Bowel Preparation for Older People: What is Best Practice?

Scott Furler & Jane Neill

Background

- Prior to colonoscopy, faecal material must be cleared from the bowel for optimal viewing to detect abnormalities.
- Two commonly used bowel cleaning preparations:
  - Polyethylene glycol (PEG) combined with electrolyte solution (e.g., ColonLYTELY = isotonic)
  - Sodium phosphate (NaP; formulations: oral, rectal) (e.g., Fleet Phosphate Sod - hypertonic)
- Patients must drink 3-4 litres PEG for effective cleaning.
- Volumes may be poorly tolerated by older people, due to side-effects including nausea and abdominal pain.
- Low-volume oral NaP is considered more effective and better tolerated than PEG. NaP is safe for most adults.
- NaP should be avoided in elderly age, impaired gastrointestinal function, heart and kidney disease, or when serious electrolyte imbalances are likely.

QUESTION: What is best practice for safe, effective, tolerable bowel preparation of older people, who may have co-existing medical problems?

Methods

- Literature reviewed: Publications in English 1997-2005;
- Databases searched: Cochrane Library, Web of Science, PubMed;
- Inclusion criteria:
  - Patients: Adults undergoing colonoscopy;
  - Interventions: Randomised controlled trials (RCT) of bowel preparation;
  - Outcomes: Patient ages, efficacy, tolerability, and safety of preparations.
- 16 studies located
- 10 studies reviewed, excluding studies with:
  - insufficient information about efficacy or tolerability;
  - younger participants, or ages not reported.
- Outcomes scored inconsistently → statistical analysis not possible.

Results

- 10 studies included patients aged over 65 years;
- Only 1 trial used an exclusively older population;
- 9 studies (90%) reported excluding patients with co-existing illnesses;
- NaP was more effective than PEG in 4 studies (40%) and equally effective in 5 studies (50%);
- 8 studies (80%) favoured NaP for tolerability;
- Safety judged from side effect profiles of PEG and NaP was variable.

Conclusions & Implications

1. Currently, no bowel preparation is completely safe for older people.
2. Best practice is based on comprehensive assessment:
   - Nurses can advocate for judicious selection of PEG or NaP before colonoscopy, and monitor for potential complications.
3. A brief assessment guide for nurses is suggested below:
4. Additional RCTs are needed to compare:
   - Half-volume PEG / Bisacodyl (HalfLYTLEY) with NaP or Picolax (Picolax);
   - NaP with combination therapy (e.g., PEG and Picolax).
5. Studies should address older age groups and medically vulnerable populations specifically.

Conclusions & Implications

1. Currently, no bowel preparation is completely safe for older people.
2. Best practice is based on comprehensive assessment:
   - Nurses can advocate for judicious selection of PEG or NaP before colonoscopy, and monitor for potential complications.
3. A brief assessment guide for nurses is suggested below:
4. Additional RCTs are needed to compare:
   - Half-volume PEG / Bisacodyl (HalfLYTLEY) with NaP or Picolax (Picolax);
   - NaP with combination therapy (e.g., PEG and Picolax).
5. Studies should address older age groups and medically vulnerable populations specifically.

Brief Assessment Guide for Nurses*

Q: Does your patient have severe renal or cardiac disease?
A: These patients are at significant risk due to potential electrolyte disturbances, and exacerbation of existing electrolyte abnormalities. Preparations high in sodium can cause fluid retention, which may exacerbate hypertension, oedema, and heart failure.

Q: Does your patient have less severe renal or cardiac disease?
A: Your patient may be able to tolerate PEG and Picolax combination therapy, subject to medical approval and patient consent.

Q: Do serum electrolyte levels already available suggest electrolyte imbalance - eg hyperphosphataemia, hypernatraemia, hypocalcaemia, or hypokalaemia?
A: NaP and Picolax are hypertonic and have been shown to cause severe electrolyte disturbances.

Q: Is your patient showing symptoms of dehydration prior to bowel preparation?
A: NaP and Picolax are osmotic laxatives with the potential to cause considerable loss of fluid. Intravenous therapy during preparation or after colonoscopy may be needed.

Q: Is your patient currently taking medications (such as diuretics, lithium, digoxin) or any other medications that may effect electrolyte levels?
A: Use NaP and Picolax with extreme caution in patients taking medications that cause fluid and electrolyte disturbances. Lithium preparations are retained in the kidneys and may accumulate to dangerous levels in dehydrated patients.

* Adapted from Flinders Medical Centre 2003 Guide to prescribing Picolax for Colonoscopy

References


Acknowledgements

Ms Jackie Sincock RN, formerly of Endoscopy Unit, Flinders Medical Centre, Adelaide, South Australia.

Authors

1. Ms Jackie Sincock RN, formerly of Endoscopy Unit, Flinders Medical Centre, Adelaide, South Australia
2. Dr Jane Neill, Senior Lecturer, School of Nursing & Midwifery, Flinders University, Adelaide, South Australia

Authors

1. Ms Jackie Sincock RN, formerly of Endoscopy Unit, Flinders Medical Centre, Adelaide, South Australia
2. Dr Jane Neill, Senior Lecturer, School of Nursing & Midwifery, Flinders University, Adelaide, South Australia