



**FEDERAZIONE DELLE SOCIETA' ITALIANE  
DELLE MALATTIE DIGESTIVE**



**PREVENZIONE** S E R E N A

## **LA PREPARAZIONE INTESTINALE PER LA COLONSCOPIA**

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ASL NO - Borgomanero*

*Torino 18-19 ottobre 2011*

## Topics discussi

- Impatto della preparazione intestinale sulla colonscopia di qualità (soprattutto nello screening)
- Confronto tra le preparazioni attualmente in uso sulla base delle evidenze disponibili
- Importanza dello “splittare” la preparazione intestinale
- Proposta di una nuova scala di valutazione della preparazione intestinale



***Preparazione  
Inadeguata :  
Quale impatto sulla  
performance tecnica?***

- **% Intubazione ceco**  
→ 71% Vs 90% ( $p < .001$ )  
  
→ causa del 20% delle colonsc. incomplete  
→ causa del 35% delle colonsc. incomplete
- **Tempo medio della colonscopia**  
→ 27.4 m Vs 21.7 m ( $p < .001$ )
- **Aumento costi** → 12-22%  
( > durata, ripetizione, sorveglianza anticipata )

*Harewood GC. Gastrointest Endosc, 2003*

*Froelich F. Gastrointest Endosc 2005*

*Bowel Gut 2004*

*Fasoli Dig Liver Dis 2002*

*Cohen LB. Gastrointest Endosc, 2010*

*Rex D. Am J Gastroenterol 2002*



**Preparazione  
Inadeguata :  
Quale impatto sulla  
accuratezza diagnostica?**

- Detection rate **small** colon polyps < 10 mm  
→ 26% Vs 29 (  $p < .001$  )  
(retr. USA >90000 colonoscopies)
- Detection rate **small and large** polyps  
→ 24% Vs 29% (  $p < .007$  )  
(prosp. EU 5832 colonoscopies)  
  
→ 12% Vs 24% (  $p < .001$  )  
(RCT Italia 886 colonoscopies)
- Detection rate **flat** polyps  
→ 9% Vs 21.6% (  $p < .002$  )

*Harewood GC. Gastrointest Endosc, 2003  
Froelich F. Gastrointest Endosc 2005*

*Marmo R.. Gastrointest Endosc, 2010*

*Parra -Blanco A, World J Gastroenterol 2006*

## *Preparazioni Intestinali Attualmente in Uso*



- **LASSATIVI STIMOLANTI LA MOTILITA'**  
aumentano peristalsi intestinale  
(Bisacodile, Sodio Picosolfato)
- **LASSATIVI IPER-OSMOLARI**  
soluti (Sodio Fosfato, Citrato Magnesio) che  
richiamano acqua e elettroliti extracellulari nel  
lume intestinale
- **LASSATIVI ISO-OSMOLARI**  
soluti (polietilenglicole/PEG) che permettono ai  
liquidi assunti di passare attraverso l'intestino  
senza essere assorbiti e senza richiamare acqua e  
elettroliti extracellulari

## *Quale è la migliore preparazione Intestinale?*



- **Efficacia**  
(qualità pulizia intestinale)
- **Tollerabilità**  
(capacità del pz a completare la preparazione)
- **Safety**  
(effetti indesiderati)



*Quali evidenze  
nel confronto?*

## Which is the optimal bowel preparation for colonoscopy – a meta-analysis

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Received 23 September 2005; accepted 9 December 2005

### Alimentary Pharmacology & Therapeutics

## Systematic review: oral bowel preparation for colonoscopy

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### SUMMARY

#### Background

There are many published trials of colon cleansing regimens for colonoscopy but no clear consensus regarding relative performance.

#### Aim

To identify high quality controlled trials comparing two or more bowel preparation regimens and to compare efficacy and tolerability.

#### Methods

A comprehensive systematic review was carried out to identify candidate studies. Quality appraisal was carried out on all identified studies. Results were meta-analysed where possible and qualitatively compared if not.

#### Results

Eighty-two studies qualified for analysis. Polyethylene glycol and

## CONSENSUS DOCUMENT



A consensus document on bowel preparation before colonoscopy:  
Prepared by a Task Force From The American Society of Colon and Rectal Surgeons (ASCRS), the American Society for Gastrointestinal Endoscopy (ASGE), and the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)



## ***Conclusioni Evidenze***

- **Efficacia**

NaP uguale\* o migliore\*\* Vs PEG

NaP migliore\*\* Vs PicoS/MgC

PEG migliore (NS)\*\* Vs PicoS/MgC

- **Tollerabilità**

NaP migliore\* \*\* Vs PEG

PicoS/MgC migliore (NS) \*\* Vs PEG

PicoS/Mg uguale Vs NaP \*\*

\* *Belsey J Aliment Pharmacol Ther 2007*

\*\* *Tan JJY Colorectal Disease 2006*





***Safety***  
***PEG “Standard”***  
***(Soluzione 4 litri)***

- effetti collaterali GI: nausea e vomito, dolore addominale, gonfiore, (rarissimi) aspirazione, Mallory Weiss
- effetti collaterali sistemici: molto rari
- **Categorie a rischio: no**



## ***Safety*** ***Sodio Fosfato (NaP)***

→ effetti collaterali GI : nausea , vomito, dolori addominali

→ effetti collaterali sistemici: squilibri idro-elettrolitici in genere modesti e transitori (iperNa, iperP, ipoK, ipoCa, ipovolemia) **raramente clinicamente importanti**, alterazioni mucosa del colon (afte)

→ segnalazioni di IRA (nefrocalcinosi,)

→ **Categorie a rischio**: anziani, scompenso cardiaco, insufficienza renale, pz in terapia diuretica, ACE inibitori, bloccanti recettori angiotensina II, FANS

## FDA ALERT [12/11/2008]

FDA has become aware of reports of **acute phosphate nephropathy**, a type of acute kidney injury, associated with the use of **oral sodium phosphate products (OSP) for bowel cleansing prior to colonoscopy** or other procedures. These products include the prescription products, Visicol and OsmoPrep, and OSPs available over-the-counter without a prescription as laxatives (e.g., Fleet Phospho-soda). In some cases when used for bowel cleansing, these **serious adverse events have occurred in patients without identifiable factors** that would put them at risk for developing acute kidney injury. We cannot rule out, however, that some of these patients were dehydrated prior to ingestion of OSPs or they did not drink sufficient fluids after ingesting OSP.

**Acute phosphate nephropathy** is a form of acute kidney injury that is associated with deposits of calcium-phosphate crystals in the renal tubules that may result in permanent renal function impairment. Acute phosphate nephropathy is a rare, serious adverse event that has been associated with the use of OSPs. The occurrence of these events was previously described in an *Information for Healthcare Professionals* sheet and an FDA Science Paper issued in May 2006. Additional cases of acute phosphate nephropathy have been reported to FDA and described in the literature since these were issued.

**Individuals who appear to have an increased risk of acute phosphate nephropathy following the use of OSPs include persons: who are over age 55; who are hypovolemic or have decreased intravascular volume; who have baseline kidney disease, bowel obstruction, or active colitis; and who are using medications that affect renal perfusion or function (such as diuretics, angiotensin converting enzyme [ACE] inhibitors, angiotensin receptor blockers [ARBs], and possibly nonsteroidal anti-inflammatory drugs [NSAIDs]).**

As a result of new safety information received, FDA is requiring the manufacturer of Visicol and OsmoPrep, the two OSPs available by prescription only, to add a **Boxed Warning** to the labeling for these products. FDA is also requiring that the manufacturer develop and implement a risk evaluation and mitigation strategy (REMS), which will include a *Medication Guide*, to ensure that the benefits of these products outweigh the risk of acute phosphate nephropathy, and to conduct a postmarketing clinical trial to further assess the risk of acute kidney injury with use of these products.



***Safety***  
***Sodio Picosolfato e***  
***Citrato Magnesio***

- effetti collaterali GI: crampi e dolore addominale
  - effetti collaterali sistemici: squilibri idro-elettrolitici in genere modesti e transitori (iperNa, iperMg, ipoK, ipoCa, ipovolemia) **raramente accompagnati da** convulsioni, sincopi
  
- **Categorie a rischio**: anziani, pz con insufficienza renale, insufficienza cardiaca



Australian Government  
Department of Health and Ageing  
Therapeutic Goods Administration

Australian Adverse Drug Reactions Bulletin

Volume 21, Number 1, February 2002

Prepared by the **Adverse Drug Reaction Advisory Committee (ADRAC)**

### Electrolyte disturbances with **sodium picosulfate** bowel cleansing products

Low volume bowel preparations for colonoscopy have become increasingly popular in recent years because of the greater comfort for patients who are not required to swallow large volumes of liquid. ADRAC has previously highlighted the risk of severe **electrolyte disturbances** in association with the use of oral sodium phosphate solution (Fleet Phospho-Soda Buffered Saline Laxative Mixture, Kwikprep) as a bowel preparation.<sup>1</sup> Since then, ADRAC has received reports in association with two other products (Picolax, Picoprep) which contain sodium picosulfate. Sodium picosulfate acts similarly to sodium phosphate in that it produces its cathartic effect by osmotic action in the gut. This results in a transfer of fluid and electrolytes across the gut to the gut lumen.

**ADRAC has received 16 reports implicating sodium picosulfate products. Five described convulsions** associated with hyponatraemia.

Another described **syncope** in a patient with both hyponatraemia and hypokalaemia. There have also been single reports of **unconsciousness** with hyponatraemia, metabolic alkalosis with hypokalaemia, and **4 of syncope and dehydration** without documented electrolyte abnormalities. Low volume sodium phosphate and sodium picosulfate products can cause marked dehydration, hyponatraemia, other electrolyte abnormalities and associated complications. **Infants, the elderly, the frail and those with congestive heart failure or compromised renal function are particularly at risk.** Alternative less concentrated bowel cleansing preparations should be used in these patients.



*... no significant differences other than improved patient tolerance of Na P preparations...*

*....care must be taken however with some agents (i.e. NaP) in certain patients group especially elderly and those with renal failure....*



*Come migliorare la  
preparazione?*

- Migliorare la palatabilità
- Ridurre volumi
- **“Splittare” la preparazione**
- Personalizzare la preparazione
- Migliorare il lavaggio del colon



## ***Low-volume PEG***

PEG 3350 + **Ac Ascorbico**  
(Moviprep)

→ soluzione **2 litri** (+ 1 l liquidi chiari)

→ Vs PEG 4L > tollerabilità

→ Vs PEG 4L = o > efficacia

→ **Categorie a rischio**: fenilchetonuria, favismo

*Ell C, Gastrointest Endosc 2004*

*Bitoun A, Aliment Pharmacol Ther 2006*

*Ell C, Am J Gastroenterol 2008*

# Splittare\* la preparazione

\*almeno metà della preparazione effettuata la mattina stessa della colonscopia

- > efficacia
- > compliance
- > sicurezza (x NaP)

REVIEW ARTICLE

Split dosing of bowel preparations for colonoscopy: an analysis of its efficacy, safety, and tolerability

Lawrence B. Cohen, MD  
New York, New York, USA

TABLE 1. Summary of published studies comparing PM/AM split-dose and previous-day bowel preparation regimens

Study	Bowel preparation and dosing regimens*	Outcome
Frommer, <sup>30</sup> 1997	NaP solution 45-mL ×2 doses PM/AM split-dose vs previous-day regimen	Improved overall bowel-cleansing score (4.11 vs 3.22; $P < .0005$ ) with PM/AM regimen
Church, <sup>31</sup> 1998	4-L PEG-ELS AM-only vs previous-day regimen	Greater excellent (64% vs 9%) and good (29% vs 82%) ( $P < .0001$ ) ratings using AM-only dosing
Berkelhammer et al, <sup>40</sup> 2002	NaP solution 45-mL ×2 doses PM/AM split-dose vs previous-day regimen	More excellent ratings of right (68% vs 42%) and left (73% vs 70%) ( $P < .001$ ) colon cleansing with PM/AM split-dose regimen
El Sayed et al, <sup>35</sup> 2003	3-L PEG-ELS PM/AM split-dose (2 L/1 L) vs previous-day regimen	More excellent (38% vs 19%; $P = .005$ ) and satisfactory (75% vs 66%; $P < .05$ ) preparations with PM/AM split dose
Aoun et al, <sup>39</sup> 2005	4-L PEG-ELS PM/AM split-dose (2 L/2 L) vs previous-day regimen	More excellent preparations (44.1% vs 5.5%; $P < .001$ ) with PM/AM split-dose than previous-day preparation
Chiu et al, <sup>34</sup> 2006	2-L PEG-ELS AM-only vs previous-day regimen	More satisfactory bowel preparations (93% vs 72%; $P = .003$ ) in AM-only group
Parra-Blanco et al, <sup>41</sup> 2006	3-L PEG-ELS AM-only vs previous-day regimen NaP solution 45 mL ×2 doses PM/AM split-dose vs previous-day regimen	PEG-ELS and NaP PM/AM split dose provided better colon cleansing (global score $\geq 4$ ) (78.6% and 80% vs 26.7% and 6.8%; $P < .01$ ) and improved detection of flat lesions ( $P = .005$ ) than the previous-day regimen
Rostom et al, <sup>32</sup> 2006	NaP solution 45-mL ×2 doses separated by 6, 12, or 24 h	12- and 24-h dose separation provided better overall cleansing score than 6 h (2.25, 2.18, and 3.26, respectively) ( $P = .003$ ) (scale: 1 = excellent, 4 = poor)
Gupta et al, <sup>37</sup> 2007	NaP solution 90-mL (single dose) AM-only vs previous-day regimen	No difference in bowel cleansing scores using 2 regimens (4.7 vs 4.7; $P = .87$ ) (scale: 0-14; lower scores indicate better preparations)
Wruble et al, <sup>42</sup> 2007	32 NaP tablets PM/AM split-dose vs previous-day regimen	Split-dose resulted in better overall cleansing score compared with PM only dose (1.24 vs 1.57, respectively; $P < .05$ )
Park et al, <sup>36</sup> 2007	4-L PEG-ELS PM/AM split-dose (3 L/1 L) vs previous day regimen	PM/AM split-dose regimen had better overall bowel cleansing compared with previous-day regimen (5.9 vs 8.5; $P < .01$ ) (scale: 0-14; lower scores indicate better preparations).
Abdul-Baki et al, <sup>38</sup> 2008	4-L PEG-ELS PM/AM split-dose (2 L/2 L) vs previous-day regimen	PM/AM split-dose groups had significantly better colon cleansing than those in previous-day group (89% vs 43%; $P < .001$ )
DiPalma et al, <sup>43</sup> 2009	Oral sulfate solution 6 oz ×2 doses PM/AM split-dose vs previous-day regimen 2-L PEG-ELS PM/AM split-dose regimen vs previous-day regimen	PM/AM split-dose regimen gave more excellent bowel preparations than previous-day regimens Oral sulfate (63.3% vs 44.6%) PEG (52.5 vs 37.3%) ( $P = .043$ )

NaP, Sodium phosphate; PEG-ELS, polyethylene glycol electrolyte lavage solution.

\*Table includes only those treatment arms within each study that compared split-dose with previous-day regimen.

Cohen LB, *Gastrointest Endosc* 2010

# Splittare\* la preparazione

\*almeno metà della preparazione effettuata la mattina stessa della colonscopia

- > efficacia
- > compliance
- < nausea

**TABLE 1. Details of studies included in the meta-analysis**

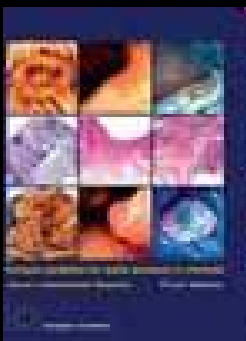
Author	Type of study	Blinding	Location	No. of patients	Bowel preparation scale	Split-dose (evening before day of procedure)	Split-dose PEG ingestion times (dose 1/dose 2)	Full-dose PEG ingestion times (dose 1)	Jadad score (0-5)
Aoun et al, 2005 <sup>7</sup>	RCT	Single	Lebanon	141	Aronchick	2 L-2 L	7:00 PM/complete 1.5 h before colonoscopy	6:00 PM	3
Abdul-Baki et al, 2008 <sup>8</sup>	RCT	Single	Lebanon	196	Aronchick	2 L-2 L	7:00 PM/complete 2 h before colonoscopy	7:00 PM	3
Park JS et al, 2007 <sup>6</sup>	RCT	Single	South Korea	303	Ottawa	3 L-1 L	8:00 PM/complete 2 h before colonoscopy	8:00 PM	2
Park SS et al, 2010 <sup>9</sup>	RCT	Single	South Korea	159	Aronchick	2 L-2 L	8:00 PM/5:00 AM	10:00 PM	3
Marmo et al, 2010 <sup>10</sup>	RCT	Single	Italy	433	Ottawa	2 L-2 L	Afternoon before colonoscopy/early morning before colonoscopy	6:30 PM	3

PEG, Polyethylene glycol; RCT, randomized, controlled trial.

Bowel preparation with split-dose polyethylene glycol before colonoscopy: a meta-analysis of randomized controlled trials CME

Todd W. Kilgore, MD, Abdullahi A. Abdinoor, MD, Nicholas M. Szary, MD, Samuel W. Schowengerdt, BS, Jamie B. Yusi, BS, Abhishek Choudhary, MD, Michelle L. Matteson, APN, Srinivas R. Puli, MD, John R. Marshall, MD, Matthew L. Bechtold, MD  
Columbia, Missouri; Peoria, Illinois, USA

*Kilgore TW, Gastrointest Endosc 2011*



*... no significant differences other than improved patient tolerance of Na P preparations...*

*....care must be taken however with some agents (i.e. NaP) in certain patients group especially elderly and those with renal failure....*

*.....and it has been shown that better results are obtained when bowel preparation is administred in two steps (the evening before and the morning of procedure)*

## **Splittare: quale Razionale ?**

- Minore è l'intervallo tra fine preparazione e colonscopia, migliore è la pulizia del colon
- Periodo ottimale per eseguire colonscopia sembra essere 5-8 ore dalla fine della preparazione
- Successivamente inizia influsso negativo dei contenuti del piccolo intestino

*Consensus Document (ASGE, ASCRS, SAGES)  
Gastrointest Endoscopy, 2006*

*Cohen LB Gastrointest Endosc 2010*



## **Splittare: Quali Problemi?**

- Se sedute pomeridiane: no problemi
  - Se sedute mattutine:
    - problemi di organizzazione lavoro
    - problemi compliance pz
- Pianificazione del lavoro  
(ev prima le EGDscopie, prima colonscopie  
interni, programmazione tarda  
mattina/pomeriggio)



*Quale preparazione  
scegliere per  
screening?*

?

- Efficace, sicura
- Più tollerata (Low-volume, Palatabile gusto arancia)
- Possibilmente Split dose

*Come migliorare la  
preparazione?*



**Utilizzo pompa di lavaggio OFP Olympus  
210 ml acqua/m**



## Valutazione Qualità Preparazione Colon

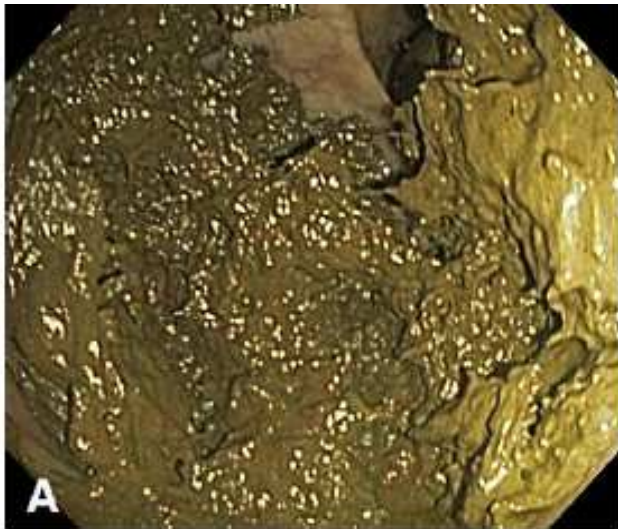
- **Eccellente:** più del 95% di mucosa visibile presenza di minima quantità di feci liquide, richiesta poca aspirazione
- **Buona:** più del 90% di mucosa visibile prevalentemente feci liquide, necessaria frequente aspirazione
- **Sufficiente:** più del 90% di mucosa visibile feci liquide e semisolide, necessaria frequente aspirazione e lavaggio
- **Inadeguata:** > 10% della mucosa non osservabile, presenza di feci solide o semisolide, aspirazione non possibile, necessaria la ripetizione

- Parametri soggettivi  
(eccellente, buona, sufficiente, inadeguata)
- Scarsa riproducibilità
- Valutazione globale e non segmentale colon in %
- Valutazione prima o dopo lavaggio e aspirazione?

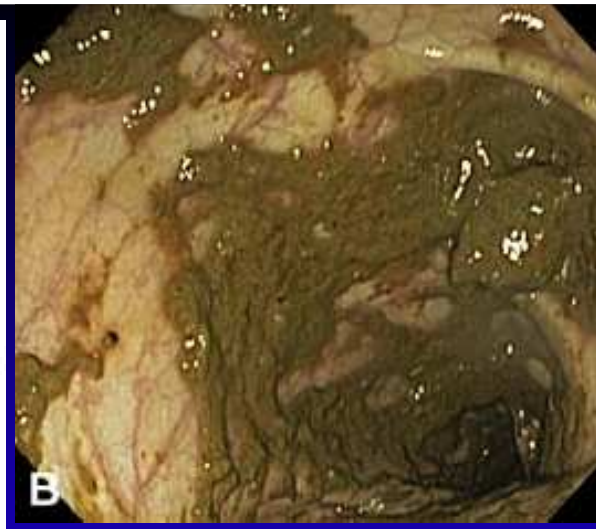


## Misurazione “ideale” Preparazione Colon

- precisione di termini e parametri
- riproducibile
- valutazione “segmentale”
- valutazione non troppo time consuming
- valutazione dopo lavaggio e aspirazione



- 0, unprepared colon segment with mucosa not seen because of solid stool that cannot be cleared.
- 1, portion of mucosa of the colon segment seen, but other areas of the colon segment are not well seen because of staining, residual stool, and/or opaque liquid.
- 2, minor amount of residual staining, small fragments of stool, and/or opaque liquid, but mucosa of colon segment is seen well.
- 3, entire mucosa of colon segment seen well, with no residual staining, small fragments of stool, or opaque liquid.



- Dopo manovre di lavaggio e aspirazione, durante retrazione
- **Separatamente** per ceco e ascendente, per trasverso, per colon SX
- Score 0 a 9



***Boston Preparation Scale:  
Lai EJ, Gastrointest Endosc 2009***



## Conclusioni

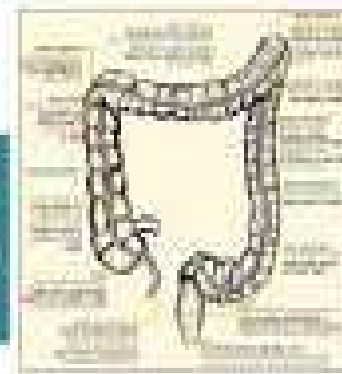
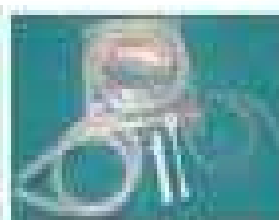
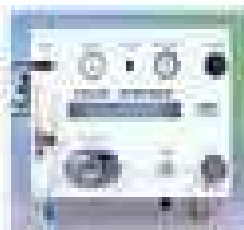
- PEG sembra più sicuro Vs NaP e PicoS/MgC per cui è la preparazione da utilizzarsi nello screening
- PEG low volume è da preferirsi per la migliore tollerabilità
- La “dose split” che migliora la compliance, la efficacia, la safety (grado di evidenza 1), verrà gradualmente utilizzata in base alle possibilità organizzative locali
- E' auspicabile una più accurata valutazione della qualità della preparazione per cui si studierà di proporre una nuova scala

A consensus document on bowel preparation before colonoscopy:  
Prepared by a Task Force From The American Society  
of Colon and Rectal Surgeons (ASCRS), the American Society for  
Gastrointestinal Endoscopy (ASGE), and the Society of American  
Gastrointestinal and Endoscopic Surgeons (SAGES)

**Recommendations.** Dietary modifications alone, such as a clear liquid diet are inadequate for colonoscopy. However they have proven to be a beneficial adjunct to other mechanical cleansing methods (Grade IIB).



## Idrocolonterapia



*Purtroppo mi ritrovo a dover rifare la colon anche se  
fortunatamente stavolta in sedazione profonda ...  
Non so ancora per quando mi daranno l'appuntamento ma ...  
ho già nausea al pensiero di ingerire i 4 litri di beverozzo .... 🤢*

*Odio qualsiasi preparazione..🤢 nn mi piacciono proprio  
.. bevo sempre tutto ma con molta buona volonta...  
ihihhi quello che mi chiedo io.. la ricerca va avanti..  
operazioni assurde difficilissime e con buoni risultati..  
vuoi che nn riescano a preparare una bevanda  
un pokino piu bevibile? nn buonissima  
ma nemmeno ke se arrivi all'ultimo bikkiera  
rischi di vomitare fuori tutto... 🤢*



Quali fattori possono  
spiegare la  
“mancata” diagnosi  
delle lesioni prossimali?

- % raggiungimento del ceco
- Adeguati tempi di retrazione
- Adeguata tecnologia
- Cultura del gastroenterologo
- Preparazione intestinale

# I Gastroenterologi

Kahi C, Clin Gastroenterol Hepatol 2011

## Prevalence and Variable Detection of Proximal Colon Serrated Polyps During Screening Colonoscopy

CHARLES J. KAHIL\*,† DAVID G. HEWETT,\* DUSTIN LEE NORTON,§ GEORGE J. ECKERT,|| and DOUGLAS K. REX\*

\*Division of Gastroenterology and Hepatology, Department of Medicine, Indiana University School of Medicine; †Richard L. Roudebush VA Medical Center; §Indiana University School of Medicine; and ||Division of Biostatistics, Indiana University School of Medicine, Indianapolis, Indiana

**Table 1.** Screening Colonoscopies and Detection Rates

Endoscopist	Number of colonoscopies	Patient age <sup>a</sup>	Male	≥1 Adenoma	≥1 Proximal serrated polyp
1	3189	59.8 ± 8.0	52%	47%	18%
2	154	57.8 ± 8.0	45%	31%	10%
3	532	57.4 ± 7.3	45%	33%	6%
4	109	58.2 ± 7.0	46%	39%	11%
5	331	57.4 ± 6.9	48%	40%	13%
6	124	58.4 ± 6.9	44%	33%	8%
7	528	58.9 ± 7.7	41%	31%	11%
8	56	59.2 ± 7.6	50%	46%	13%
9	348	57.7 ± 7.5	37%	36%	12%
10	359	57.7 ± 7.3	53%	25%	3%
11	90	57.7 ± 6.7	52%	17%	1%
12	83	59.1 ± 8.3	52%	27%	2%
13	327	58.1 ± 7.8	60%	29%	11%
14	297	59.5 ± 8.2	50%	21%	4%
15	154	57.8 ± 8.0	45%	31%	10%
Combined	6681	58.9 ± 7.8	49%	38%	13%





## Sodio Fosfato (NaP)



- **Modalità di somministrazione:**

Prima dose (2 buste) in un bicchiere acqua, a seguire assunzione di 2 l di liquidi chiari nelle 2 ore successive

Seconda dose a distanza di 6-12 ore dall'altra



## **Sodio Picosolfato e Citrato Magnesio**

- → preparazione più utilizzata in UK

- **Modalità di somministrazione:**

Prima dose (1 busta) in un bicchiere acqua, a seguire assunzione di 2 l acqua ora nelle 6 ore successive

Seconda dose a distanza di 6-12 ore dall'altra



## *Senna*

- Alte dosi senna (12+12 comp da 12 mg 1 pm e 9 pm) Vs PEG 4 L:
- Più efficace
  - preparazione eccellente/buona nel 90% vs 80% (p .003)
  - procedure ripetute: PEG 7,3% Vs Senna 2,6% (p .003)
- Più tollerata
- Meno nausea e vomito, più dolore addominale

*Radaelli AJG 2005*



Misurazione  
Qualità Preparazione

- **Adeguatezza**: se permette visione polipi  $>5$  mm
- Valutazione “globale”
  - “eccellente” /ottimale
  - “buona”/meno che ottimale
  - “sufficiente”/inadeguato
  - “scarsa”/impossibile

*Consensus Document (ASGE, ASCRS, SAGES)  
Gastrointestinal Endoscopy, 2006*



Misurazione  
Qualità Preparazione

- **Adeguatezza**: se permette visione polipi  $>5$  mm
- Valutazione “globale” **Scala Aronchick**  
“eccellente” /ottimale  
“buona”/meno che ottimale  
“sufficiente”/inadeguato  
“scarsa”/impossibile
- Valutazione “segmentaria”  
**Scala Boston**  
**Scala Ottawa**

*Consensus Document (ASGE, ASCRS, SAGES)  
Gastrointestinal Endoscopy, 2006*

- **Eccellente:** più del 95% di mucosa visibile presenza di minima quantità di feci liquide, richiesta poca aspirazione
- **Buona:** più del 90% di mucosa visibile prevalentemente feci liquide, necessaria frequente aspirazione
- **Sufficiente:** più del 90% di mucosa visibile feci liquide e semisolide, necessaria frequente aspirazione e lavaggio
- **Inadeguata:** > 10% della mucosa non osservabile, presenza di feci solide o semisolide, aspirazione non possibile, necessaria la ripetizione

# Qualità della preparazione: scala di Aronchick

- **Eccellente:** più del 95% di mucosa visibile presenza di minima quantità di feci liquide, richiesta poca aspirazione
- **Buona:** più del 90% di mucosa visibile prevalentemente feci liquide, necessaria frequente aspirazione
- **Sufficiente:** più del 90% di mucosa visibile feci liquide e semisolide, necessaria frequente aspirazione e lavaggio
- **Inadeguata:** > 10% della mucosa non osservabile, presenza di feci solide o semisolide, aspirazione non possibile, necessaria la ripetizione

Aronchick et al, Am J Gastroenterol 1999



# Qualità della preparazione: scala di Ottawa

Rating	Description
4	Colon empty and clean
3	Presence of clear liquid in the gut
2	Presence of brown liquid or small amounts of semisolid residual stool, fully removable by suction or displaceable, thereby allowing a complete visualisation of the underlying mucosa
1	Presence of semisolid stool, only partially removable with a risk of incomplete underlying mucosal visualisation
0	Presence of semisolid or solid stool, colonoscopy incomplete

→ Per 3 segmenti colon

→ Valurazione addizionale 0-2 quantità globale fluidi (?!)

## **COSTI (ambulatoriali)**

PHOSPHOLAX: 4 buste Euro 10

ISOCOLAN: 4 buste Euro 11

PURSENNID: 24 comp Euro 3,42

MOVIPREP: una conf. Euro 15

CITRAFLEET: una conf. Euro 13

## Likelihood of missed and recurrent adenomas in the proximal versus the distal colon

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Washington, DC; Bethesda, Maryland; Worcester, Massachusetts; Pittsburgh, Pennsylvania, USA

Sede	Baseline N pz/% sede	1 anno (missed)	4 anni (ricorrenti)
Distale	1030 (55.3%)	209 (34.9%)	228 (31.1%)
Prossimale	503 (27%)	287 (47.5%)	369 (50.3%)
Both	331 (17.8)%	105 (17.6%)	136 (18.6%)

Rating	Description
4	Colon empty and clean
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## Overall Quality of Colonic Cleansing

<b>A</b>	<b>Success</b>	All segments clean	Scores of 3 or 4 in all segments
<b>B</b>	<b>Success</b>	Residual brown liquid or easily removable semisolid stool in one or more segments	Scores of 2 in one or more segments
<b>C</b>	<b>Failure</b>	Partially removable stool preventing complete visualisation of mucosa in one or more segments	Score of 1 in one or more segments
<b>D</b>	<b>Failure</b>	At least one segment could not be examined due to the presence of solid stool	Score of 0 in one or more segments

*Mod. da Rostom A, Gastrointest Endosc 2004*