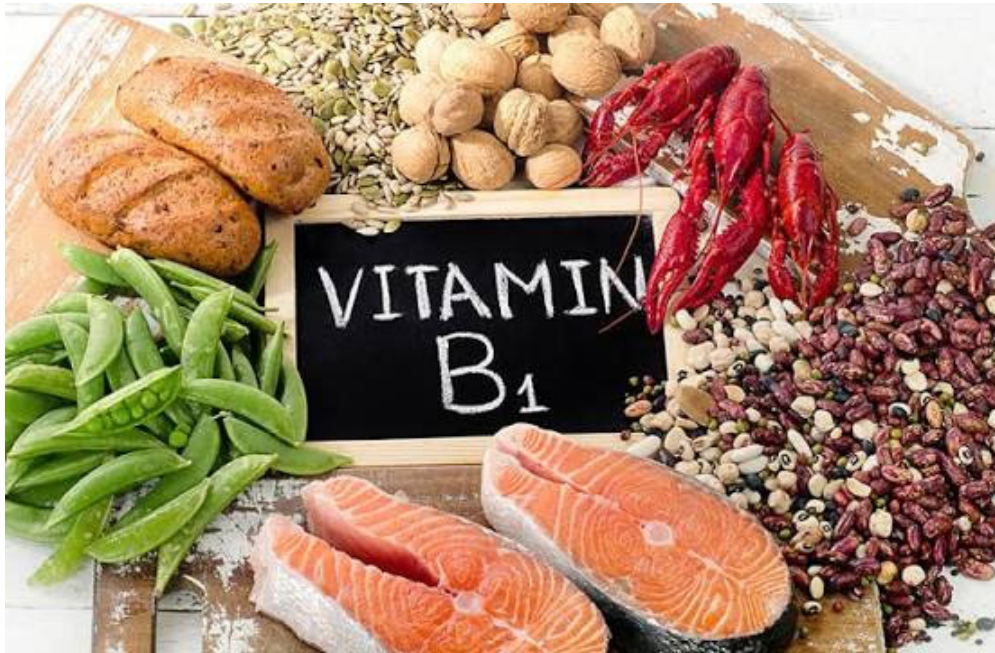
Impairment of oral intake i
Initial Functional Oral Intake Scale(FOIS)

☐ ≥ 4 ☐ 2 to 3 ☒ 1

Case 3

- TS is a 64 yo male w h/o HTN, CAD s/p remote PCI (2018), DMII on semaglutide who presented with chest pain. HS troponin 45 → 120 on arrival prompting NSTEMI protocol including heparin gtt. Placed NPO @ 12 for LHC.
- At 7 AM, patient found to be profoundly altered, aphasic, prompting stroke alert. Acute CT imaging unrevealing, prompt MRI negative for acute CVA. Associated with dark emesis x1.
- On exam, patient has intermittent vertical nystagmus and remains aphasic. Cannot follow commands, moving continuously in bed. Moved to ICU for closer monitoring.

Thiamine



Source:

Intake → jejunal/ileal absorption
→ 2-3 week storage

Function:

- Energy metabolism
- Lactate metabolism
- Myelin sheath maintenance

Wernicke's Encephalopathy

- Nutrition related Wernicke's is diagnosed later with worse mortality
- Caine Criteria > Wernicke's triad
 - Dietary deficiency
 - Oculomotor abnormality
 - Cerebellar dysfunction
 - AMS
- 27% of bariatric surgery patients will have thiamine deficiency

The Scott Statute of Thiamine



Case 4

- BD is a 65 yo vegan female who presents with weakness and fatigue.
- WBC 2.2, Hbg 5.3, Plt 35
- MCV 107
- Retic 1.5% (1-2.5)
- LDH 3000 (140-280), haptoglobin <20
- Indirect bili 4
- INR 1.3

Vit B12



Source:

Animal-dept intake → stomach/SI
→ 2-5 year liver storage

Function:

- Energy metabolism
- DNA, RNA, neurotransmitter methyl donation

Vit B12 Deficiency

- Consider B12 deficiency in malabsorptive conditions, vegan patients, elderly on metformin or PPI
- Neurologic manifestations
 - “Megaloblastic madness”
- Hematologic manifestations
 - Remember iron def can mask macrocytosis
 - Rarely hemolytic anemia like our case (frequently from malabsorption)

Case 5

- JZ is a 71 yo male w AUD and chronic debility who presents from EMS with bilateral leg pain. Found to have bruising on thighs and arms, though denies trauma.



Consultant 360: Volume 43, Issue 2. February 2003

Vit C



Source:

Fruit/vegetable intake → SI →
1-3 month of storage

Function:

- Collagen synthesis
- Anti-oxidant
- Iron and folate support
- Catecholamine synthesis

Vitamin C Deficiency

Demographic	Presenting sx	Other associated sx	Hemogram findings	Other labs
7 yo M	Refusal to walk	Gingival bleeding Rash	Normocytic anemia Normoproliferative Leukopenia	Normal Vit D deficiency
6 yo M	Bleeding gums	Limping Possible tooth abscess	Microcytic anemia Hypoproliferative	Mild ESR elevation
14 yo M	Leg pain	Bruising both legs	Normal	Vit C low but detectable Vit A and D deficiency
10 yo M	Leg pain	Bruising legs Bleeding gums	Normocytic anemia Normoproliferative Leukopenia	
19 yo M	Refusal to walk	Rash LE edema	Microcytic anemia Leukopenia	ESR elevated Vit B1, D, E deficient



Questions?

