

# “The Worst Part of the Colonoscopy is the Prep”

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# Why is the Prep so Important?

- The bowel prep is inadequate in up to 25% of patients
- Poor prep is associated with
  - Missed lesions
  - Decreased rate of cecal intubation
  - Prolonged procedure duration
  - Cancellation/repetition
  - Increased cost

# What makes an ideal prep?

- Effective
- Convenient
- Tolerable
- Safe

# Available Preps

- Diet Restriction and Cathartics
- Gut Lavage with Polyethylene Glycol (PEG) Electrolyte Solutions
  - Osmotically balanced preparations that promote cleansing by ingestion of a large volume nonabsorbable fluid
- Sodium Phosphate (NaP)
  - Hyperosmotic solution or tablet draws plasma water into bowel lumen

# Gut Lavage

- Polyethylene Glycol (PEG) 4 liters
- Osmotically balanced electrolyte lavage
- Nonabsorbable
- No significant fluid or electrolyte shifts
- More effective and better tolerated than previous regimes
- “Gold standard”

# PEG



- Golytely®, Colyte® (4L)
  - 15% do not complete solution
  - Salty taste, “rotten egg” smell, large volume
- Sulfate free PEG (Nulytely®, Trilyte®)
  - Claims better taste and smell
  - Comparable in efficacy, safety, tolerance

# Dosing

- Day prior to procedure
  - No solids at least 2 hours before ingestion
  - 8 ounces every 10 minutes until clear or 4 liters consumed that evening

# Reduced Volume PEG

- Halflytely® (2 liter PEG + bisacodyl)
  - Equal in efficacy to 4 liters with improved tolerance
- Moviprep® (2 liter PEG + ascorbic acid)
  - Improved taste, less nausea

# Dosing

- The day before procedure
  - Clear liquids
  - 2 bisacodyl (10mg) tablets at noon (Halflytely®)
  - Wait until bowel movement or 6 PM
  - 8 ounces every 10 minutes until 2 liters consumed

# Advantages of PEG

- No significant fluid or electrolyte shifts
- Preferred for patients with renal failure, CHF, liver disease with ascites, baseline electrolyte abnormalities
- Does not alter the colonic mucosa

# Disadvantages of PEG

- Large Volume
- Avoid in patients with ileus, delayed gastric emptying, bowel perforation, obstruction

# Potential Adverse Effects

- Aspiration
- Allergic reactions
- Nausea, vomiting, cramping, bloating
- Mild hypothermia related to chilling

# NaP Solution

- Phospho-soda®<sup>®</sup>, Phospho-soda EZ prep®<sup>®</sup> and Accu-prep®<sup>®</sup> -
- Over the counter
- No longer available



# NaP Tablets

- Visicol® 40 tablets
  - Designed to increase compliance
  - Improved tolerability
  - Microcrystalline cellulose (MCC) impaired visibility
- Osmoprep® 32 tablets
  - Reduced MCC
  - Similar efficacy to 40 tablet prep

# Dosing

- Evening prior to colonoscopy
  - 4 tablets every 15 minutes with 8 ounces clear liquid (total 20 tablets)
- Day of colonoscopy 3-5 hours before procedure
  - 4 tablets every 15 minutes with 8 ounces of clear liquid (total 12-20 tablets)

# NaP - Potential Adverse Effects

- Changes in serum electrolytes
  - Hyperphosphatemia
  - Hypocalcemia
  - Hypokalemia
  - Hypomagnesemia
- Seizures
- May cause aphthae in colonic mucosa



# Acute Phosphate Nephropathy (Nephrocalcinosis)

- Acute renal failure
- Calcium phosphate crystal deposition in kidneys
- May result in permanent impairment
- Initially reported in 2006
- 21 cases biopsy confirmed
- Black Box Warning
- Rare

# Risk for Acute Phosphate Nephropathy

- Elderly
- Inadequate hydration
- Baseline kidney disease
- Hypertension
- ACE inhibitors, ARBs, diuretics, NSAIDs



# Recommendations for NaP

- Appropriate patient selection
- Hydration
  - Most adverse events associated with inadequate hydration
  - Instruct to drink fluid liberally
- Baseline labs – recommended by some

# Split Prep

- May help tolerability and compliance
- Improved cleansing of right colon
- Success
  - Split dose group 76.5% good/excellent prep vs. 56.2% in single dose group
- Short time between prep and start of procedure associated with better preparation regardless of type of prep used

# Split Prep Dosing

- 4 liter PEG
  - 2-3 liters the evening prior to procedure
  - 1 liter morning of procedure
- Movi-Prep®
  - 1 liter evening before and 1 liter morning of procedure
- Minimum 2 hours NPO before procedure

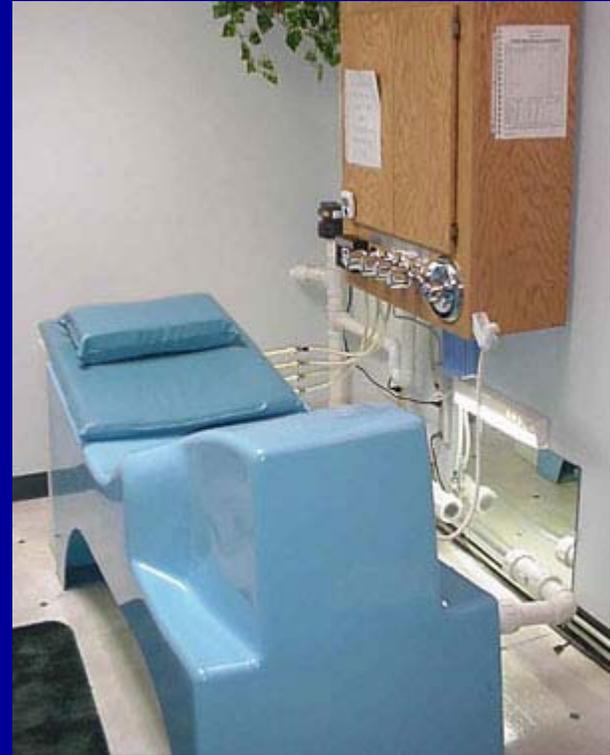
# Alternative Preps

- PEG 3350 (Miralax®)
- Dosing
  - 282 grams Miralax® in 2 liters clear liquid (Gatorade often used)
  - Consume 8 ounces every 10 minutes until 2 liters consumed
- Safety profile unknown



# Alternative Preps

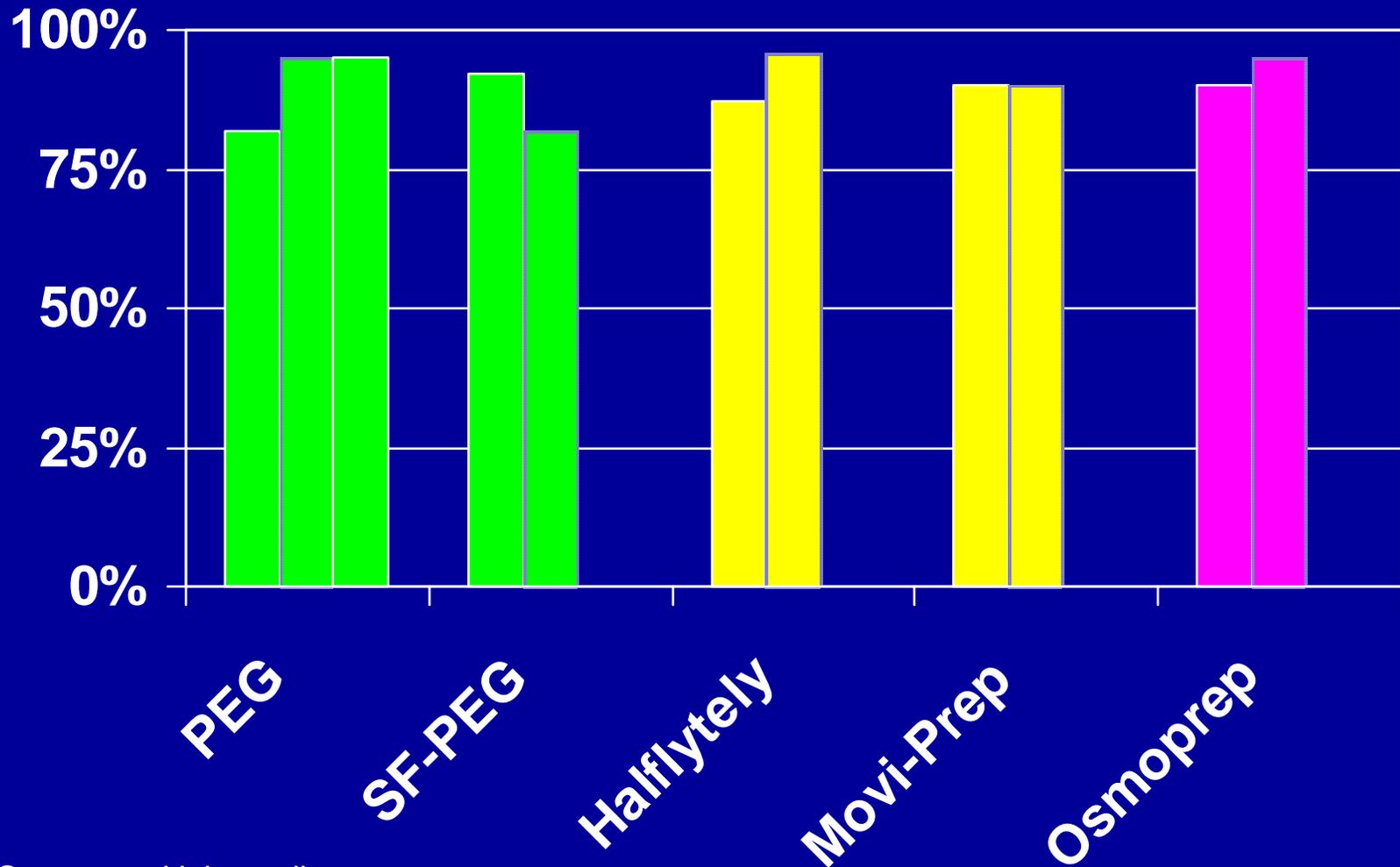
- Colonic Pulsed Irrigation
  - 10 ounces magnesium citrate night before colonoscopy
  - 30 minute infusions short pulse warm tap water through rectal tube



# Adjuncts to Preps

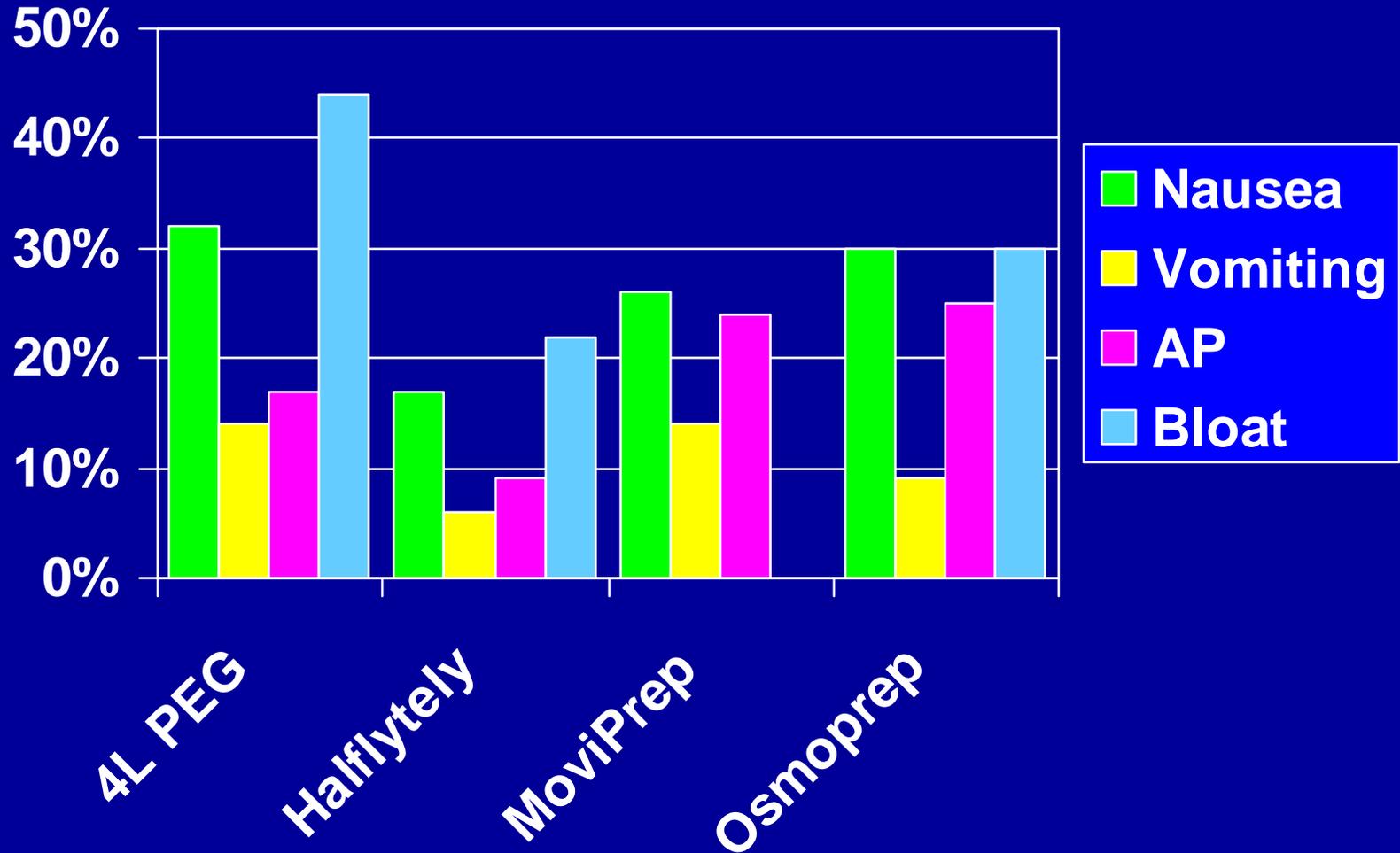
- Enemas evening before or morning of procedure
  - Cleansing distal segment of bowel
  - Patients with stoma
  - Defunctionalized distal colon
- Bisacodyl - irritant laxative
  - Can cause changes in mucosa
  - ? Ischemic colitis
- Magnesium Citrate
  - Hyperosmotic solution
  - Not safe in patients with renal disease

# Comparison of Efficacy



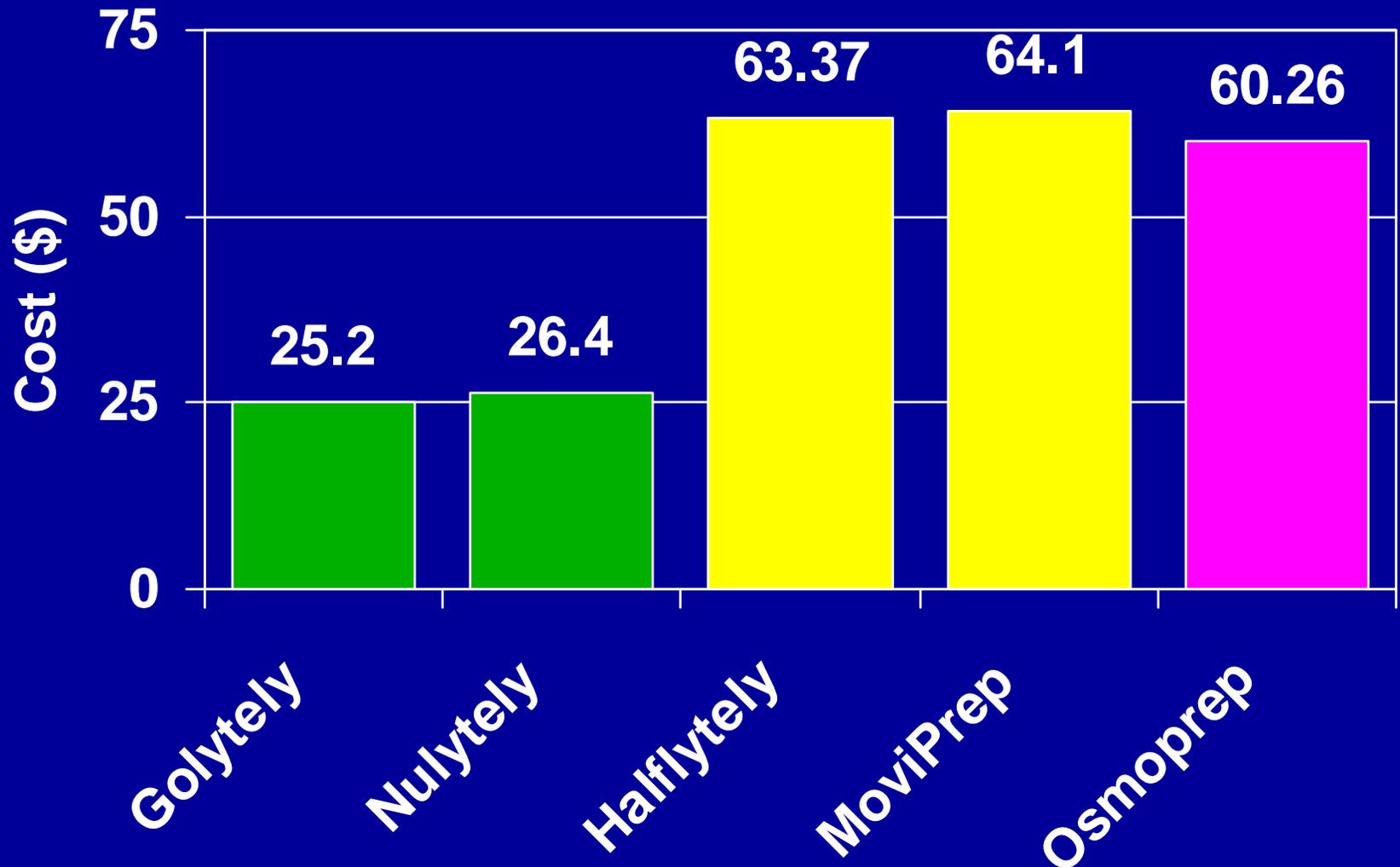
Source: multiple studies

# Side Effect Comparison



Source: Physician's Desk Reference 2007, 2009

# Cost Comparison



Source: Drugstore.com, accessed 5/20/09

# Inadequate prep?

- Reasons
  - Misunderstood directions
  - Noncompliance
  - Constipation
  - Male gender
  - Obesity
- Consideration for repeat
  - Careful instruction
  - 2 day clear liquids
  - Avoid fat rich diet one week
  - Morning procedure
  - Do not repeat NaP within 24 hours!!

# Patient Education

- What is a colonoscopy?
- Indication for colonoscopy
- Preparation for colonoscopy
  - Diet restriction
  - Medication Adjustments
    - Stop ASA, NSAIDs, Iron
    - Coumadin, Plavix, Insulin
- Possible complications
- Need for escort

# Is there an ideal prep?

- Effective
  - No alteration of colonic mucosa
- Convenient
- Tolerable
- Safe
  - No change in fluid or electrolytes



For more information on the different ways  
you can be tested, call 1.800.227.2345  
or visit [www.cancer.org/NYNJ](http://www.cancer.org/NYNJ).