

FAQ ON FORTTRANS (Macrogol)

by Ms Izyan Diyana

Colonoscopy is the gold standard for the investigation to detect changes or abnormalities in the large intestine (colon) and rectum. To ensure a successful procedure, it is imminent that patient's colon to be clear, hence an effective bowel preparation procedure is crucial.

According to American Society of Gastrointestinal Endoscopy (ASGE), colonoscopy preparation should have the following properties: **inexpensive**; **cleanse the bowels rapidly**; and does **not cause significant patient discomfort** or **electrolyte imbalances**. Optimal bowel preparation leads to decreased procedure time, increased polyp detection, and subsequent increased adenoma detection rate (quality indicator for colonoscopy)³. According to the American Journal of Gastroenterology, up to 25% of colonoscopies are canceled due to a poor bowel prep. In one French study found that out of 1.12 million colonoscopies performed in 2008, 5% had to be redone because they were incomplete. Inadequate bowel cleansing was responsible for failure in 40% of cases².

In PPUKM, a few oral preparations are available as bowel cleansing for endoscopic and rectal examination. However, since 2018, *Fleet Phosphosoda Oral Saline* has been discontinued, leaving gastroenterologists with lesser options of oral laxatives, mainly Bisacodyl tablet and Macrogol (Fortrans). Below are the compilation of Frequently-Asked-Questions (FAQs) received by Drug Information Centre, Pharmacy Department.

What is the minimum dilution of FORTTRANS for a fluid restricted patient? Can I dilute 1 sachet of Fortrans (64g) with 500 mL of water only as my patient has kidney failure and is on ROF 800mL/day?

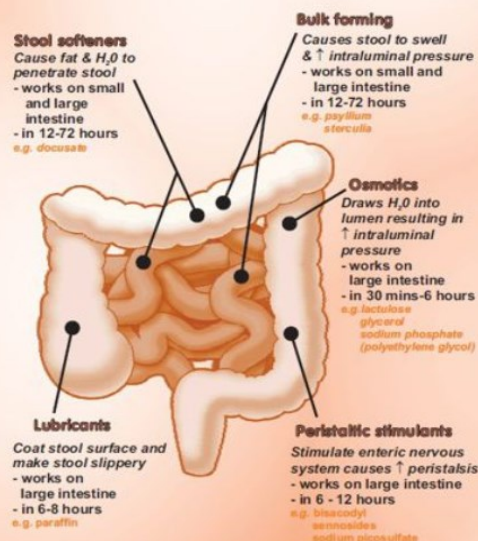
A: Fortrans (polyethylene glycol-4000) needs to be diluted with 1L of water to form an **isotonic solution**. It is **poorly absorbed** and when taken quickly (>1800 mL/h), they exert an **osmotic effect in the colon and sequesters water to the bowel**. This cause the volume of fecal mass to increase, and in turn triggers **propulsive peristalsis via distension of the colonic wall**, subsequently softens the feces and **eases defecation**.

B. If macrogol is diluted with less than recommendation (eg 500mL), this will form a hypertonic solution which will lead to poor clearance of the bowel. Hence, it is crucial that 1 sachet of macrogol (64g) to be diluted with 1L of water.

*Synonyms of PEG = Macrogol.

Laxatives

Laxatives promote the passing of a fecal stool by various mechanisms depending on the type of laxative used.



Is it safe for patients with renal failure? Fortrans has been used among renally impaired patients with good outcome. ASGE recommends the same dilution method for renally impaired patients.

A: Fortrans is a **non-absorbable polymer**. So it DOES NOT induce significant fluid and electrolyte shifts when passing through the bowel, hence it does not cause electrolyte imbalances and does not prevents excessive dehydration.

B. Fortrans DOES NOT contain sodium phosphate. (Sod. Phosphate causes dehydration and calcification in the renal tubes and apthoid-like erosion, leading to kidney damage.)

Can it be given for pediatric patients? What is the dose?

A: There is no safety data published for pediatric use hence its indication and usage is off-label. However, ASGE guidelines has recommendation for use of polyethylene glycol (PEG 3350) for pediatrics. Furthermore, Klean-Prep® (available in US & Europe but not in Malaysia); is also a polyethylene glycol (PEG) which is indicated for children as young as 3years old. All PEG preparations are generally equivalent. The dose recommended according to ASGE : **1.5- 4 g/kg/day** to be taken 1 day before colonoscopy.

1 sachet of 73.69g Fortrans contains Macrogol (INN) 4000 64 g + Sod sulphate 5.7 g + Sod Bicarb 1.68 g + Sod Chloride 1.46 g + Pot Cl 0.75 g + Saccharin Sodium 0.1 g

References

- American Society of Gastrointestinal Endoscopy (ASGE)
- Canard JM. Colonoscopy in France in 2008: results of the two-day survey of endoscopy in France. *Acta Endosc* 2010; 40: 58-65.
- Optimizing bowel preparation for colonoscopy: a guide to enhance quality of visualization Matthew L. Bechtolda, Fazia Mira, Srinivas R. Pulib, Douglas L. Nguyenc, *Ann Gastroenterol* 2016; 29 (2): 137-146
- Bowel Preparation for Pediatric Colonoscopy: Report of the NASPGHAN Endoscopy and Procedures Committee, (European Society for Pediatric Gastroenterology, Hepatology, and Nutrition and North American Society for Pediatric Gastroenterology, Hepatology, and Nutri-

COSMOFER® 100mg/2mL (Iron Dextran) by Lt Nurul Amirah Daud

DOSING, RECONSTITUTION, DILUTION & ADMINISTRATION

DOSE CALCULATION

DOSE = Body weight (kg) \times [(Target Hb – Actual Hb)(g/L)] \times 0.24 + mg iron for iron stores.

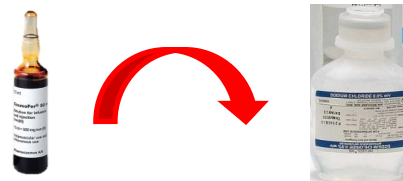
Hb (g/L) = Hb (g/dL) \times 10. {Hb in OMS PPUKM is expressed in g/dL}

OR Alternatively, based on the Venofer® table in the PPUKM Formulary App

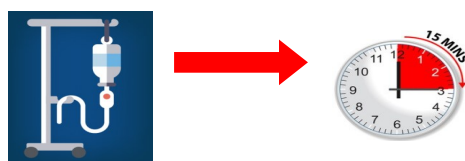
Cosmofer Policy : A * Nephrologists only (Others: need to pay ~ RM18 /100mg ampoule)

TOTAL DOSE INFUSION (Only Cosmofer can give via TDI, not Venofer) DILUTION, TEST DOSE & ADMINISTRATION

1. **[DILUTION]** Dilute total vials of Cosmofer® (100mg/2ml) in 500ml NS/D5%.



2. **[TEST DOSE]** Infuse 25mg of diluted Cosmofer® over 15 minutes.

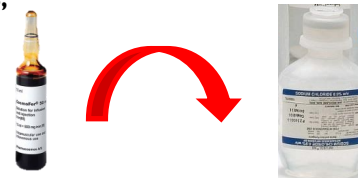


3. **[ADMINISTRATION]** Wait for 1 hour. If tolerating well, the remaining portion of the infusion to be infused over 4-6 hours. Increase at rate of infusion progressively to 45-60 drops/min.

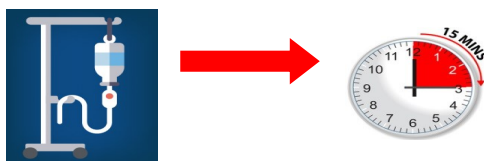
IV DRIP INFUSION

DILUTION, TEST DOSE & ADMINISTRATION

1. **[DILUTION]** Dilute 1 vial or 2 vials of Cosmofer® (100mg/2ml) in 100ml NS/D5%, making up strength of 1mg/ml or 2mg/ml.



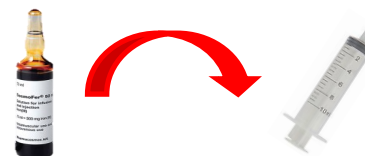
2. **[TEST DOSE]** Infuse 25mg (25ml or 12.5ml) of diluted Cosmofer® over 15 minutes.



3. **[ADMINISTRATION]** Wait for 1 hour. If tolerating well, the remaining portion of the infusion to be infused at rate of 100ml/30mins.

SLOW IV INJECTION

1. **[DILUTION]** Dilute 1 vial of Cosmofer® (100mg/2ml) in 10ml NS/D5% (or 2 vials of Cosmofer® in 20ml 0.9% NS/D5), making up strength of 10mg/ml.



2. **[TEST DOSE]** Inject 25mg (2.5ml) of diluted Cosmofer® over 1-2 minutes.

3. **[ADMINISTRATION]** Wait for 15 minutes. If tolerating well, inject the remaining portion at rate of 0.2ml/min.



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