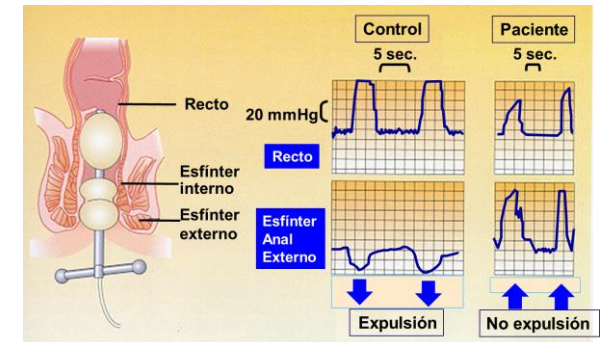


# ***Estreñimiento Crónico*** ***Manejo actual 2023***



***William Otero R MD, FAGA FACP, FASGE***  
***Profesor titular de Medicina***  
***Universidad Nacional de Colombia***  
***Hospital Universitario Nacional***



**Youtube “William otero gastroenterólogo”**

**Conflicto de intereses**  
**Conferencista, Bristol**  
**Takeda, Abbott, Tecnoquimica**  
**Tecnofarma, Menarini, Procaps**

***Esta actividad es asuspiciada por***  
***Tecnofarma sin injerencia en su contenido***

# ***Estreñimiento***

## **Mitos y tradiciones**

---

***Produce intoxicación***

***Produce cáncer, igual que laxantes***

***Se debe al consumo de agua***

***Se debe a poca fibra en la dieta***

***La colonoscopia es necesaria***

***Se alivia cambiando el estilo de vida***

***La vida sedentaria lo produce***

***El ejercicio es terapéutico***

**Muller-Lisner SA, Am J Gastroenterol 2005;100:231-42**

**Staller K, Am J Gastroenterol 2020;115:1741-5**

**Tendrían diarrea !**



# Impacto USA

---

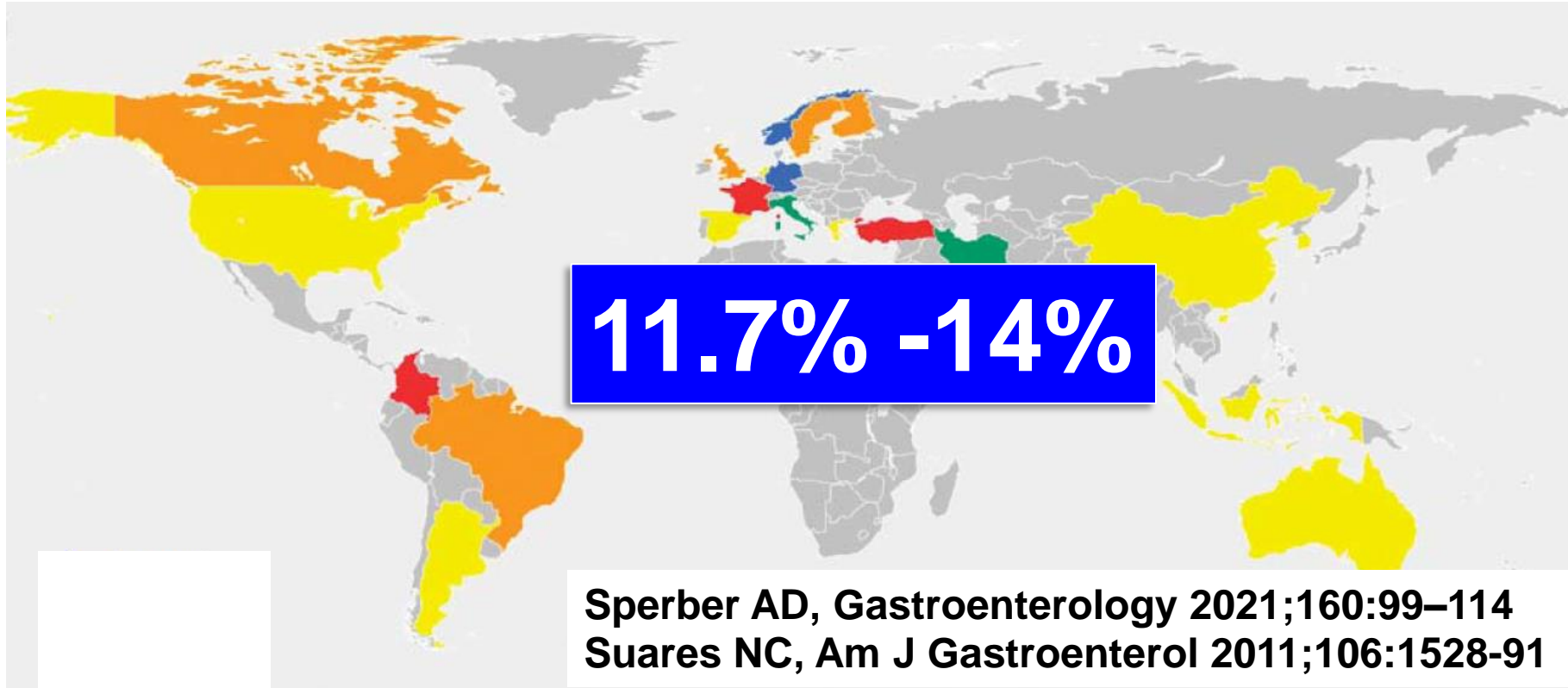
**8 millones de consultas**

**1 millón remisiones gastroenterología**

**230 millones US\$ anuales**

**Bharucha AE, Gastroenterology 2020;158:1232-49**

# Estreñimiento a nivel mundial



**35%, 60-101 años**

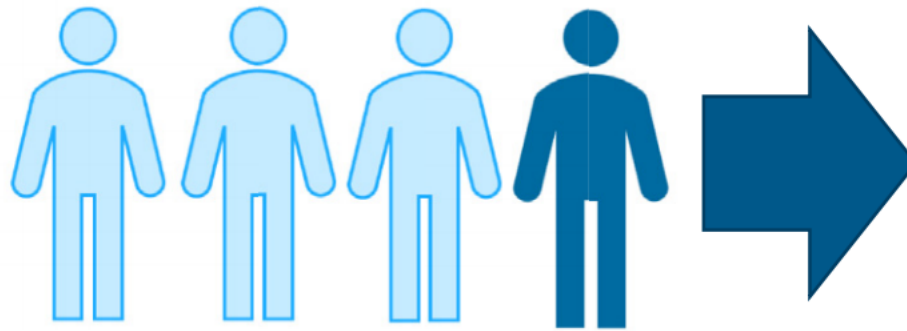
Mugie, S, Best Pract. Res. Clin. Gastroenterol 2011;25:3-18

# Prevalence of Rome IV Functional Bowel Disorders Among Adults in the United States, Canada, and the United Kingdom

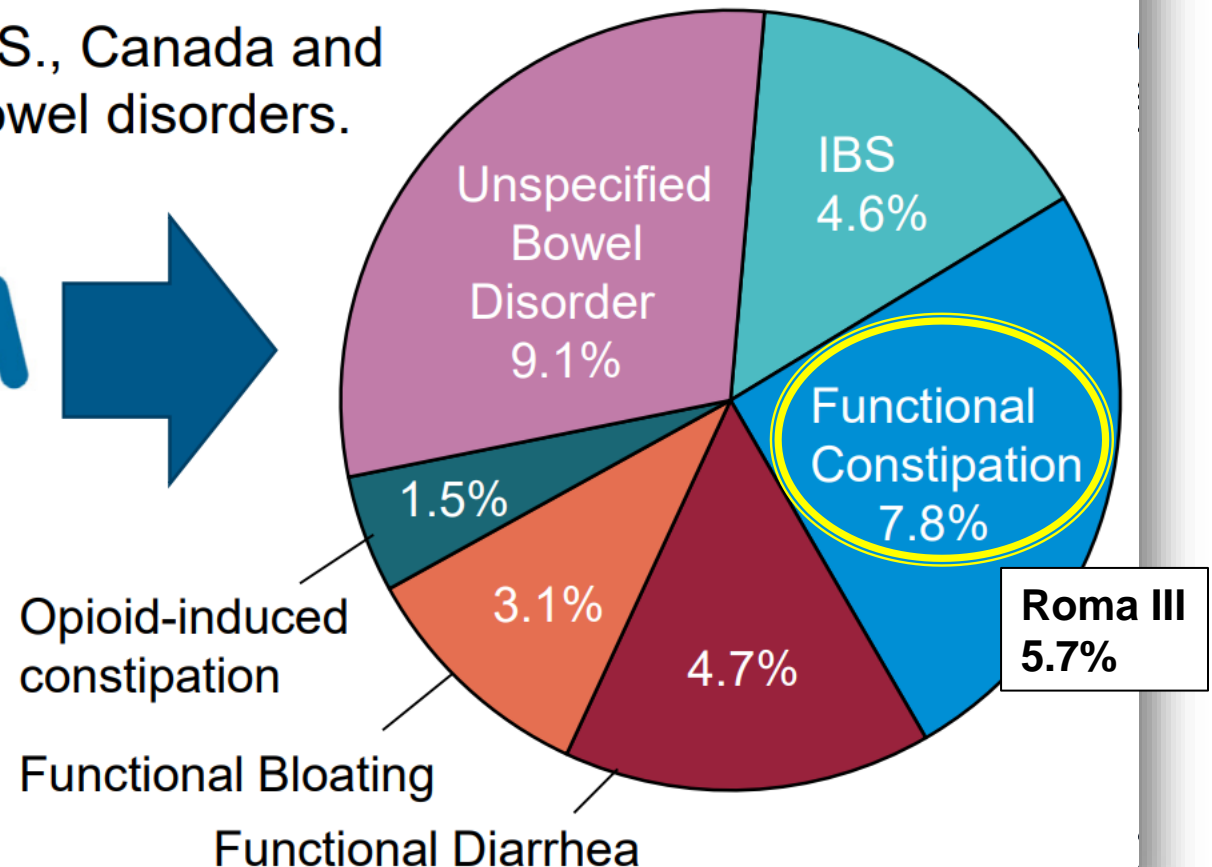
Olafur S. Palsson,<sup>1</sup> William Whitehead,<sup>1</sup> Hans Törnblom,<sup>2</sup> Ami D. Sperber,<sup>3</sup> and Magnus Simren<sup>1,2</sup>

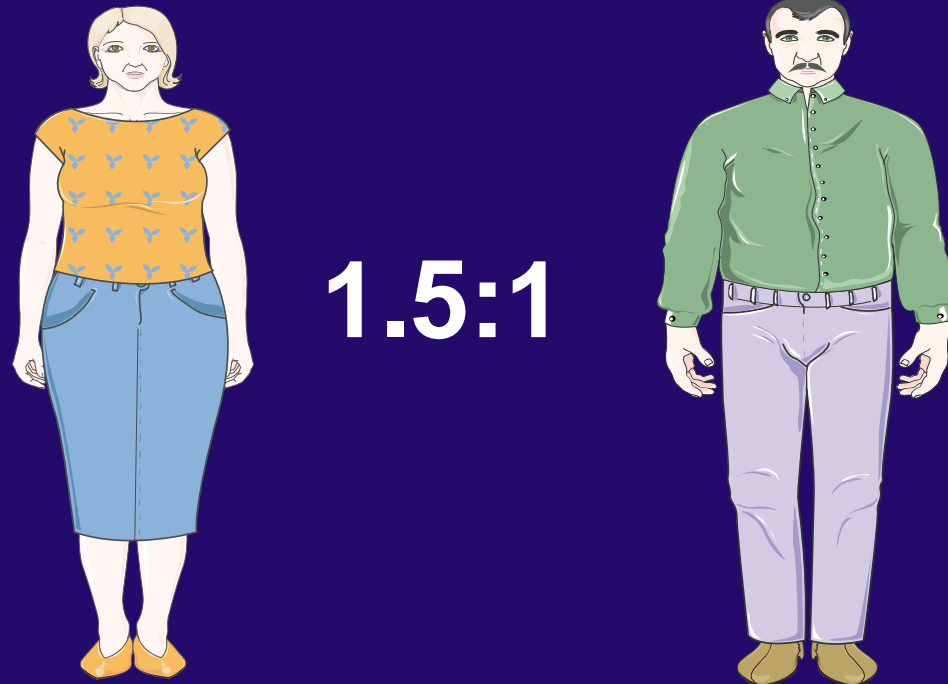
## Prevalence of Functional Bowel Disorders

More than **1 in every 4 adults** in the U.S., Canada and the U.K. has one of the six functional bowel disorders.



- ✓ Functional bowel disorders are more common in women than men
- ✓ They become less common after mid-life





**Bharucha AE, Gastroenterology 2020;158:1232-49**

# Roma IV 2016

---

## Esfuerzo

Heces duras o como “terrones” 25%



Sensación de evacuación incompleta 25%

Sensación obstrucción/ ano-rectal 25%

Maniobras manuales 25%

Menos de 3 deposiciones/semana

***NO heces “sueltas”***

***Crterios insuficientes para SII***

# Estreñimiento



## Es un síntoma

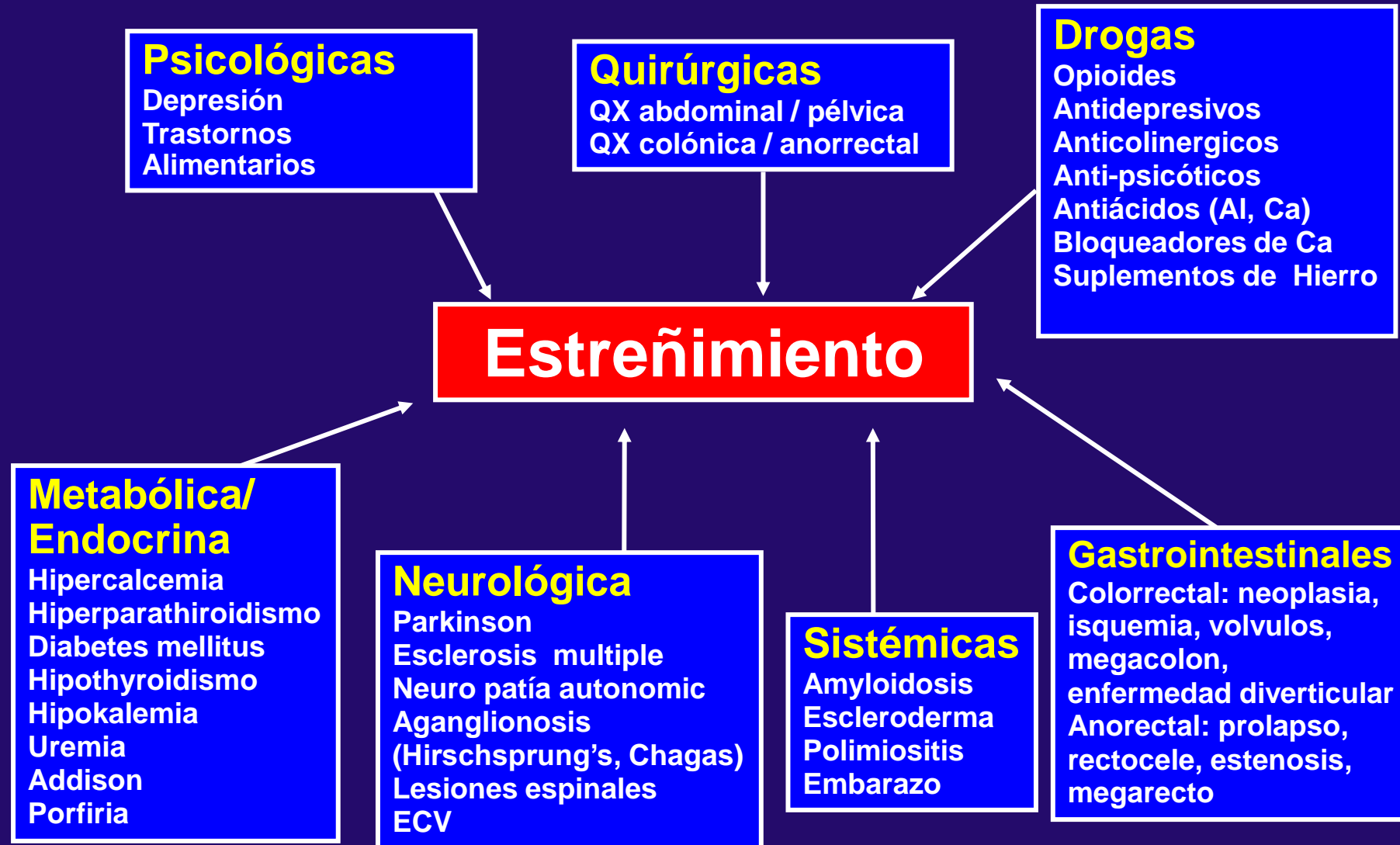


# No es una enfermedad



Lacy BE, Gastroenterology 2016;150:1393–407 . Roma IV 2016.  
Barucha E, Gastroenterology 2020;158:1232-49. AGA 2020

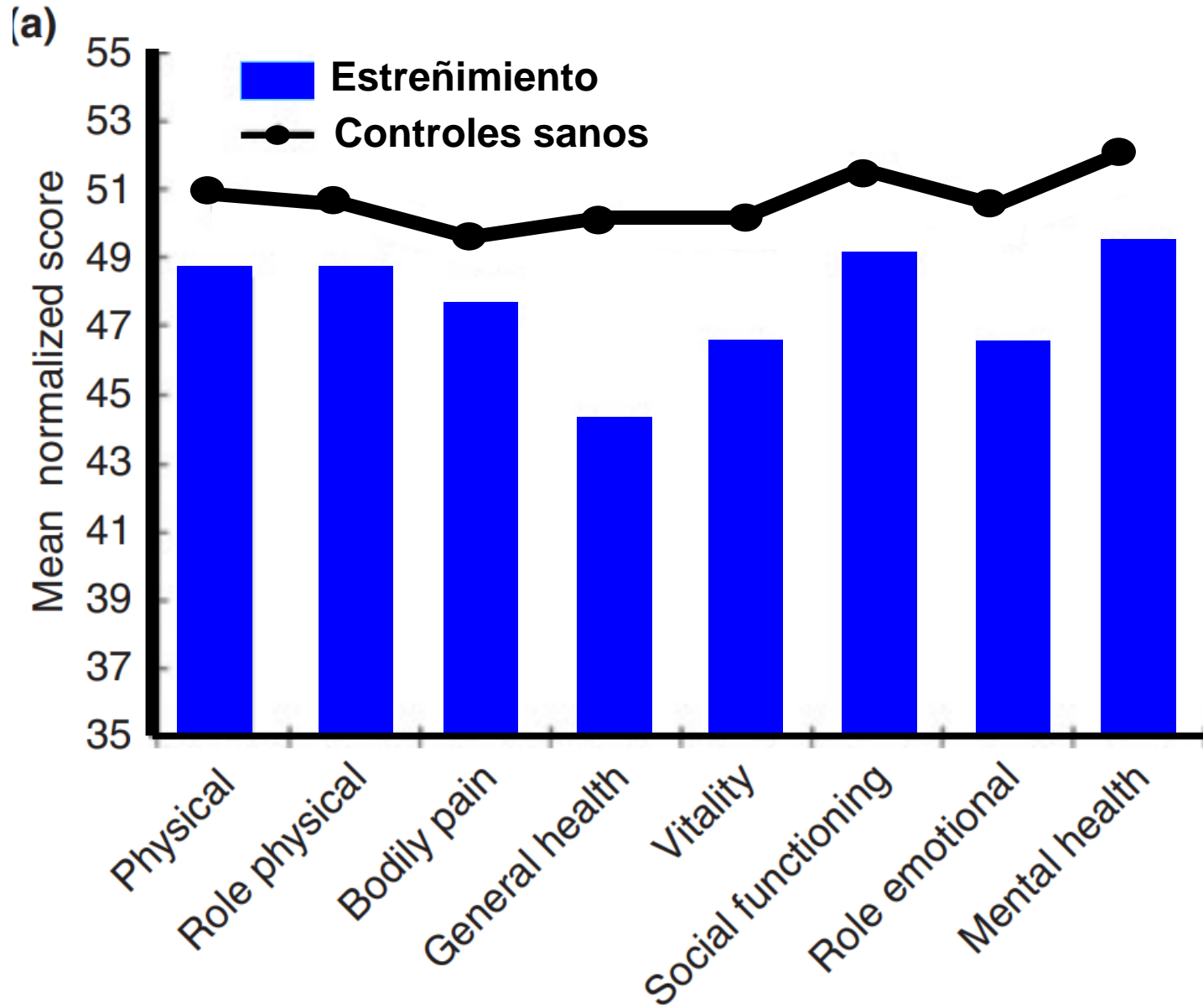
# Estreñimiento Secundario



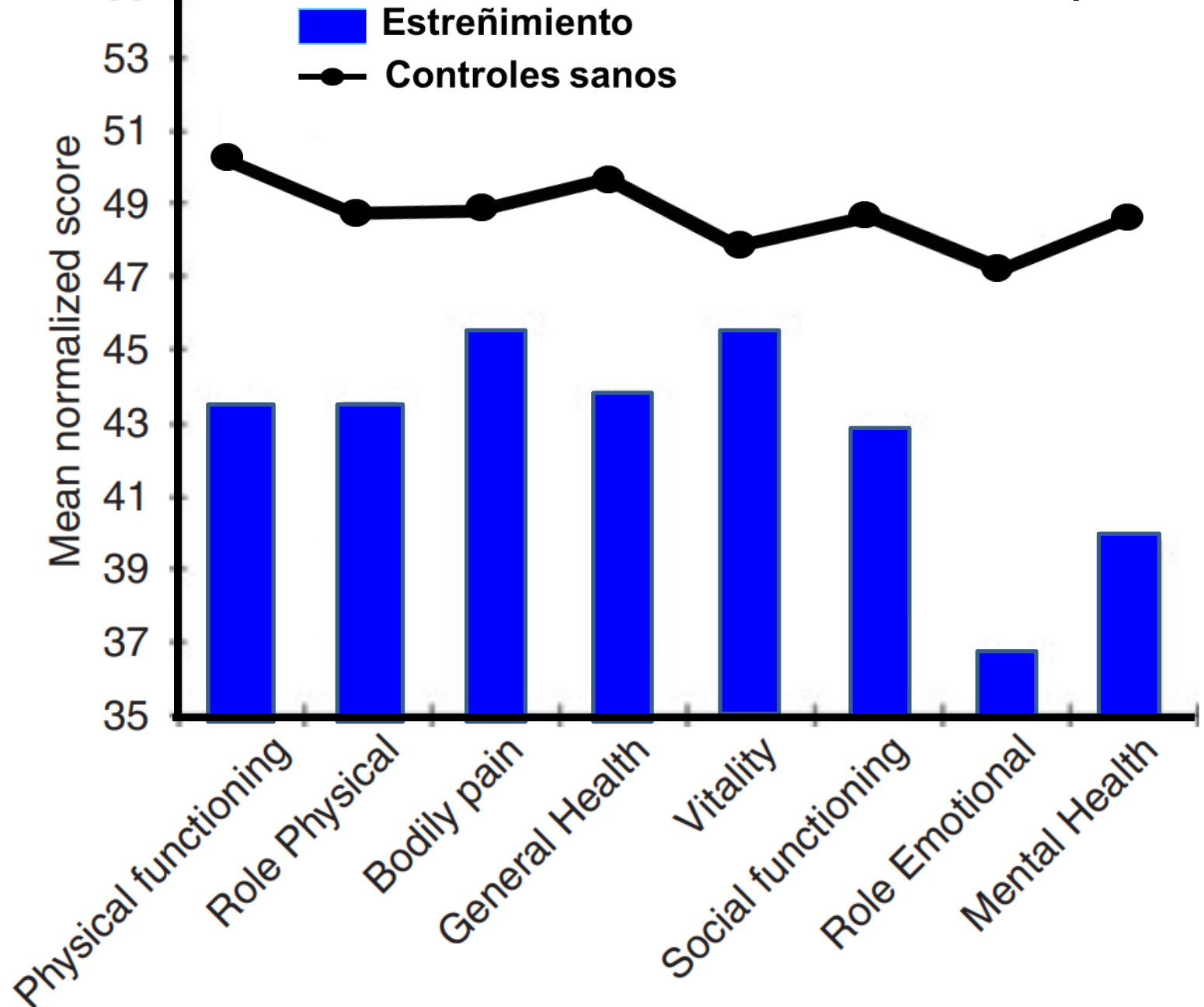
## Medicamentos estreñimiento

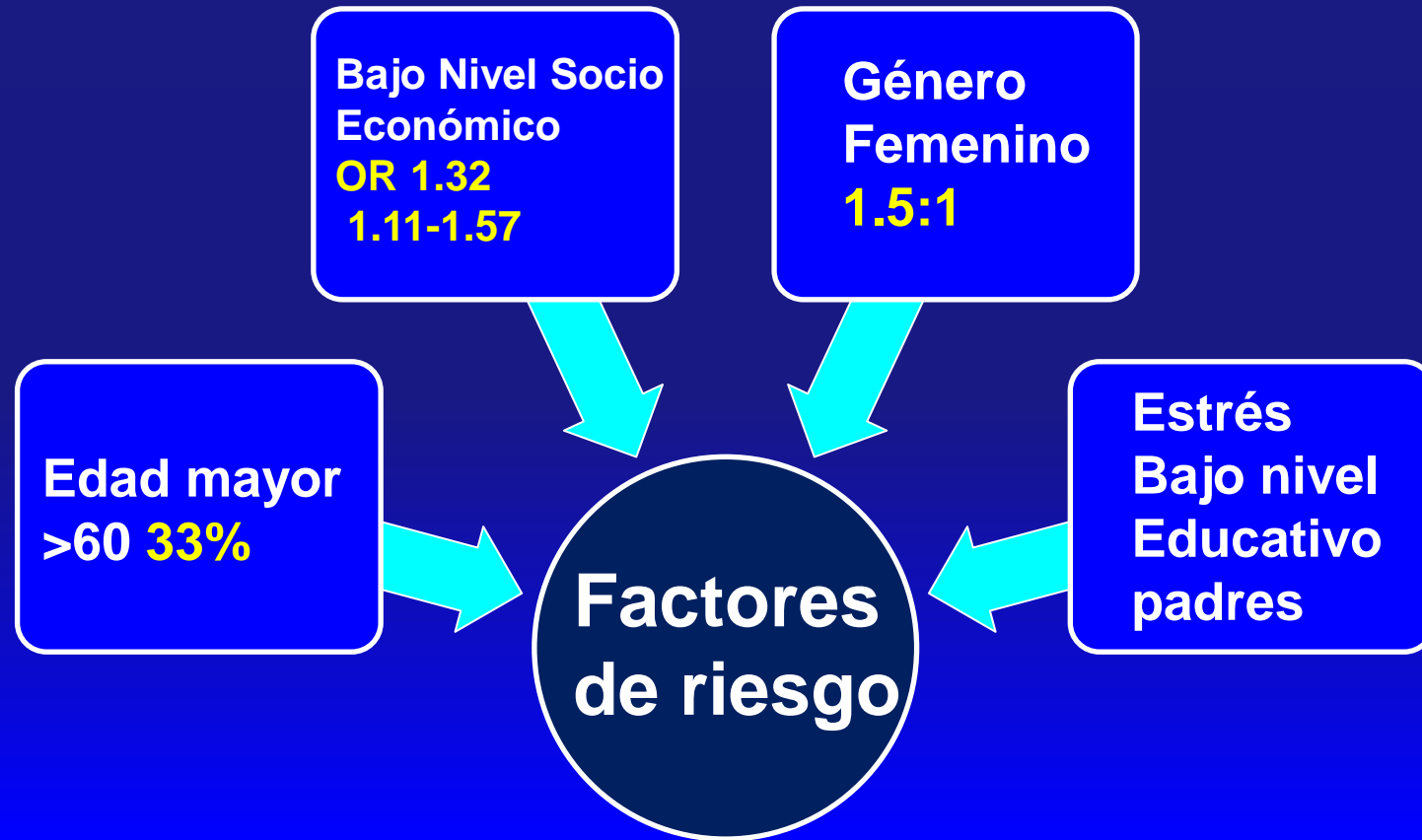
5-HT <sub>3</sub> -receptor antagonists	Ondansetron
Analgesics	
Opiates <sup>a</sup>	Morphine
Nonsteroidal anti-inflammatory agents <sup>a</sup>	Ibuprofen
Anticholinergic agents	Librax, belladonna
Tricyclic antidepressants <sup>a</sup>	Amitriptyline > nortriptyline
Antiparkinsonian drugs	Benzatropine
Antipsychotics	Chlorpromazine
Antispasmodics <sup>a</sup>	Dicyclomine
Antihistamine <sup>a</sup>	Diphenhydramine
Anticonvulsants <sup>a</sup>	Carbamazepine
Antihypertensives	
Calcium channel blockers	Verapamil, nifedipine
Diuretics <sup>a,b</sup>	Furosemide
Centrally acting	Clonidine
Antiarrhythmics	Amiodarone
$\beta$ -adrenoceptor antagonist	Atenolol
Bile acid sequestrants	Cholestyramine, colestipol
Cation-containing agents	
Aluminum <sup>a</sup>	Antacids, sucralfate
Calcium	Antacids, supplements
Bismuth	
Iron supplements	Ferrous sulfate
Lithium	
Chemotherapy agents	
Vinca alkaloids	Vincristine
Alkylating agents	Cyclophosphamide
Miscellaneous compounds	Barium sulfate, oral contraceptives, polystyrene resins
Endocrine medications	Pamidronate and alendronic acid
Other antidepressants	Monoamine oxidase inhibitors
Other antipsychotics	Clozapine, haloperidol, risperidone
Other antiparkinsonian drugs	Dopamine agonists
Other antispasmodics	Mebeverine, peppermint oil
Sympathomimetics	Ephedrine, terbutaline

# Calidad de vida comunidad



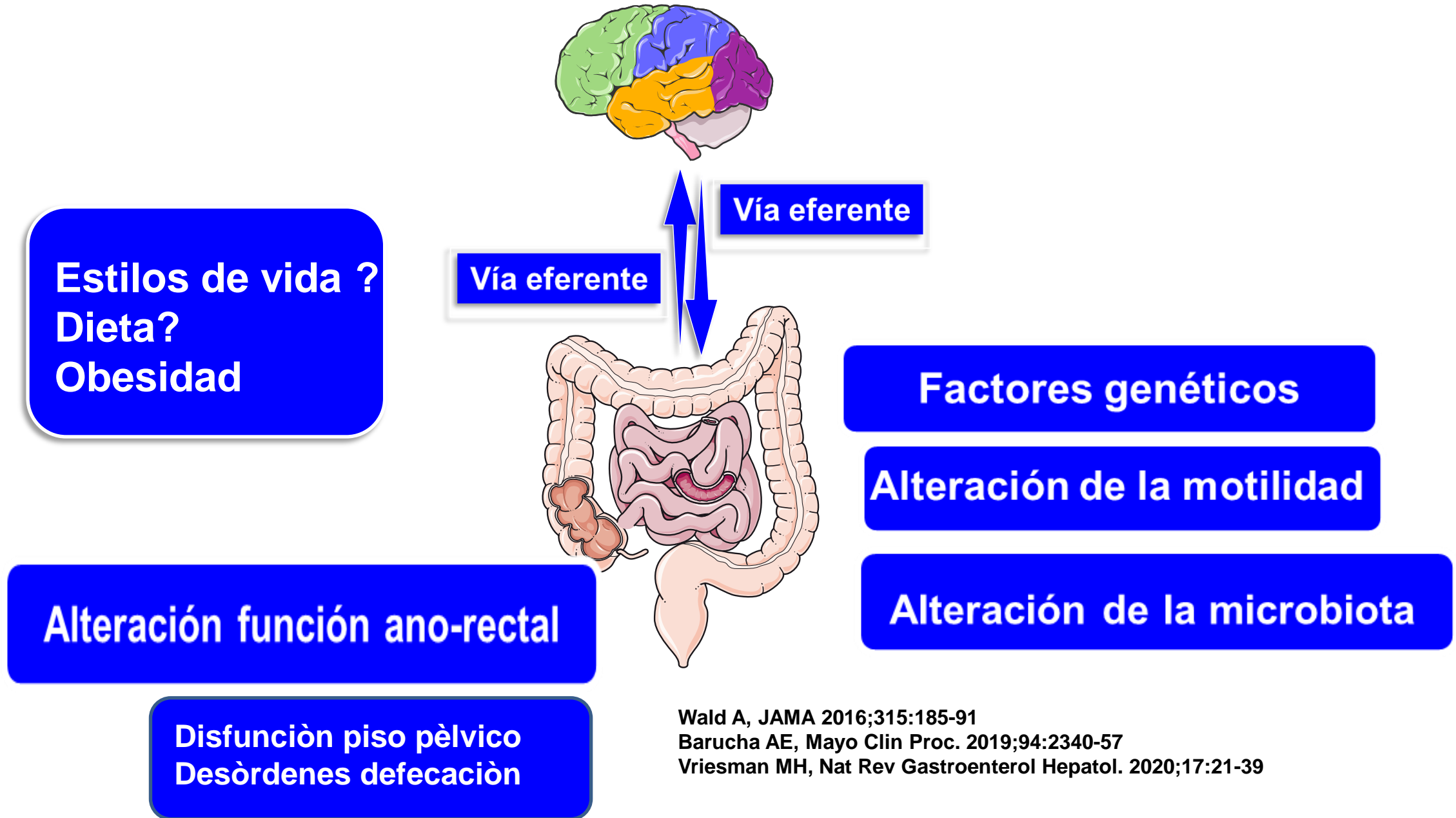
# Calidad de vida hospitalizados



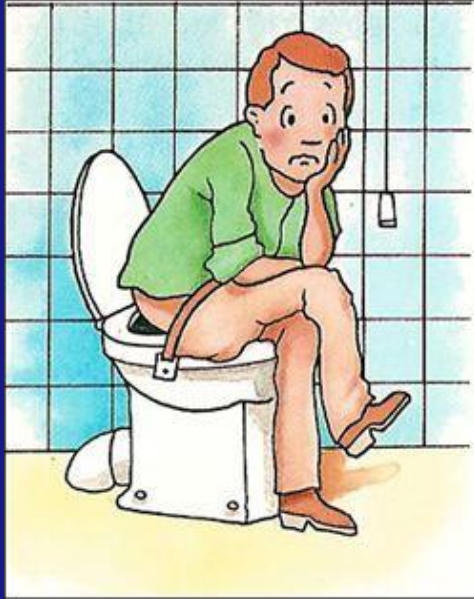


Barucha AE, Mayo Clin Proc. 2019;94:2340-2357  
Bharucha AE, Gastroenterology 2020;158:1232-49

# Estreñimiento Crónico Primario Fisiopatología



# Microbioma



*Ratones libres de gérmenes*



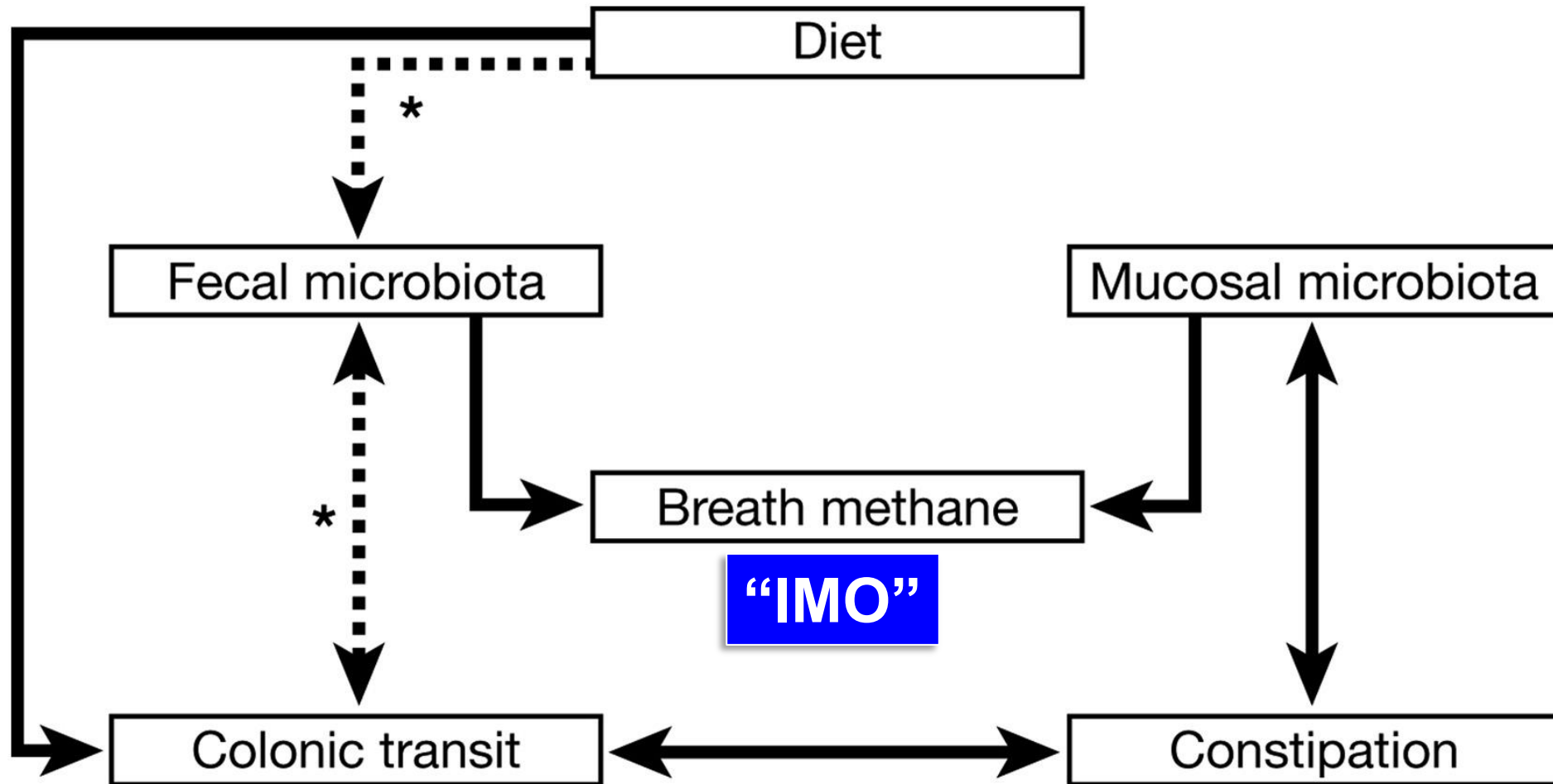
*Tránsito  
Colónico  
Lento*



- << Firmicutes
- >> Bacteroidetes
- << Ácidos Grasos  
Cadena corta

# **Relationship Between Microbiota of the Colonic Mucosa vs Feces and Symptoms, Colonic Transit, and Methane Production in Female Patients With Chronic Constipation**

Gopanandan Parthasarathy,<sup>1</sup> Jun Chen,<sup>2,3</sup> Xianfeng Chen,<sup>2</sup> Nicholas Chia,<sup>2,3</sup>  
Helen M. O'Connor,<sup>4</sup> Patricia G. Wolf,<sup>5</sup> H. Rex Gaskins,<sup>5</sup> and Adil E. Bharucha<sup>1</sup>





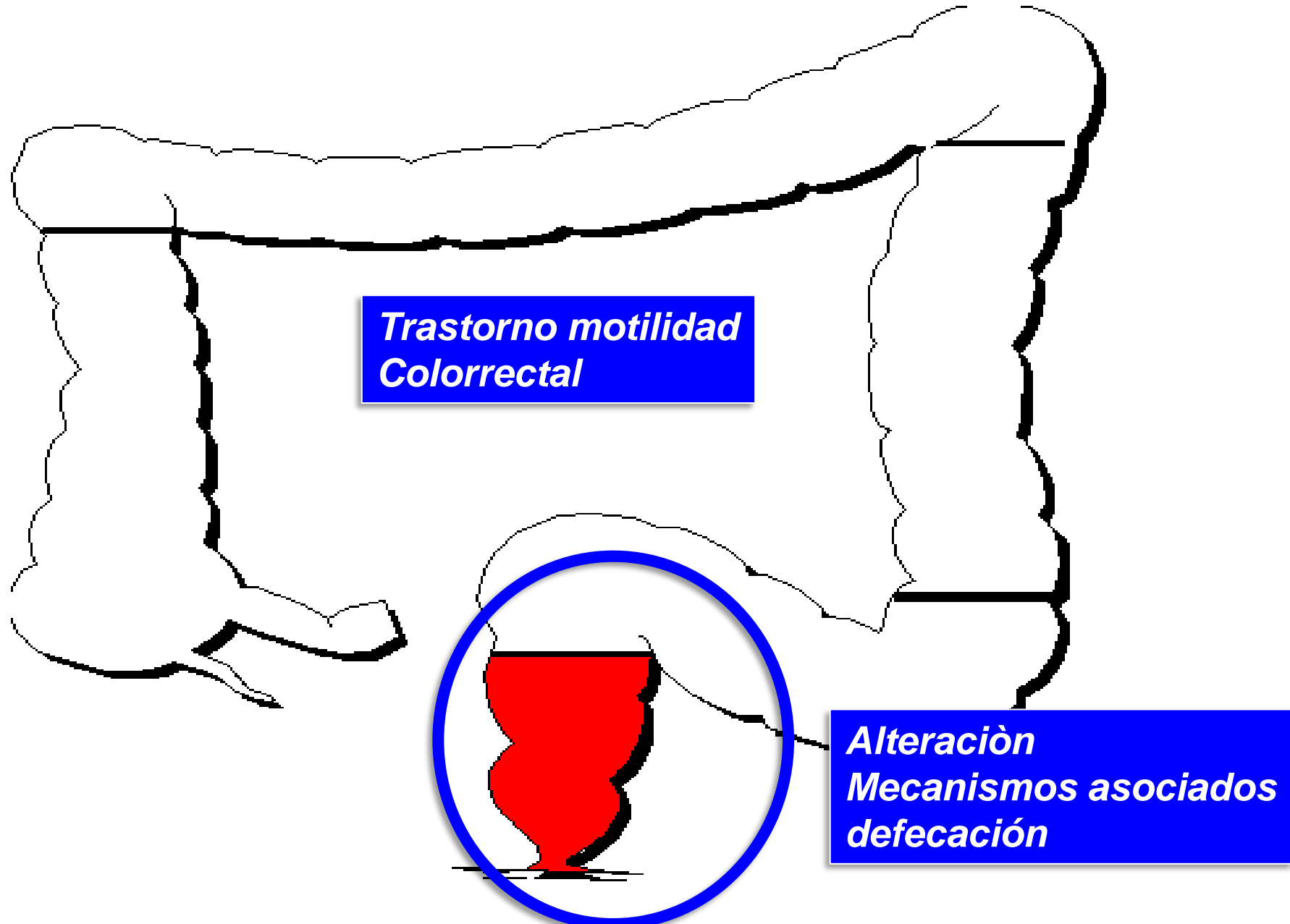
*Review*

# Association between Gut Dysbiosis and the Occurrence of SIBO, LIBO, SIFO and IMO

Michalina Banaszak <sup>1,2</sup> , Ilona Górna <sup>1</sup> , Dagmara Woźniak <sup>1,2</sup>, Juliusz Przysławski <sup>1</sup>  
and Sławomira Drzymała-Czyż <sup>1,\*</sup> 

**Banaszak M, et al. Microorganisms 2023, 11, 573.**

# Estreñimiento Crónico Primario



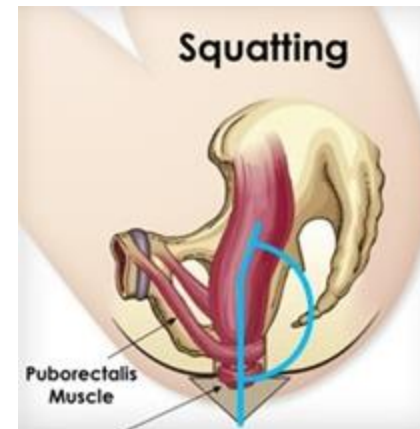
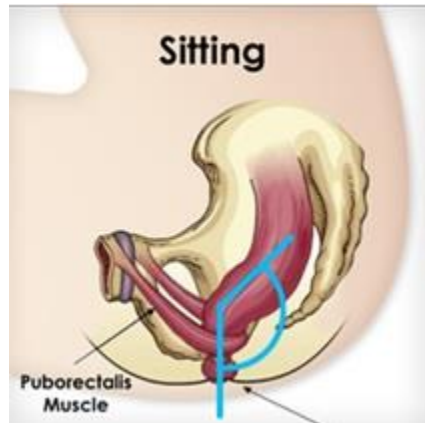
# Posición en cuclillas relajada y natural



✗ 90°



✓ 35°



# Diagnóstico

---

Historia clínica

Examen físico

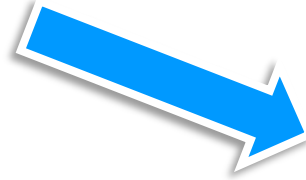
*Tacto rectal!*

Todos los Expertos y Guías

**Tacto rectal  
“Obligatorio”**



**Inspección anal  
Orificio cerrado**

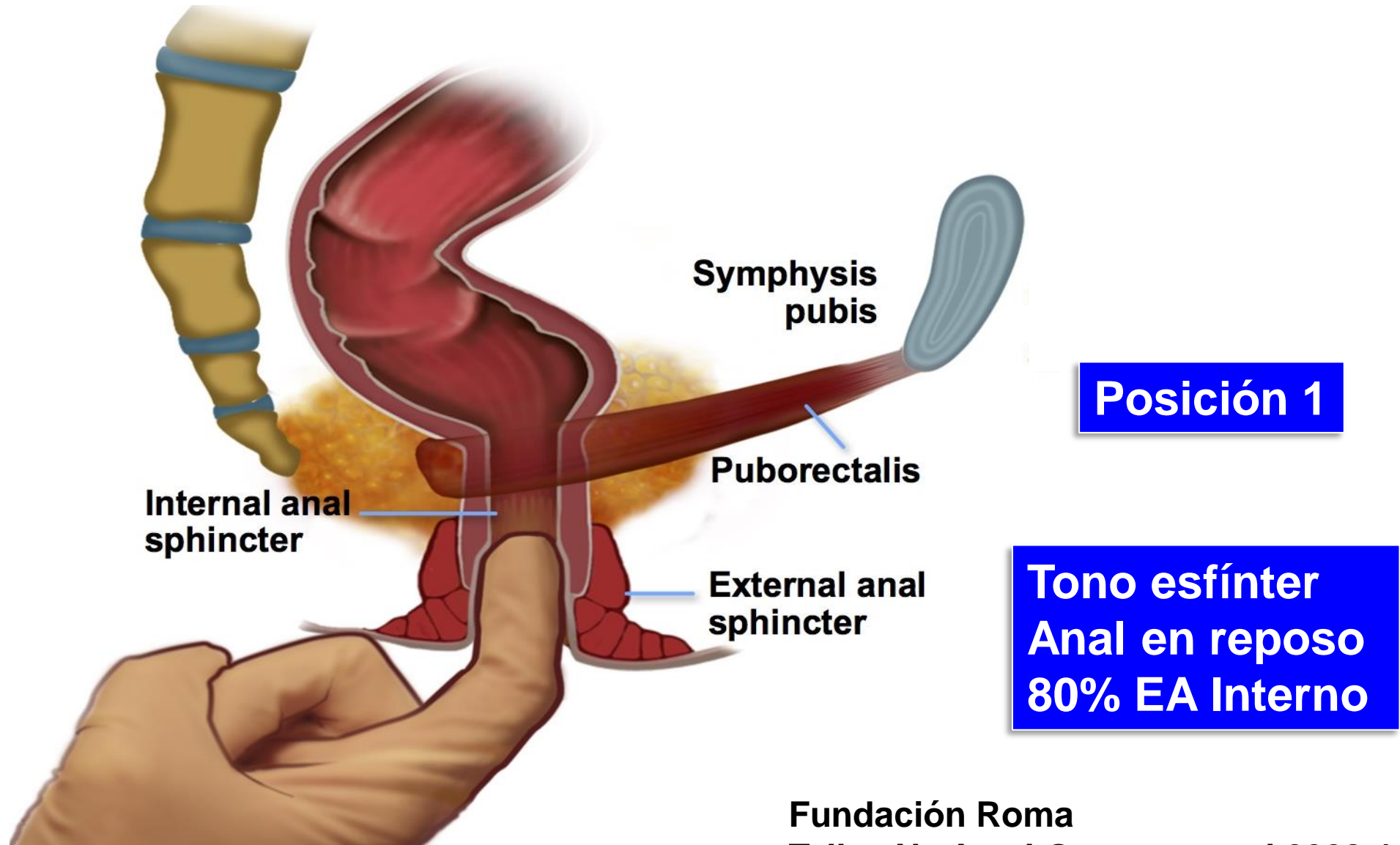


**Estructuras  
Adyacentes**

**Fístulas, fisuras,  
Hemorroides**

**Pujo: descenso perineal <2 cm  
No pasar las prominencias isquiáticas  
Heces: hiposensibilidad ?, Tumores ?**

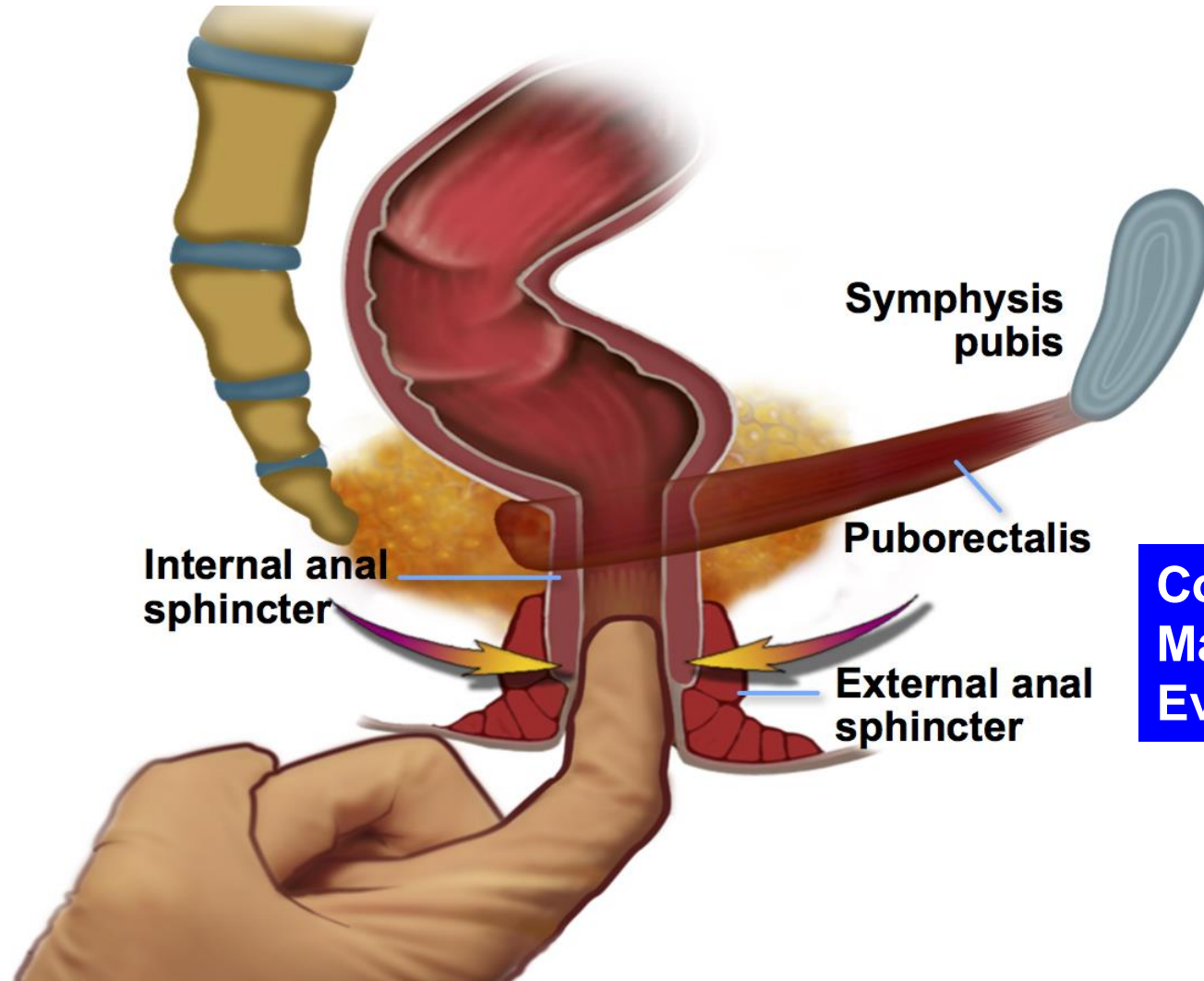
# Tacto rectal para disinergia y continencia



Fundación Roma

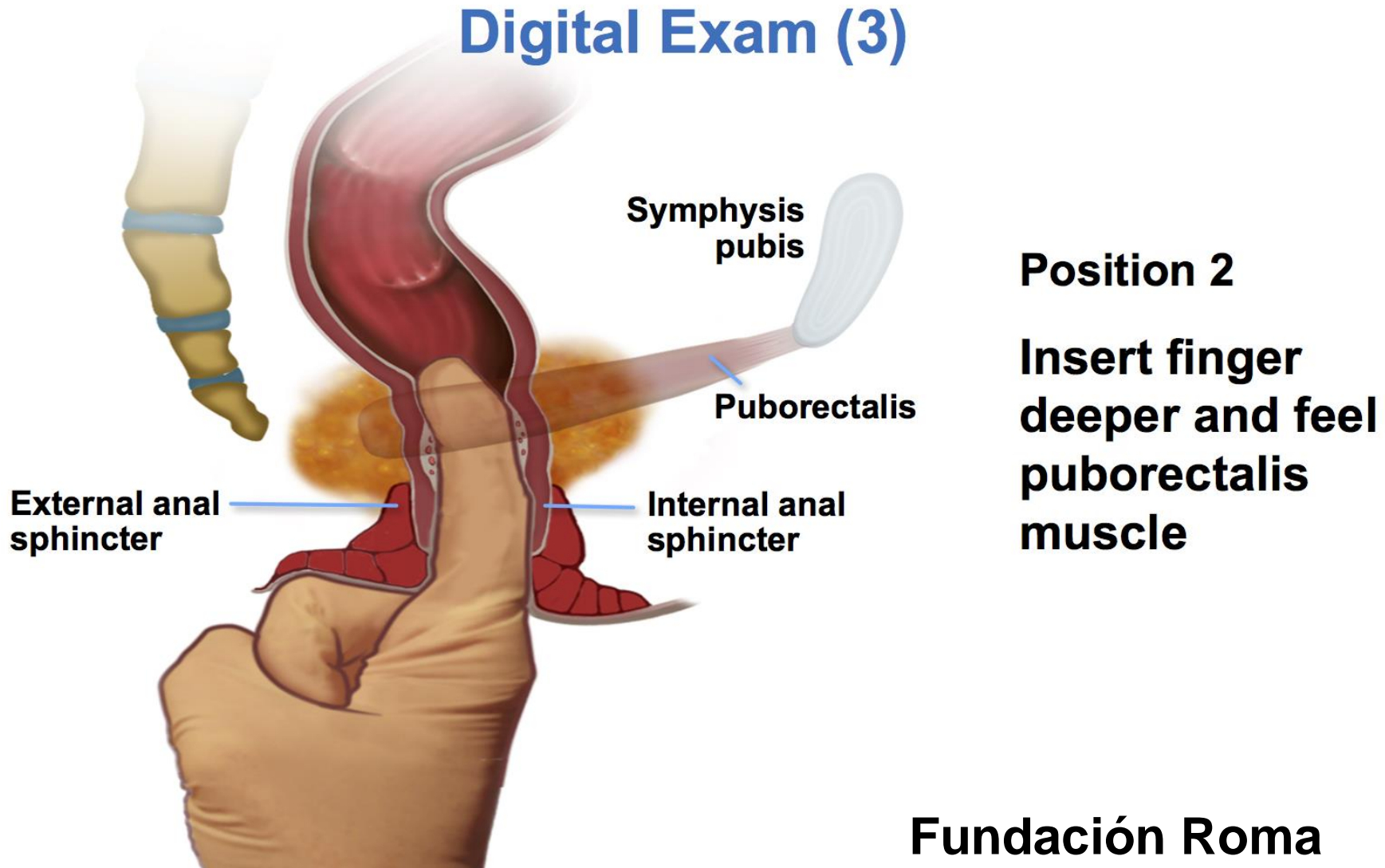
Talley N, Am J Gastroenterol 2008;103:820-22

# Tacto rectal para disinergia y continencia

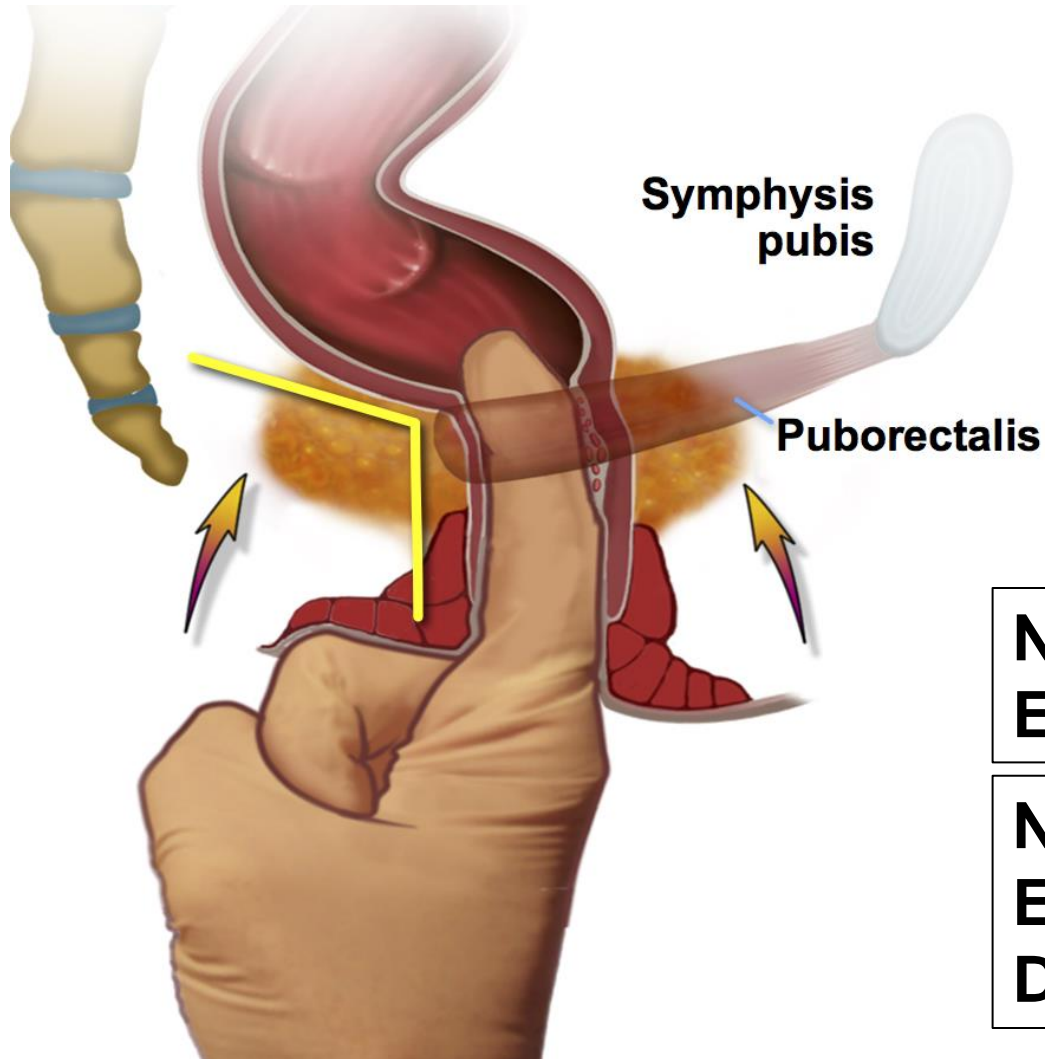


**Contraiga o aprete el ano**  
**Máxima fuerza**  
**Evalúa capacidad de continencia**

# Tacto rectal para disinergia y continencia



# Tacto rectal para disinerugia y continencia



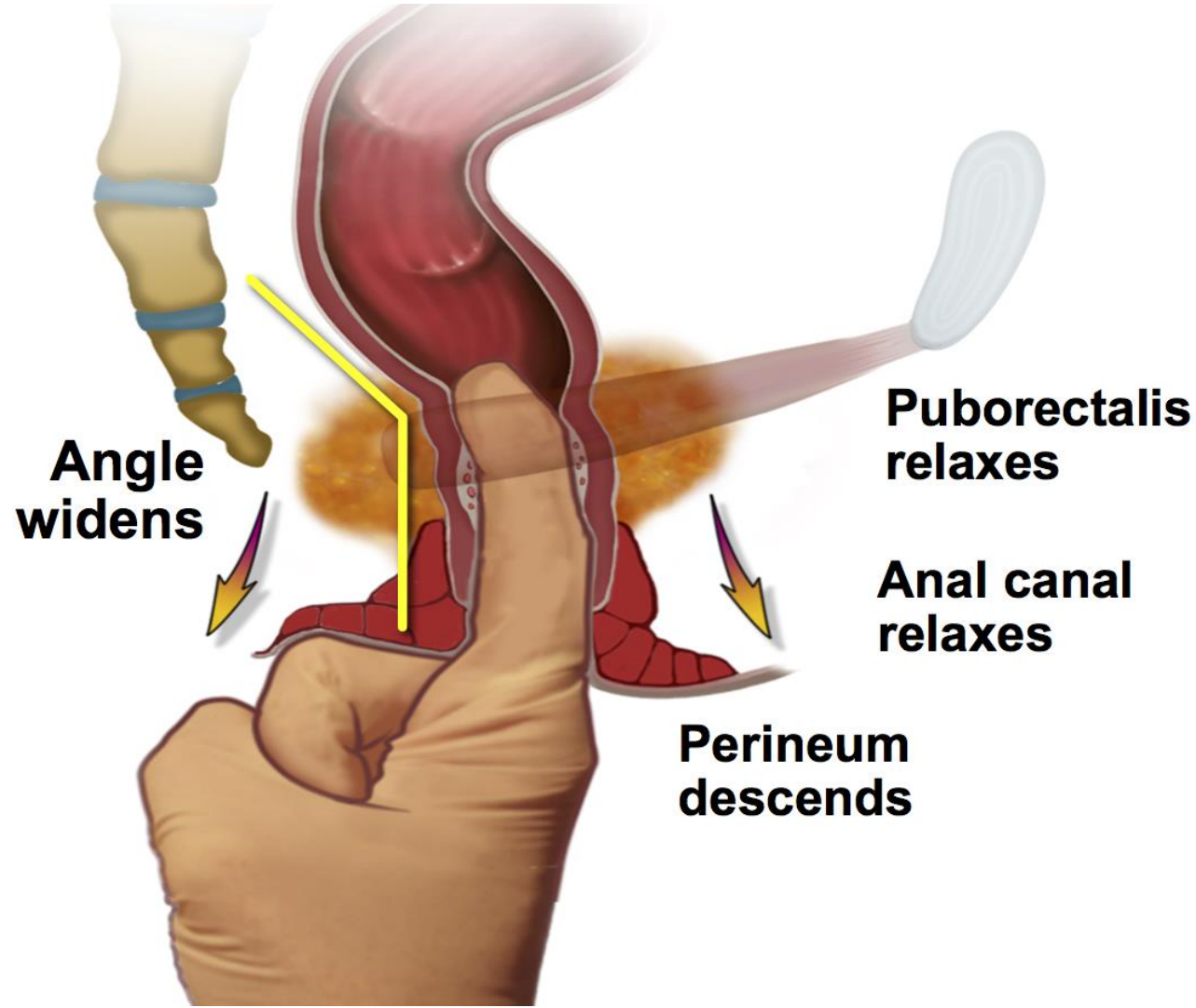
## *Examen digital 4*

**Puje simulando  
Una defecación**

**Normalmente relajación  
Esfínter anal y puborectalis**

**No hay relajación, el dedo  
Empujado hacia adelante  
Defecación disinérgica ?**

# Tacto rectal para disinergia y continencia



## Examen digital 5

- Sen 75%
- Esp 87%

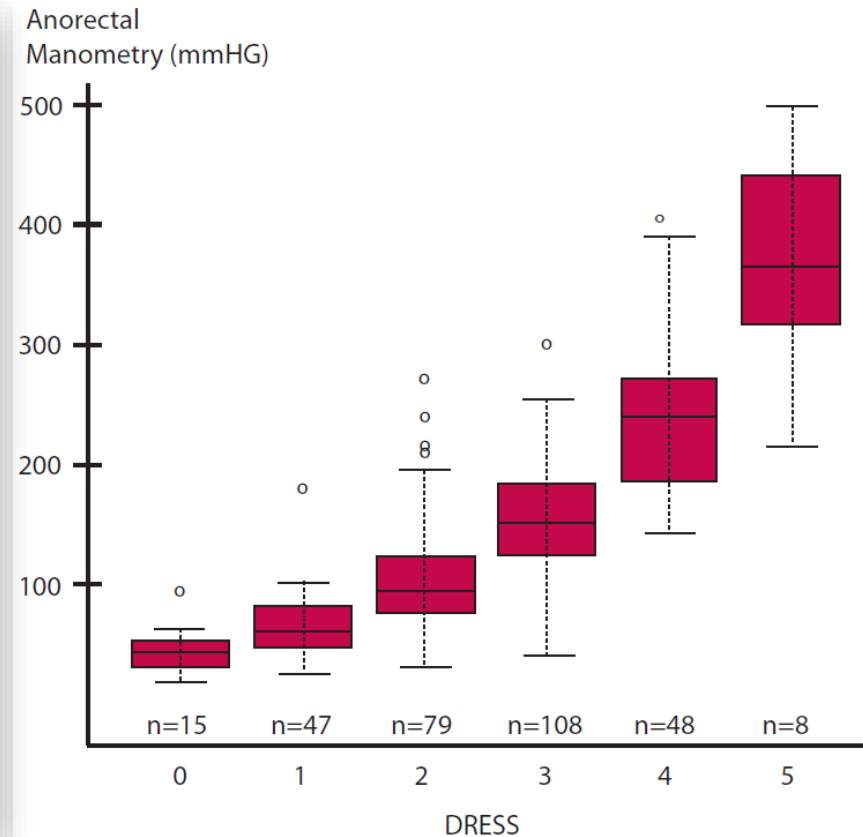
- Vpp 61%
- Vpn 91%

# The Digital Rectal Examination Scoring System (DRESS)

Bruce A. Orkin, M.D.<sup>1</sup> • Svetlana B. Sinykin, B.A.<sup>2</sup> • Patricia C. Lloyd, Sc.M.<sup>2</sup>

**TABLE 1.** The Digital Rectal Exam Scoring System (DRESS)

Resting Score	
0	No discernable tone at rest, an open or patulous anal canal
1	Very low tone
2	Mildly decreased tone
3	<i>Normal</i>
4	Elevated tone, snug
5	Very high tone, a tight anal canal, difficult to insert a finger
Squeeze Score	
0	No discernable increase in tone with squeezing effort
1	Slight increase
2	Fair increase but below normal
3	<i>Normal</i>
4	Strong squeeze
5	Very strong squeeze, to the point of being painful to the examiner



# Desórdenes defecatorios

## “Obstrucción funcional tracto de salida”

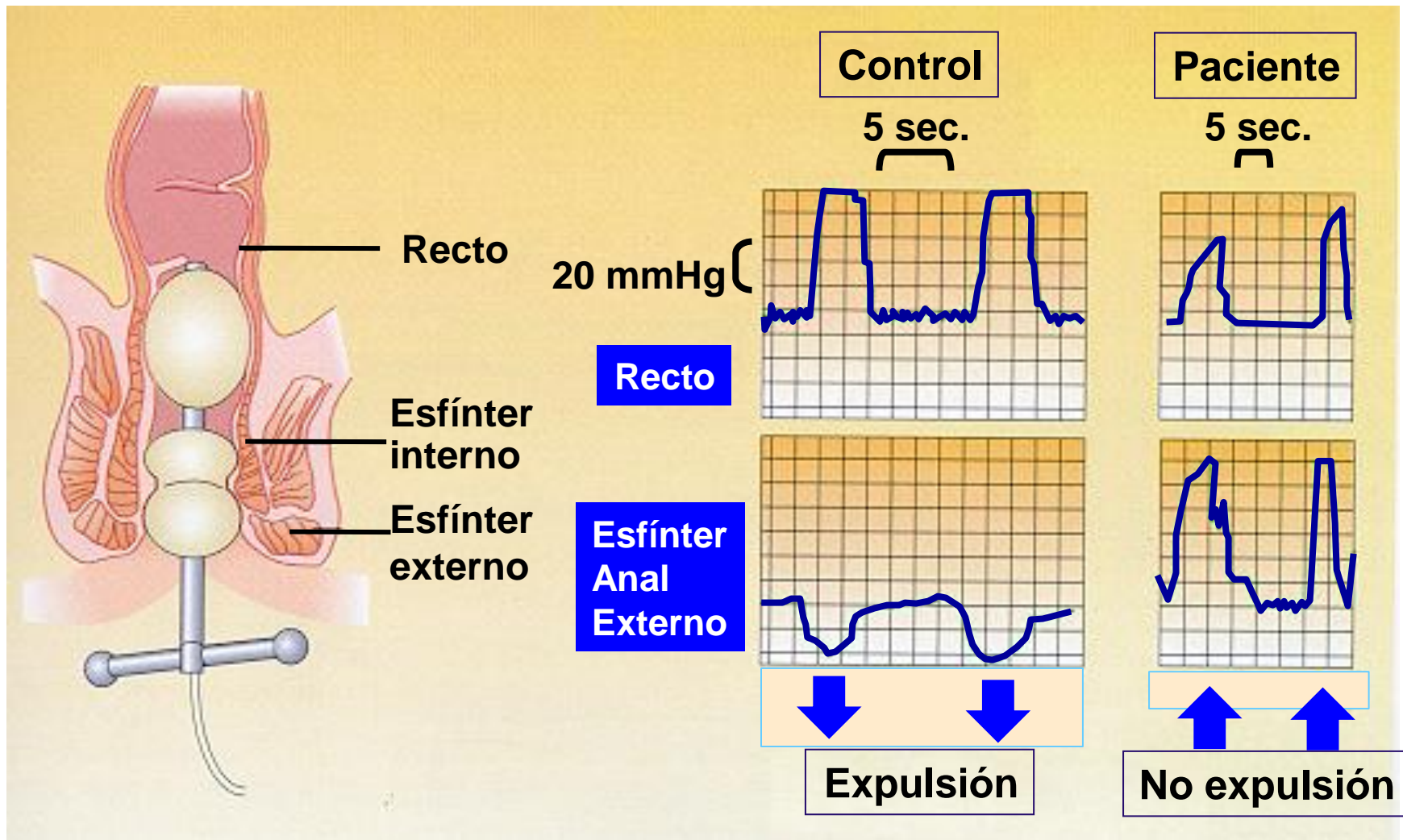
Disminución  
Fuerza rectal  
Propulsiva

Aumento  
Resistencia  
Evacuación

Presión anal  
Reposo aumentada

Relajación incompleta  
Contracción paradójica  
*Piso pélvico*  
*Esfínteres anales*

# Disfunción del piso pélvico



# Desórdenes defecatorios

---

## **SF3a. Inadecuada propulsión defecatoria**

Inadecuada fuerza propulsiva, medida manometría con o sin inapropiada contracción del esfínter anal y/o músculos del piso pélvico

## **F3b. Defecación disinérgica**

Inadecuada contracción muscular del piso pélvico con EMG anal o manometría con adecuada fuerza propulsiva durante intentos de defecación

# Desórdenes defecatorios

---

Síntomas de estreñimiento

*Estreñimiento*

*SII – Estreñimiento*

Evidencia objetiva evacuación rectal alterada

*Test de expulsión del balón anormal >1 min*

*Patrón disinérgico: manometría, EMG anal superficie*

*Alteración de la evacuación por imágenes*

**2 de 3!**

**\*\*Defecografía RM**

**\*\*Tránsito con marcadores**

Barucha AE, Mayo Clin Proc. 2019;94:2340-57

# Tránsito colónico: función motora del colon

---

**Gammagrafía del colon**

**Manometría del colon**

**Cápsula de motilidad inalámbrica**

**Marcadores radio-opacos**

Saad RJ, Am J Gastroenterol 2010;105:403-11

# Menos reproducible desórdenes defecatorios

Barucha AE,  
Mayo Clin Proc. 2019;94:2340-2357



## Técnica Hinton

*1 cápsula 24 marcadores*  
*Rx simple abdomen 5 día*  
***5 o más marcadores en colon***

Hinton JM, Gut 1969;10:842-847

## Técnica Metcalf

*1 cápsula 24 marcadores*  
*Días 1,2,3*  
*Rx simple abdomen día 4, 7*  
***> 68 marcadores***

Metcalf AM, Gastroenterology. 1987;92:40-7



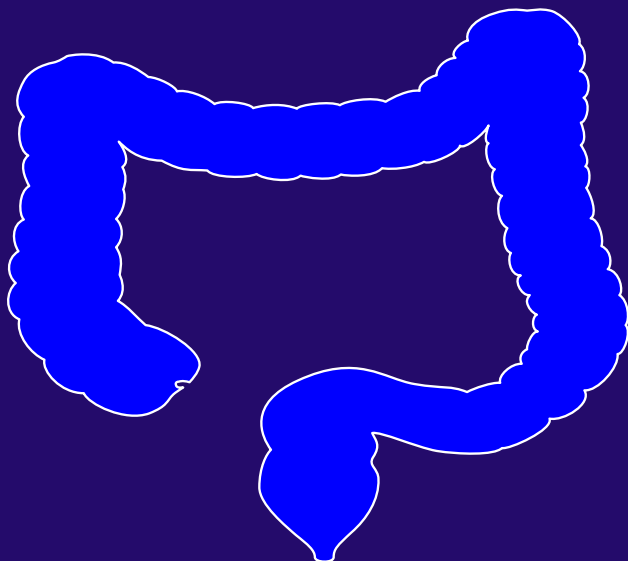
**Ampliamente utilizado  
Exacto, bajo costo,**



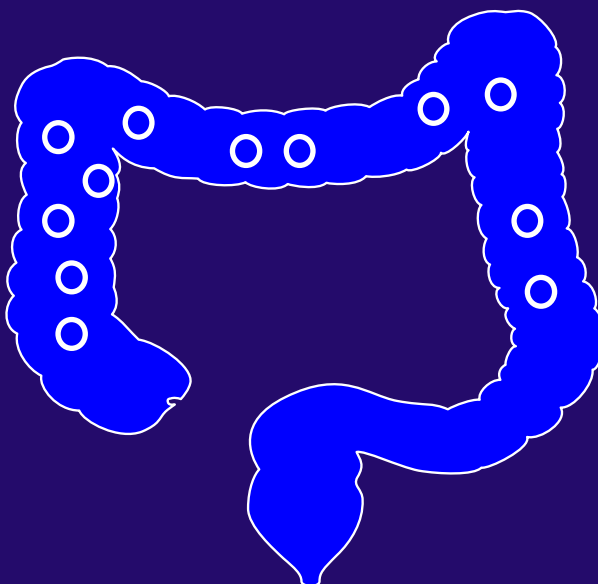
**Sitzmarks®**  
24 marcadores  
radiopacos

**Síntomas**  
**Trànsito colònic**  
**Pruebas ano-rectales**

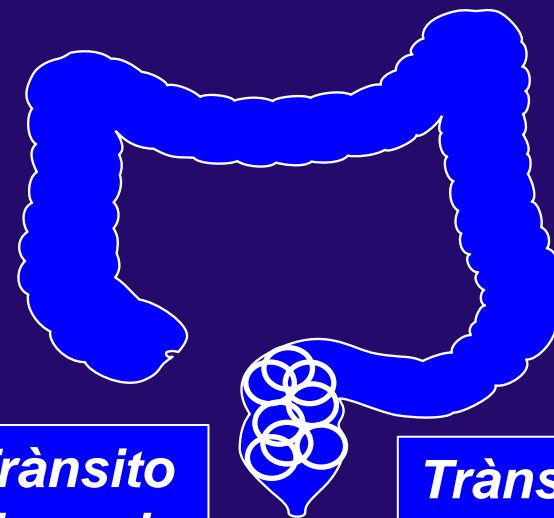
**Trànsito**  
**Normal 20-72h**  
**< 5 marcadores**



**Trànsito**  
**Lento**  
**> 5 marcadores**



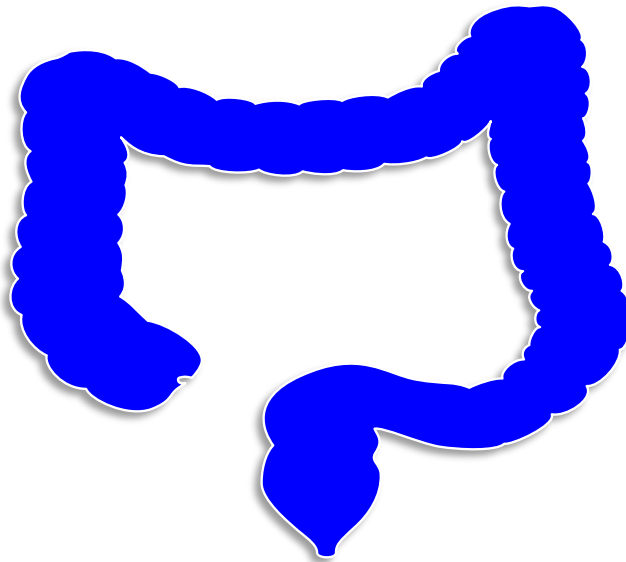
**Desòrdenes**  
**Defecatorios**  
**> 5 marcadores**



**Trànsito**  
**Normal**

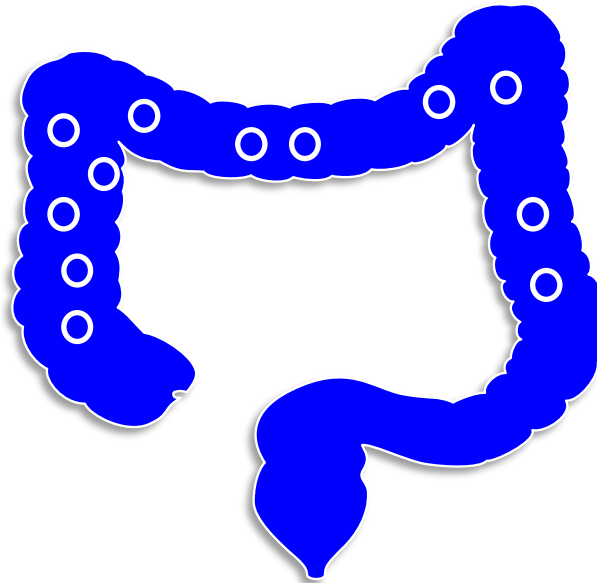
**Trànsito**  
**Lento**

**Trànsito Normal**



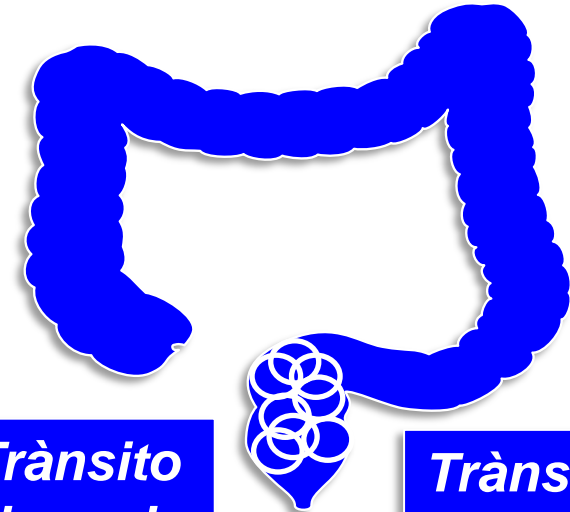
**Hiposensibilidad Rectal**  
**Alteración percepción**  
**Frecuencia consistencia heces**

**Trànsito Lento**



**Menos contracciones Colónicas propagadas**  
**Alta amplitud**  
**< Neuronas sustancia "p"**

**Desòrdenes Defecatorios**



**Trànsito Normal**

**Trànsito Lento**

**Incoordinación entre**  
**Músculos abdominales**  
**Y del piso pélvico**

# Biofeedback therapy for constipation in adults

Satish S.C. Rao, M.D., Ph.D., FRCP (LON), AGAF \*

**6 sesiones**


Department of Gastroenterology-Hepatology, University of Iowa Carver College of Medicine, Iowa City, IA, USA

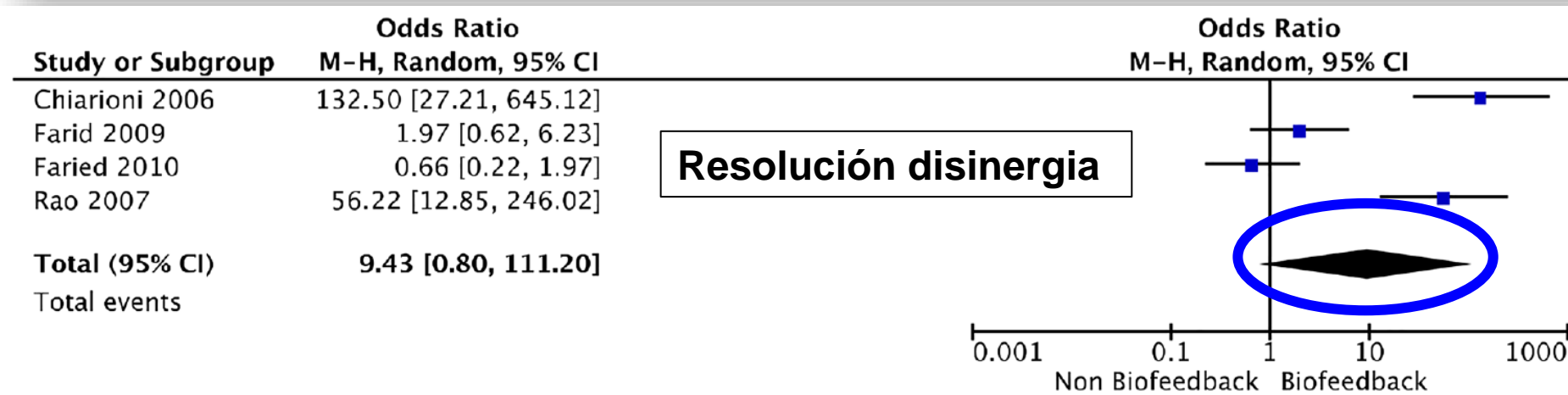
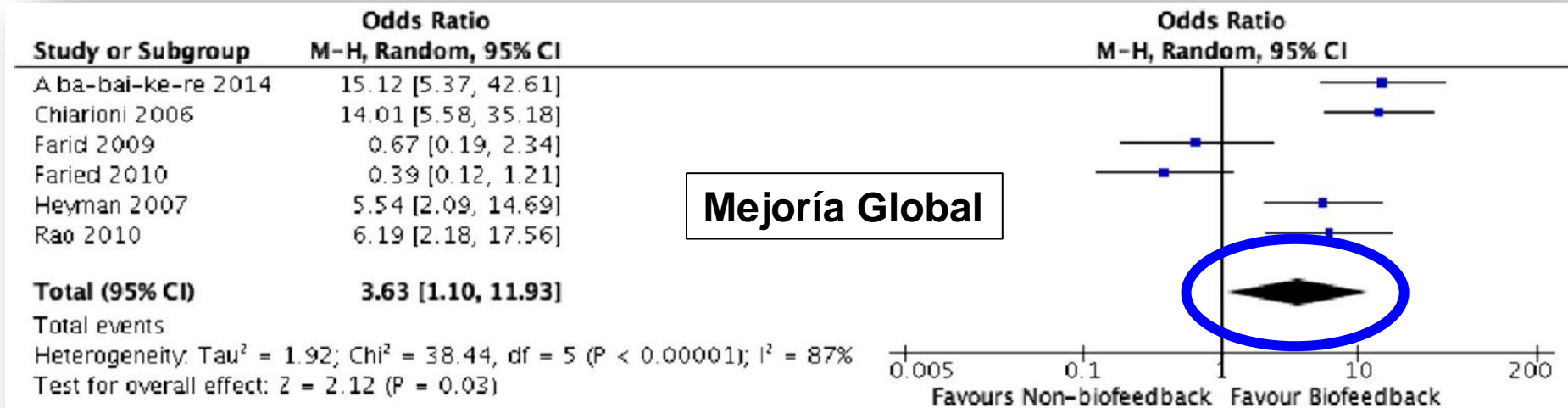
**Table 2**  
Summary of the randomized controlled trials of biofeedback therapy for dyssynergic defecation.

	Chiaironi et al [18]	Rao et al [11]	Chiaironi et al [10]	Heymen et al [13]	Rao et al [9,12]
Trial design	Biofeedback vs. PEG 14.6 g	Biofeedback vs. standard vs. sham biofeedback	Biofeedback for slow transit vs. dyssynergia	Biofeedback vs. diazepam five milligram vs. placebo	Biofeedback vs. standard therapy
Subjects and randomisation	104 women 54 biofeedback 55 polyethylene glycol	77 (69 women) 1:1:1 distribution	52 (49 women)	84 (71 women) 30 biofeedback 30 diazepam 24 placebo	52; short term therapy 26 = long term study 12 = biofeedback 13 = standard therapy
Duration and number of biofeedback sessions	3 months and 1 year, 5 weekly, 30 min training sessions performed by physician investigator	3 months, bi-weekly maximum of six sessions, three months, biofeedback only	3 months	12 weeks, one hour	One year; 6 active therapy sessions and 3 reinforcement sessions at 3 month intervals
Primary outcomes	Global improvement of symptoms Worse = 0 No improvement = 1 Mild = 2 Fair = 3 Major improvement = 4	1. Presence of dyssynergia 2. Balloon expulsion 3. Number of complete spontaneous bowel movements 4. Global satisfaction	Global improvement of symptoms	Global improvement of symptoms	Number of complete spontaneous bowel movements Secondary Outcome; Presence of dyssynergia Balloon expulsion time Global satisfaction
Dyssynergia corrected or symptoms improved	79.6% reported major improvement at 6 and 12 months 81.5% reported major improvement at 24 months	Dyssynergia corrected at 3 months in 79% with biofeedback vs 4% sham and 6% in standard group; CSBM = Biofeedback group vs Sham or standard, p < 0.05	71% with dyssynergia and 8% with slow transit alone reported fair improvement in symptoms	70% improved with biofeedback compared to 38% with placebo and 30% with diazepam	No of CSBM/week increased significantly in biofeedback 9p < 0.001 Dyssynergia pattern normalised 9p < 0.0010 Balloon expulsion improved (p < 0.001) Colonic transit normalised (p < 0.01)
Conclusions	Biofeedback was superior to laxatives	Biofeedback was superior to sham feedback and standard therapy	Biofeedback benefits dyssynergia and not slow transit constipation	Biofeedback is superior to placebo and diazepam	Biofeedback is superior to standard therapy

**70-80%**

# A systematic review and meta-analysis of biofeedback therapy for dyssynergic defaecation in adults

D. Moore<sup>1</sup>  · C. J. Young<sup>1,2,3</sup>



**Colonoscopia**

**NO está indicada**

**De rutina**

## **Indicaciones colonoscopia**

---

**Pérdida de peso**

**Rectorragia**

**Anemia**

**Estreñimiento > 50 años**

**Familiar Ca de Colon o EII**

# Tratamiento

**Medidas generales ?**

**Fibra soluble ??**

*Psyllium 10 gr 2v/d*

*4 S 77 vs 44%*

## Estreñimiento

**Laxantes osmóticos**

*Polietilen-Glicol 17-34 gr*

*Lactulosa*

**Laxantes Estimulantes**

*Bisacodilo/Picosulfato de sodio*

**Prodrogas, Deacetilasas mucosa/microbiota**

**BHPM, anti absorbente/Secreción,**

**Rescate 2- días**

**Secretagogos C1Na**

**Salida neta de iones y agua,**

**> tránsito intestinal, < dolor**

*Lubiprostone PG E1, canales Cl*

*Linaclotide: Guanilato ciclase GMPc*

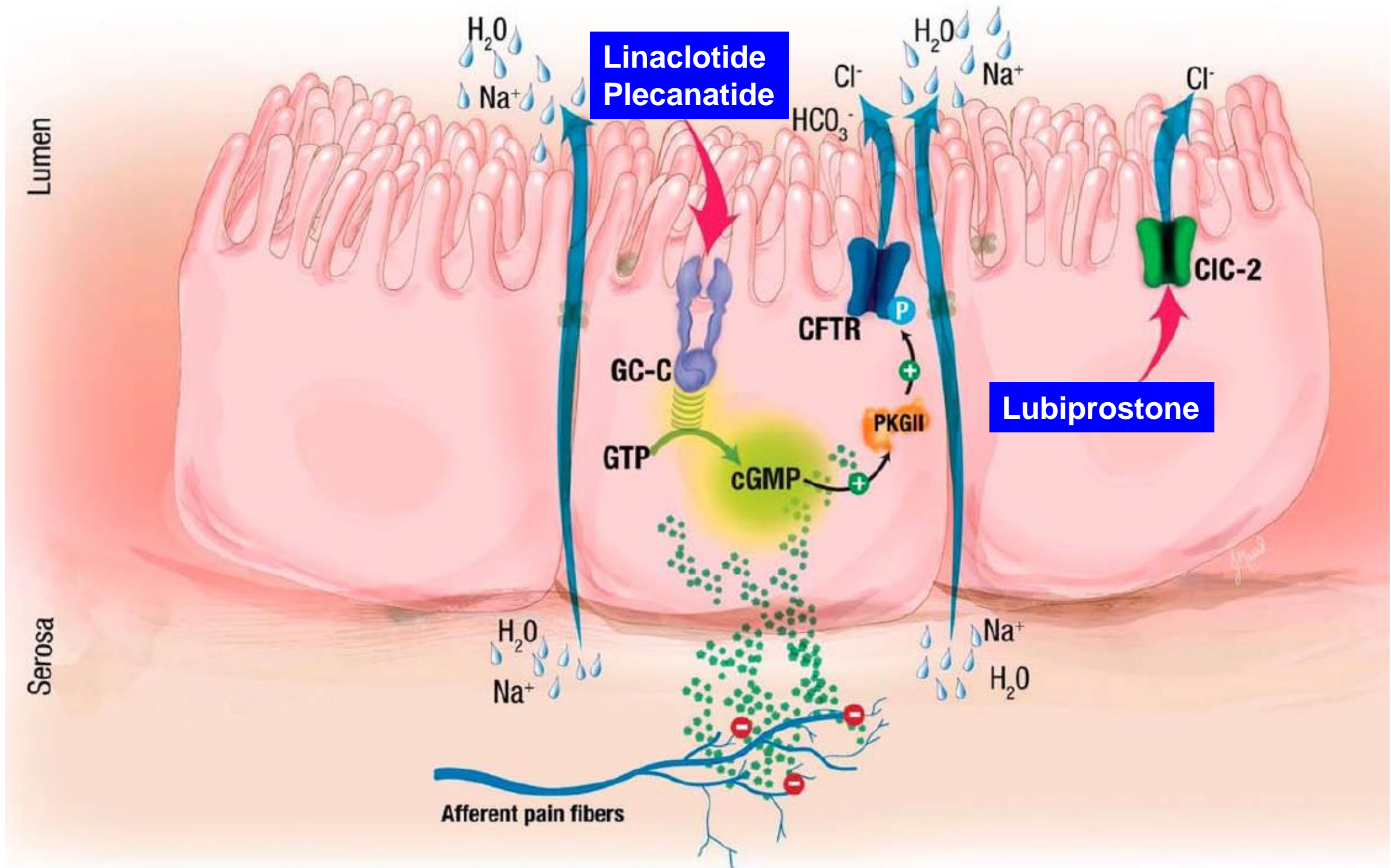
*Plecanatide Guanilato ciclase GMPc*

**Proquinéticos 5HT4**

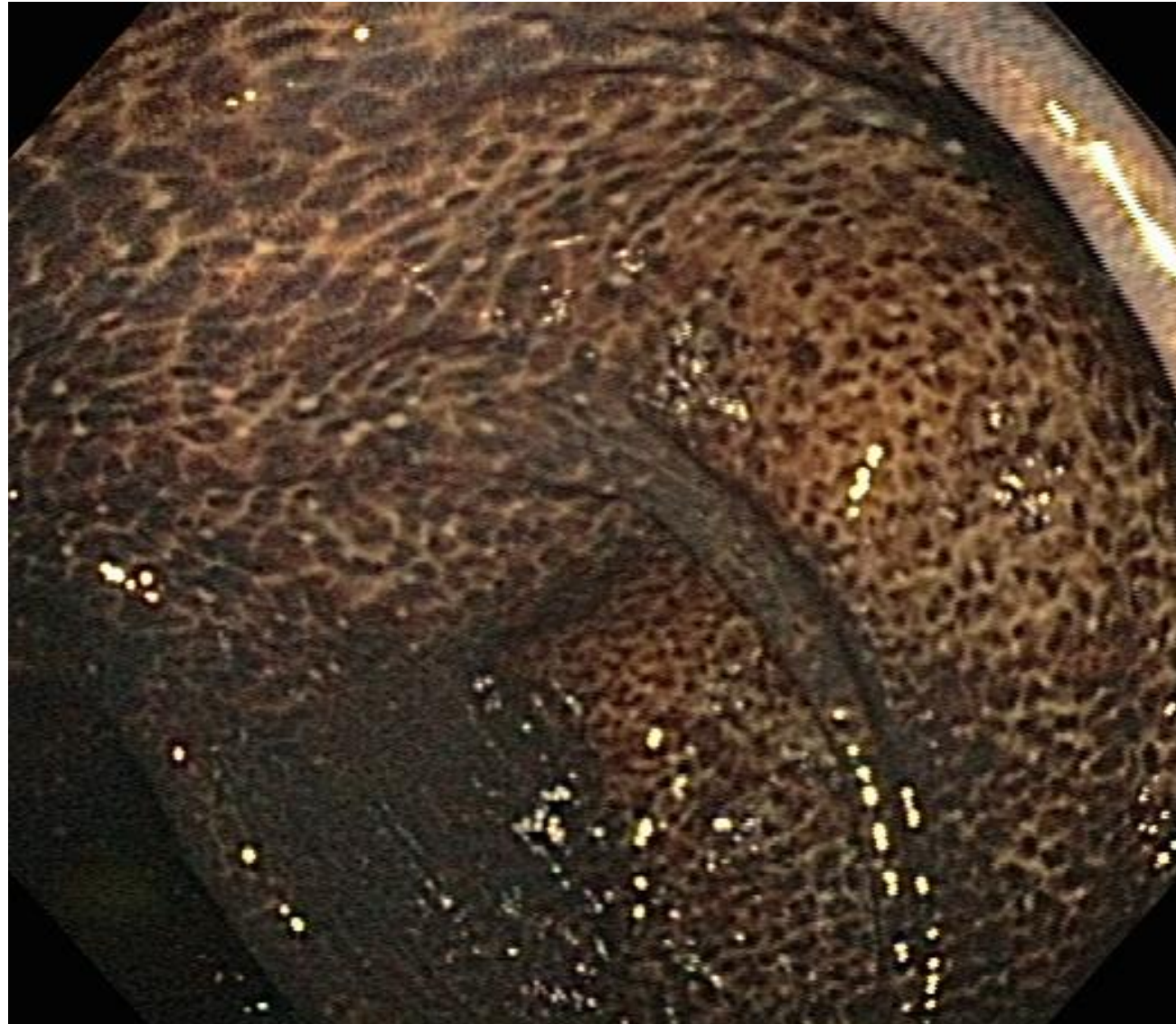
*Prucalopride*

**Antagonistas opioides**

*PAMORAs*



***Laxantes estimulantes***  
***Cáscara sagrada, Sen***





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AGA

Sa1736 — 2020

## PSEUDOMELANOSIS COLI CAUSES DISTURBED COLONIC MOTILITY FROM THE NREVOUS AND MUSCULAR SYSTEMS

### Ask the Author

Author(s): Noriaki Manabe<sup>1</sup>, Ken Haruma<sup>1</sup>, Minoru Fujita<sup>1</sup>, Tomo

<sup>1</sup> Kawasaki Medical School, Okayama, Japan

**Background & Aims:** *Pseudomelanosis coli* (*P. coli*) is most often associated with long-term use of anthracene cathartics. Anthraquinones induce apoptosis of the enteric nerves of the intestinal tract, causing disturbed colonic motility, but the mechanisms of this phenomenon are still unknown. The first aim of this study was to determine the association between *P. coli* and colonic motility. The second aim was to investigate whether *P. coli* histologically affects Auerbach's plexus. **[Study 1]**

**Methods:** Thirty-seven consecutive constipated patients with *P. coli*, 17 constipated patients without *P. coli*, and 61 controls matched by age and sex at a 1:2 ratio were enrolled. The colonic transit time (CTT) was evaluated by an ultrasonographic (US) method, which has been validated previously. The constipation index (CI), as measured by the US method, was an indirect indicator of CTT. **Results:** The *P. coli* group had significantly higher CI values than did the control group, which indicated that the CTT in *P. coli* was significantly delayed. **[Study 2]**

**Methods:** A total of 33 patients who had a resected colon due to colorectal cancer were enrolled. Normal areas that were suspected to be affected by *P. coli* were divided into two groups: (i) patients with histological *P. coli* (+) [group A] and 20 patients: (ii) patients without histological *P. coli* (-) [group B]. The thickness of the colonic wall fragment by two methods: (i) the number of nerve cells and (ii) the rate of ganglion cells. The authors could not reach a consensus on the diagnosis of *P. coli*. **Results:** The thickness of the colonic wall fragment was significantly thicker in group A than that in group B (8.09 ± 7.40 cells/cm, p < 0.01 vs. 5.07 vs. 13.37 ± 7.40 cells/cm, p < 0.01). **Conclusions:** *P. coli* affects not only Auerbach's plexus, which controls colonic motility, but also the thickness of the muscularis mucosa. This situation may cause disturbed colonic motility

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Laxantes antraquinona lesionan plejo Auerbach  
Disminución del **Tiempo Tránsito Colónico**  
Menos neuronas y engrosamiento muscular  
**Histología en colectomias**

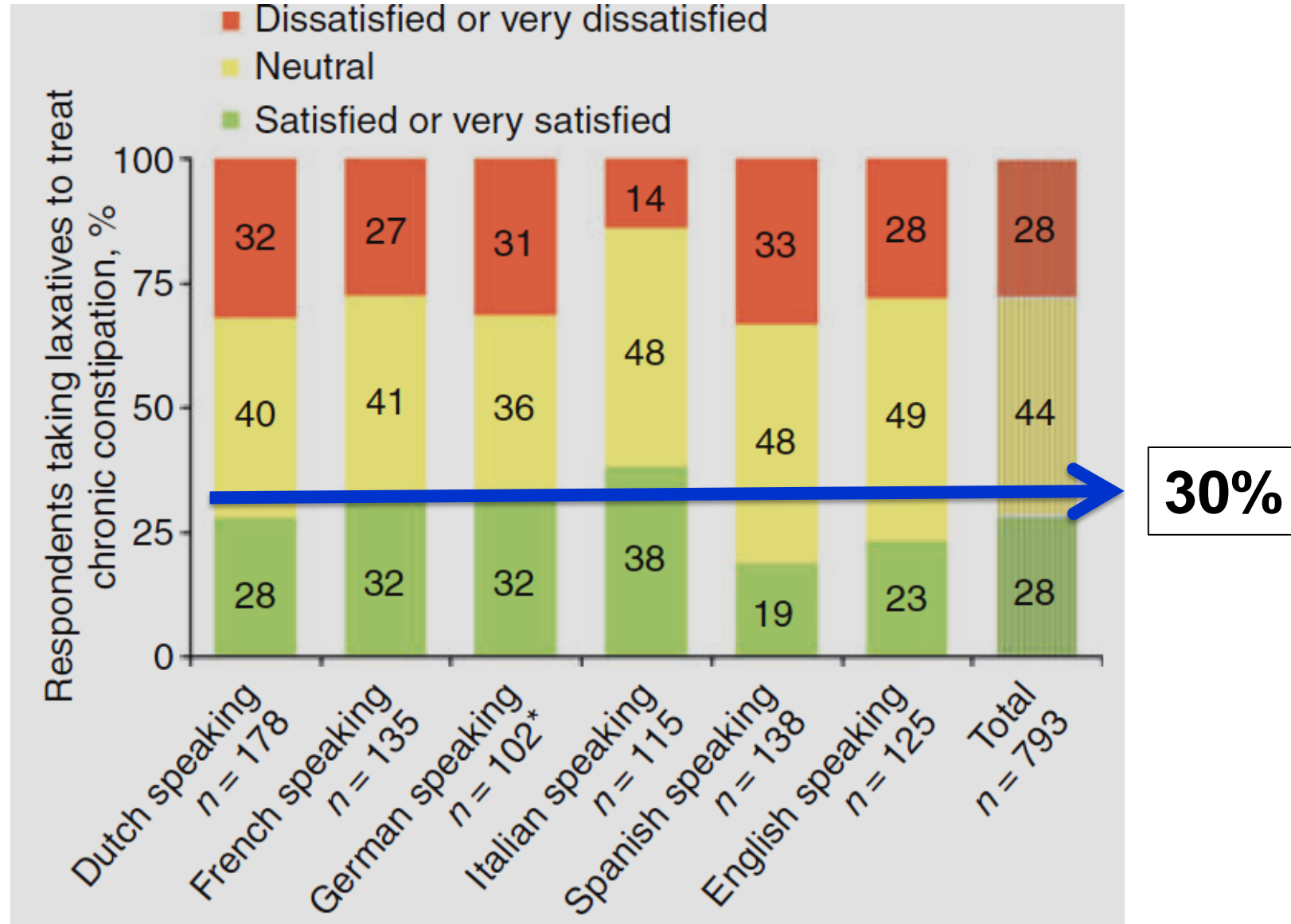
**No los aconsejamos  
Sólo si no hay nada mas!**

**Calidad de la evidencia**

# Levels of satisfaction with current chronic constipation treatment options in Europe – an internet survey

S. Müller-Lissner<sup>\*</sup>, J. Tack<sup>†</sup>, Y. Feng<sup>‡</sup>, F. Schenck<sup>‡</sup> & R. Specht Gryp<sup>§</sup>

Aliment Pharmacol Ther 2013;37:137-45



*Open*

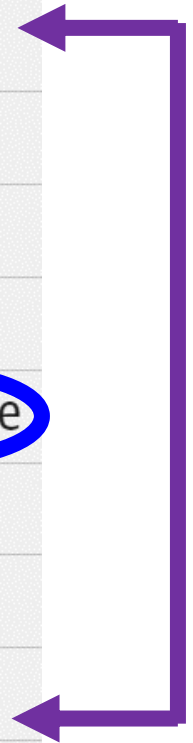
## Efficacy and Safety of Over-the-Counter Therapies for Chronic Constipation: An Updated Systematic Review

Satish S.C. Rao, MD, PhD<sup>1</sup> and Darren M. Brenner, MD<sup>2</sup>

	<b>Grado de recomendación</b>	<b>Nivel de evidencia</b>
PEG	A	I
Psyllium	B	II
Leche de Magnesia Docusato	C	III

# GRADE

	Recommendation <sup>b</sup>	Quality of Evidence <sup>c</sup>
Bulk agents	Strong	Low
Psyllium, methylcellulose, calcium polycarbophil, wheat dextrin		
Nonabsorbed substances		
PEG 3350	Strong	High
Lactulose <sup>d</sup>	Strong	Low
Magnesium salts	NA	NA
Stimulants		
Bisacodyl	Strong	Moderate
Senna	NA	NA
Secretory drugs <sup>d</sup>		
Lubiprostone	Strong	High
Linaclotide	Strong	High



	American College of Gastroenterology		World Gastroenterology Organization	
	Grade of evidence	Level of recommendation	Grade of evidence	Level of recommendation
Lactulose	Low	Strong	B	2
PEG	High	Strong	A	1
Psyllium	Low	Strong	B	2
Bisacodil	Moderate	Strong	B	2
Senna	N/A	N/A	C	3
Prucalpride	Moderate	Strong	A	1

**Sadeghi A, Turk J Gastroenterol. 2023;34):182-195.**

Medicamento	Dosis/día	NNT
<b>PEG</b>	<b>17 gr</b>	<b>2 (IC95% 1-3)</b>
Lactulosa	20 gr	4 (IC95% ND)
Bisacodilo	10 mg	4 (IC 95% ND)
Lubiprostone	24µg 2v/día	4 (IC95% 3-6)
Linaclootide	145 µg 1v/día	5.6 (IC95% ND)
Prucalopride	2 mg/día	6 (IC 95%5-9)
Velusetrag	15 mg/día	3.4 (IC95% ND)
Elobixibat	10 mg/día	3 (IC95% ND)

# PEG debería ser el comparador

**Ford A. Gastroenterology 2013;145:897-8**

# Comparaciones

# **Agonista 5HT4**

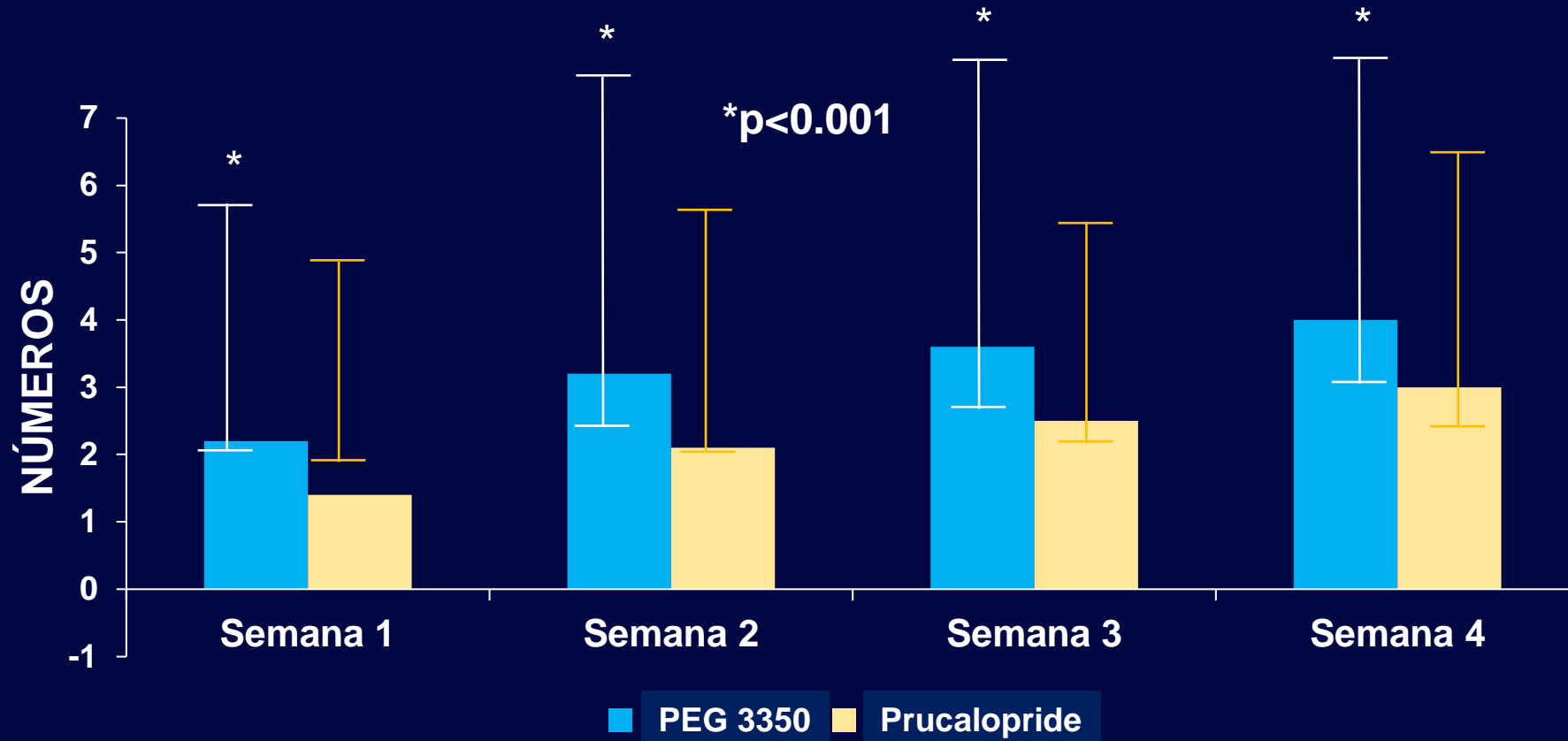
## **Prucalopride**

**Table 1 |** Receptor binding profile of 5-HT<sub>4</sub> agonists for GI disorders, at therapeutic concentrations

Drug	Receptor binding profile at therapeutic concentrations					
	5-HT <sub>4</sub>	5-HT <sub>3</sub>	5-HT <sub>2</sub>	5-HT <sub>1</sub>	D <sub>2</sub>	hERG
Cisapride	+	+	+			+
Tegaserod	+	+	+	+		
Renzapride	+	+				
Clebopride	+	+			+	
Mosapride	+	+				
Prucalopride	+					
Velusetrag	+					
Narvonapride	+					

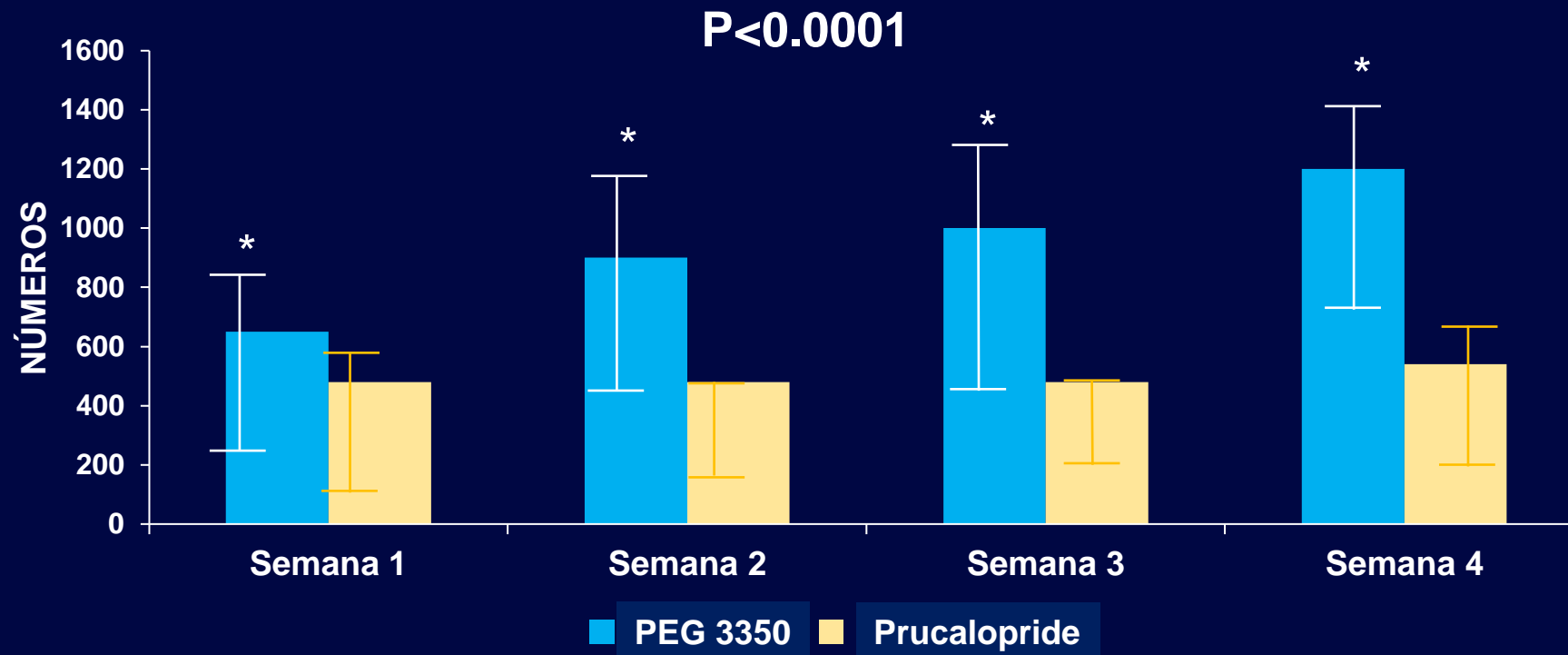
# PEG 3350 con electrolitos Vs Prucalopride

## Movimientos intestinales espontáneos completos



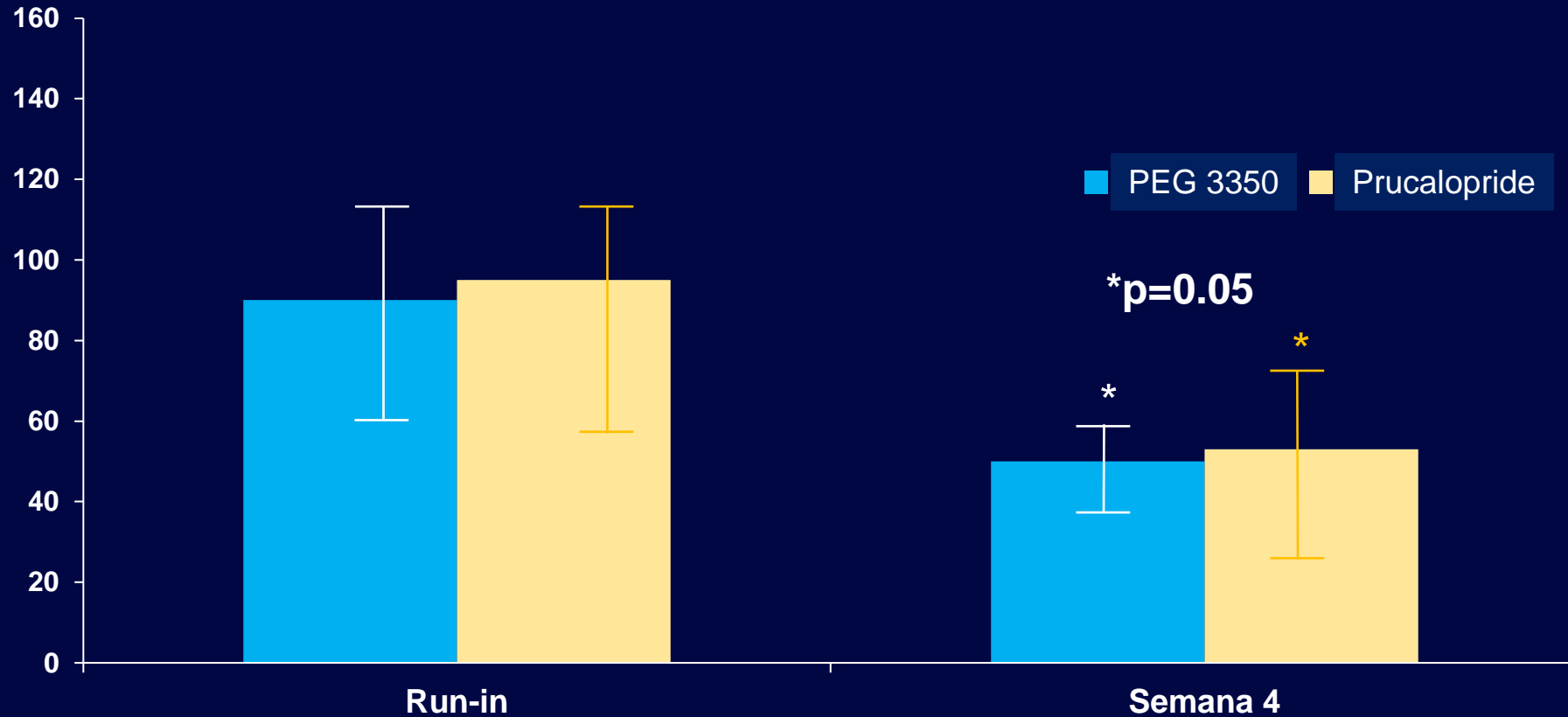
# PEG 3350 con electrolitos Vs Prucalopride

## Peso promedio de materias fecales



# PEG 3350 Vs Prucalopride

## Tiempo de tránsito intestinal promedio horas



# Comparison of the effectiveness of polyethylene glycol with and without electrolytes in constipation: a systematic review and network meta-analysis

Peter Katelaris<sup>1\*</sup>, Vasi Naganathan<sup>2</sup>, Ken Liu<sup>3</sup>, George Krassas<sup>4</sup> and John Gullotta<sup>5</sup>

**No hay diferencias**

**BMC Gastroenterology (2016) 16:42**

# An Evidence-Based Approach to the Management of Chronic Constipation in North America

American College of Gastroenterology Chronic Constipation Task Force

## **THERAPY OF CHRONIC CONSTIPATION: OSMOTIC LAXATIVES (SEE SECTION 2.8)**

*Polyethylene glycol (PEG) is effective at improving stool frequency and stool consistency in patients with CC (Grade A recommendation). Lactulose is effective at improving stool frequency and stool consistency in patients with CC (Grade A recommendation). There are insufficient data to make a recommendation about the effectiveness of milk of magnesia (MOM) in patients with CC (Grade B recommendation).*

# Lactulose versus Polyethylene Glycol for Chronic Constipation (Review)

Lee-Robichaud H, Thomas K, Morgan J, Nelson RL



THE COCHRANE  
COLLABORATION®

2010, Issue7

**PEG es superior a lactulosa en :**

- 1. Frecuencia de deposiciones/semana**
- 2. Forma de las heces**
- 3. Necesidad de productos adicionales**



**Adultos  
Niños**

# Comparative Efficacy of Drugs for the Treatment of Chronic Constipation

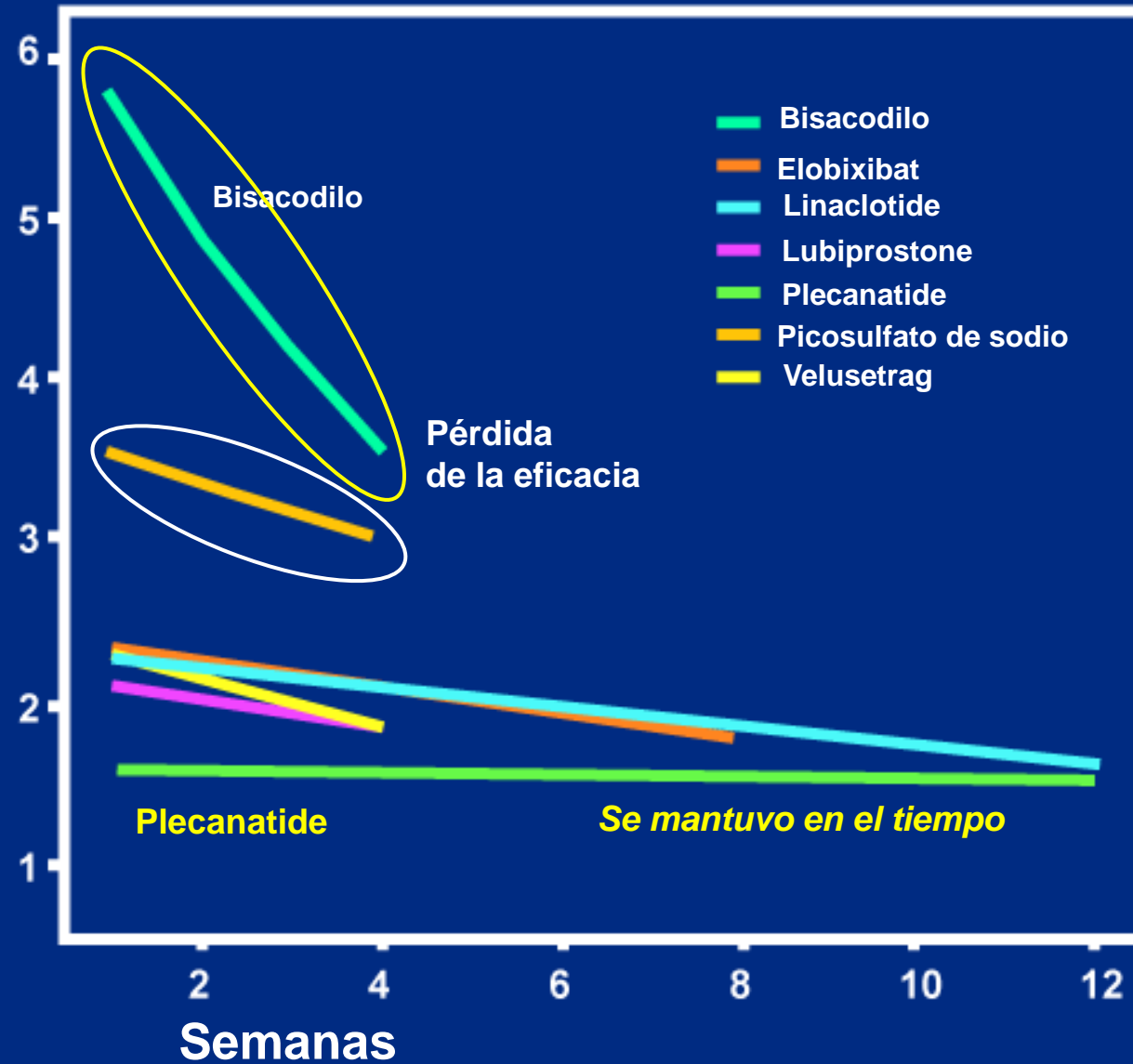
## *Quantitative Information for Medication Guidelines*

*Yi Zhang, MS, Fang Yin, PhD, Ling Xu, PhD, Yun-fei Li, PhD,  
Jun-chao Chen, PhD, Hong-xia Liu, PhD, Qing-shan Zheng, PhD,  
and Lu-jin Li, PhD*

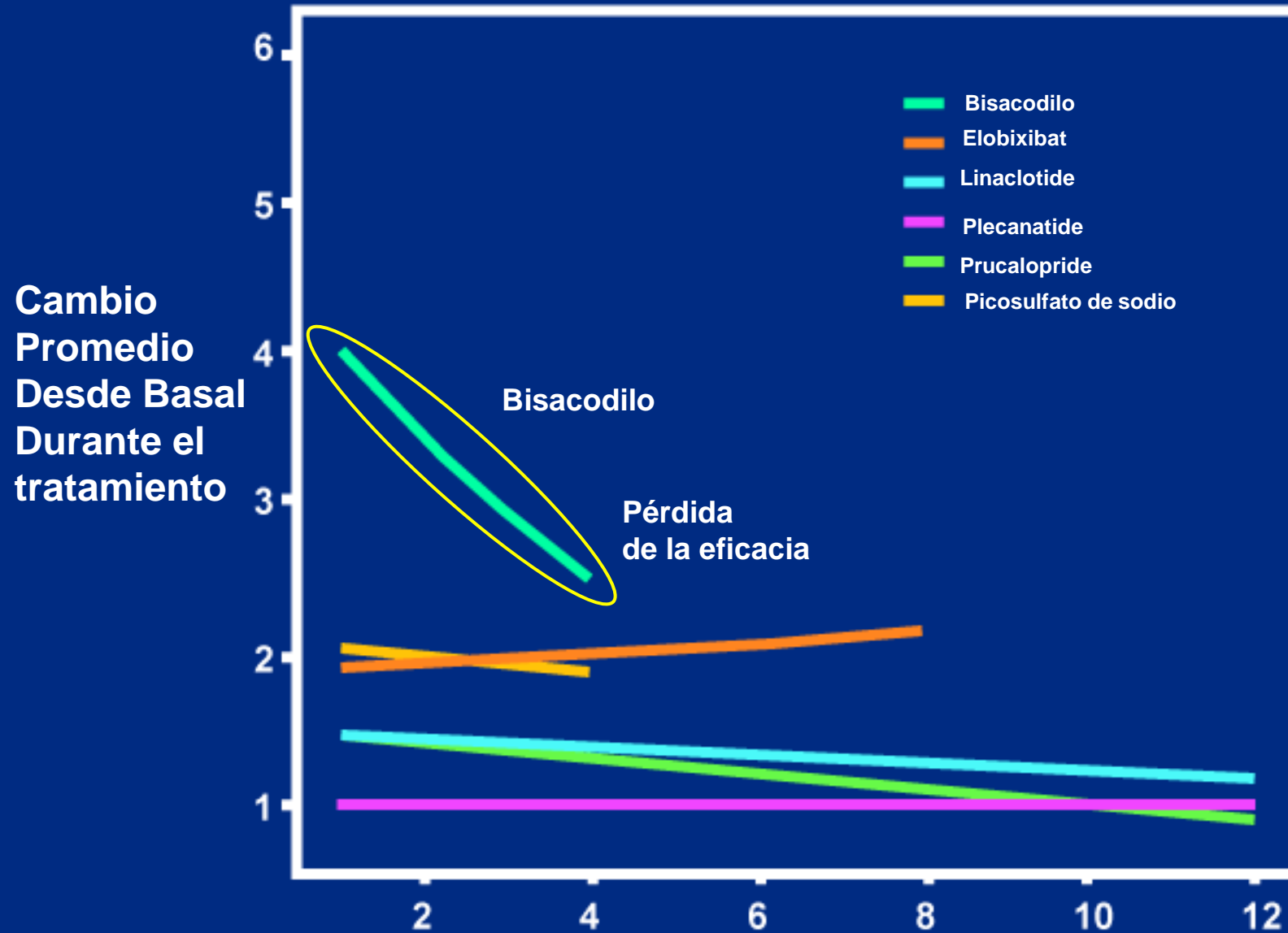
**Meta-análisis basado en modelos  
Técnica con resultados agrupados  
Múltiples estudios, permite entendimiento global  
Perfil de farmacodinamia  
Características dosis-respuesta  
Eficacia durante el tiempo  
Explora influencias sobre el comportamiento**

# Movimientos intestinales espontáneos

Cambio Promedio Desde Basal Durante el tratamiento



# Movimientos intestinales Completos espontáneos



Treatments	Cost per Month, 2015 \$	
Bulk agents		
Psyllium (10 g daily), range <sup>b</sup>	14.22	
Nonabsorbed substances		
Lactulose (20 g daily)	144.00	
PEG 3350 (17 g daily) <sup>b</sup>	18.25	***
Stimulants		
Senna (2 tabs daily)	0.34	
Bisacodyl (2 tabs daily)	0.75	
Secretory drugs		
Lubiprostone (24 µg twice daily)	293.02	
Linaclootide (145 µg daily)	283.70	

# American Gastroenterological Association-American College of Gastroenterology Clinical Practice Guideline: Pharmacological Management of Chronic Idiopathic Constipation



Lin Chang,<sup>1,\*</sup> William D. Chey,<sup>2,\*</sup> Aamer Imdad,<sup>3,\*</sup> Christopher V. Almario,<sup>4</sup> Adil E. Bharucha,<sup>5</sup> Susan Diem,<sup>6,7</sup> Katarina B. Greer,<sup>8,9</sup> Brian Hanson,<sup>6,10</sup> Lucinda A. Harris,<sup>11</sup> Cynthia Ko,<sup>12</sup> M. Hassan Murad,<sup>13</sup> Amit Patel,<sup>14</sup> Eric D. Shah,<sup>2,15</sup> **Anthony J. Lembo,<sup>16,§</sup>** and **Shahnaz Sultan<sup>6,17,§</sup>**

Recommendations

Strength of recommendation

Certainty of evidence

Fiber

Recommendation 1: In adults with CIC, the panel suggests the use of fiber supplementation over management without fiber supplements

Conditional

Low

*Implementation considerations*

- Dietary assessment is important to determine total fiber intake from diet and supplements
- Fiber supplements can be used as first-line therapy for CIC, particularly for individuals with low dietary fiber intake
- Among the evaluated fiber supplements, only psyllium appears to be effective (with very limited and uncertain data on bran and inulin)
- Adequate hydration should be encouraged with the use of fiber
- Flatulence is a commonly observed side effect with the use of fiber

**Fuerza recomendación****Certeza Evidencia****Sales Mg**

Recommendation 3: In adults with CIC, the panel suggests the use of magnesium oxide over management without magnesium oxide

Conditional

Very low

*Implementation considerations*

- The trials were conducted for 4 wk, although longer term use is probably appropriate
- The panel suggests starting at a lower dose, which may be increased if necessary
- Avoid use in patients with renal insufficiency due to risk of hypermagnesemia

**Lactulosa**

Recommendation 4: In adults with CIC who fail or are intolerant to OTC therapies, the panel suggests the use of lactulose over management without lactulose

Conditional

Very low

*Implementation considerations*

- Bloating and flatulence are dose-dependent and common side effects, which may limit its use in clinical practice

Stimulant laxatives

Fuerza recomendación

Certeza Evidencia

Recommendation 5: In adults with CIC, the panel recommends the use of bisacodyl or sodium picosulphate short term or as rescue therapy over management without bisacodyl or sodium picosulphate

Strong

Moderate

*Implementation considerations*

- Short-term use is defined as daily use for 4 wk or less. While long-term use is probably appropriate, data are needed to better understand tolerance and side effects
- This is a good option for occasional use or rescue therapy in combination with other pharmacological agents for CIC
- The most common side effects are abdominal pain, cramping and diarrhea. The panel suggests starting at a lower dose and increasing the dose as tolerated

Secretagogues

**Lubiprostone**

Recommendation 7: In adults with CIC who do not respond to OTC agents, the panel suggests the use of lubiprostone over management without lubiprostone

Conditional

Low

*Implementation considerations*

- Can be used as a replacement or as an adjunct to OTC agents
- Duration of treatment in trials was 4 wk, but the drug label does not provide a limit
- Nausea may occur; however, the risk of nausea is dose-dependent and seems to be lower when taken with food and water

**Linaclotide**

Recommendation 8: In adults with CIC who do not respond to OTC agents, the panel recommends the use of linaclotide over management without linaclotide

Strong

Moderate

*Implementation considerations*

- Can be used as a replacement or as an adjunct to OTC agents
- Duration of treatment in trials was 12 wk but the drug label does not provide a limit
- May be associated with side effects of diarrhea leading to discontinuation of treatment

**Plecanatide**

Recommendation 9: In adults with CIC who do not respond to OTC agents, the panel recommends the use of plecanatide over management without plecanatide

Strong

Moderate

*Implementation considerations*

- Can be used as a replacement or as an adjunct to OTC agents
- Duration of treatment in trials was 12 wk, but the drug label does not provide a limit
- May be associated with side effects of diarrhea leading to discontinuation of treatment

5-HT<sub>4</sub> agonist

**Prucalopride**

Recommendation 10: In adults with CIC who do not respond to OTC agents, the panel recommends the use of prucalopride over management without prucalopride

Strong

Moderate

# American Gastroenterological Association-American College of Gastroenterology Clinical Practice Guideline: Pharmacological Management of Chronic Idiopathic Constipation



Lin Chang,<sup>1,\*</sup> William D. Chey,<sup>2,\*</sup> Aamer Imdad,<sup>3,\*</sup> Christopher V. Almario,<sup>4</sup> Adil E. Bharucha,<sup>5</sup> Susan Diem,<sup>6,7</sup> Katarina B. Greer,<sup>8,9</sup> Brian Hanson,<sup>6,10</sup> Lucinda A. Harris,<sup>11</sup> Cynthia Ko,<sup>12</sup> M. Hassan Murad,<sup>13</sup> Amit Patel,<sup>14</sup> Eric D. Shah,<sup>2,15</sup> **Anthony J. Lembo,<sup>16,§</sup>** and **Shahnaz Sultan<sup>6,17,§</sup>**

## Osmotic Laxatives

**Recommendation 2:** In adults with CIC, the panel recommends the use of PEG compared with management without PEG (strong recommendation, moderate certainty of evidence).

### Implementation considerations

- A trial of fiber supplement can be considered for mild constipation before PEG use or in combination with PEG.
- Response to PEG has been shown to be durable over 6 months.
- Side effects include abdominal distension, loose stool, flatulence, and nausea.

Fuerza recomendación

Calidad Evidencia

Osmotic laxatives

Recommendation 2: In adults with CIC, the panel recommends the use of PEG compared with management without PEG

Strong

Moderate

# Recognizing and Defining Occasional Constipation: Expert Consensus Recommendations

Satish S.C. Rao, MD, PhD<sup>1</sup>, Brian E. Lacy, MD, PhD<sup>2</sup>, Anton Emmanuel, MD<sup>3</sup>, Stefan Müller-Lissner, MD<sup>4</sup>, Daniel Pohl, MD<sup>5</sup>, Eamonn M.M. Quigley, MD<sup>6</sup> and Peter Whorwell, MD, PhD<sup>7</sup>

Intermittent or occasional symptomatic alterations in bowel habit\*



Bothersome reduction in  
bowel movement frequency

*and/or*

Difficulty with  
passage of stools



Duration of symptoms:  
A few days to a few weeks

Response to symptomatic episodes:



Lifestyle modification *and/or*



Change of dietary habits *and/or*



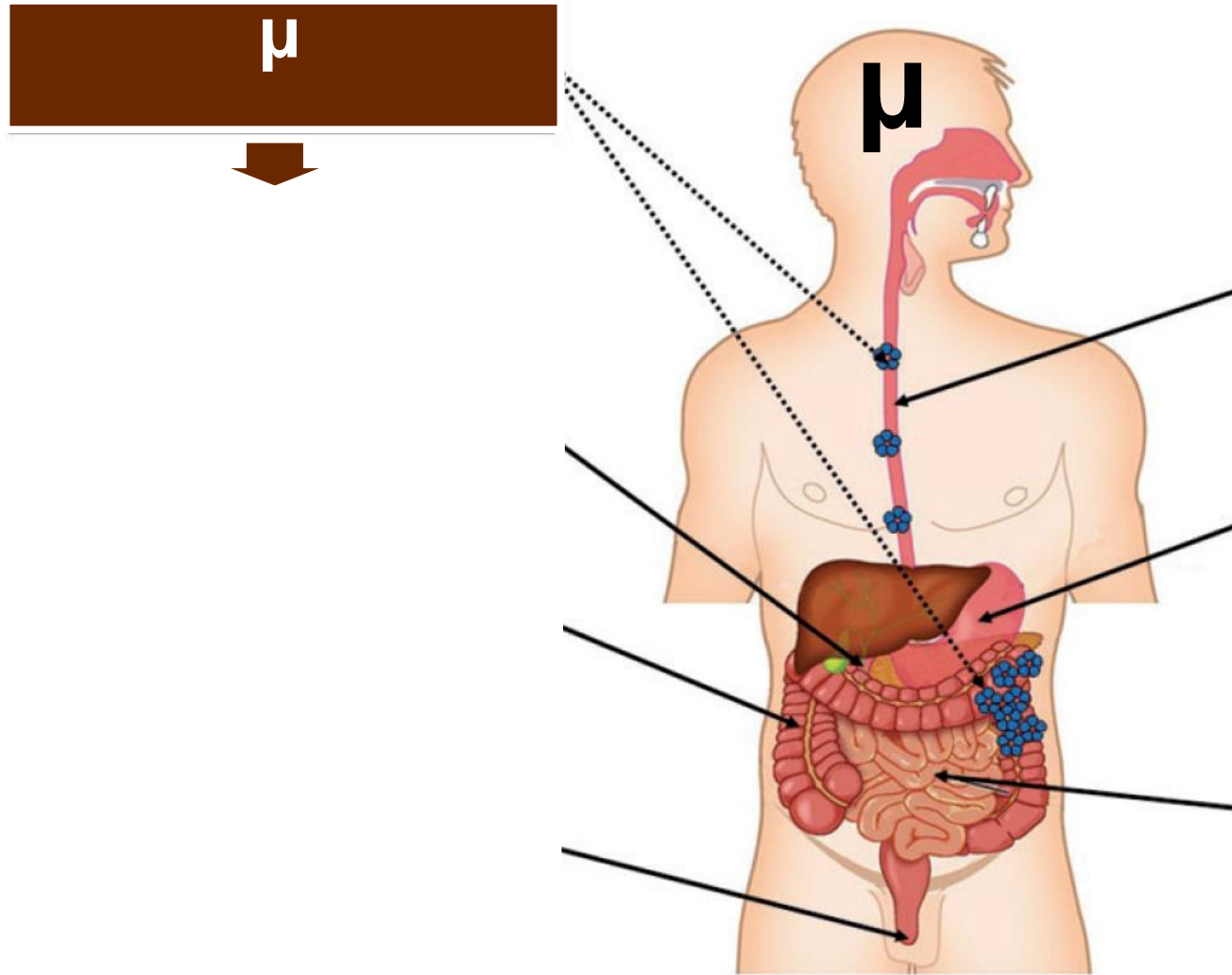
Use of OTC treatments  
e.g. laxatives or bulking agents



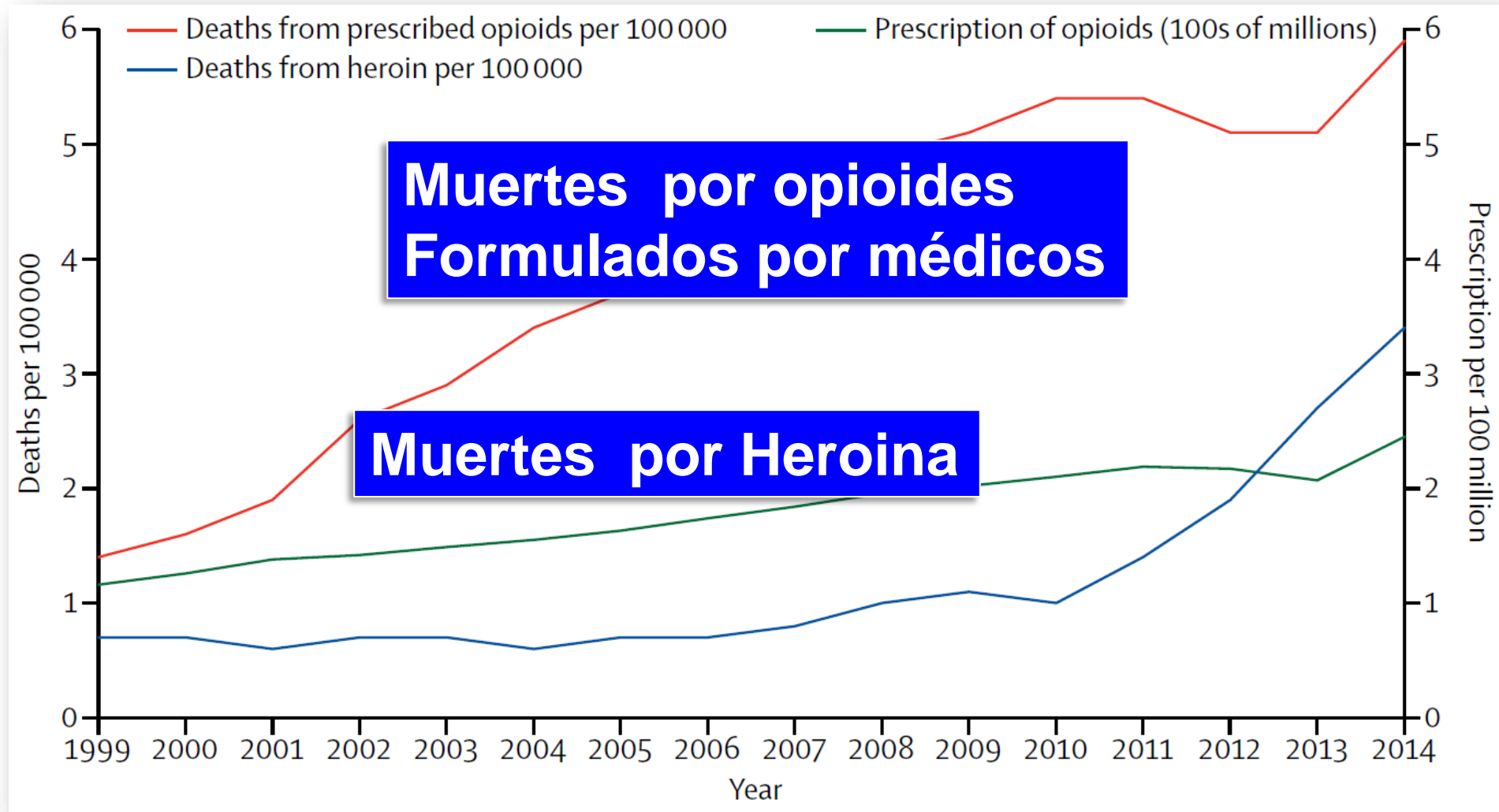
Restoration of  
satisfactory bowel  
habit

# Estreñimiento y opioides

# Intestino narcótico



# Muertes por opioides USA

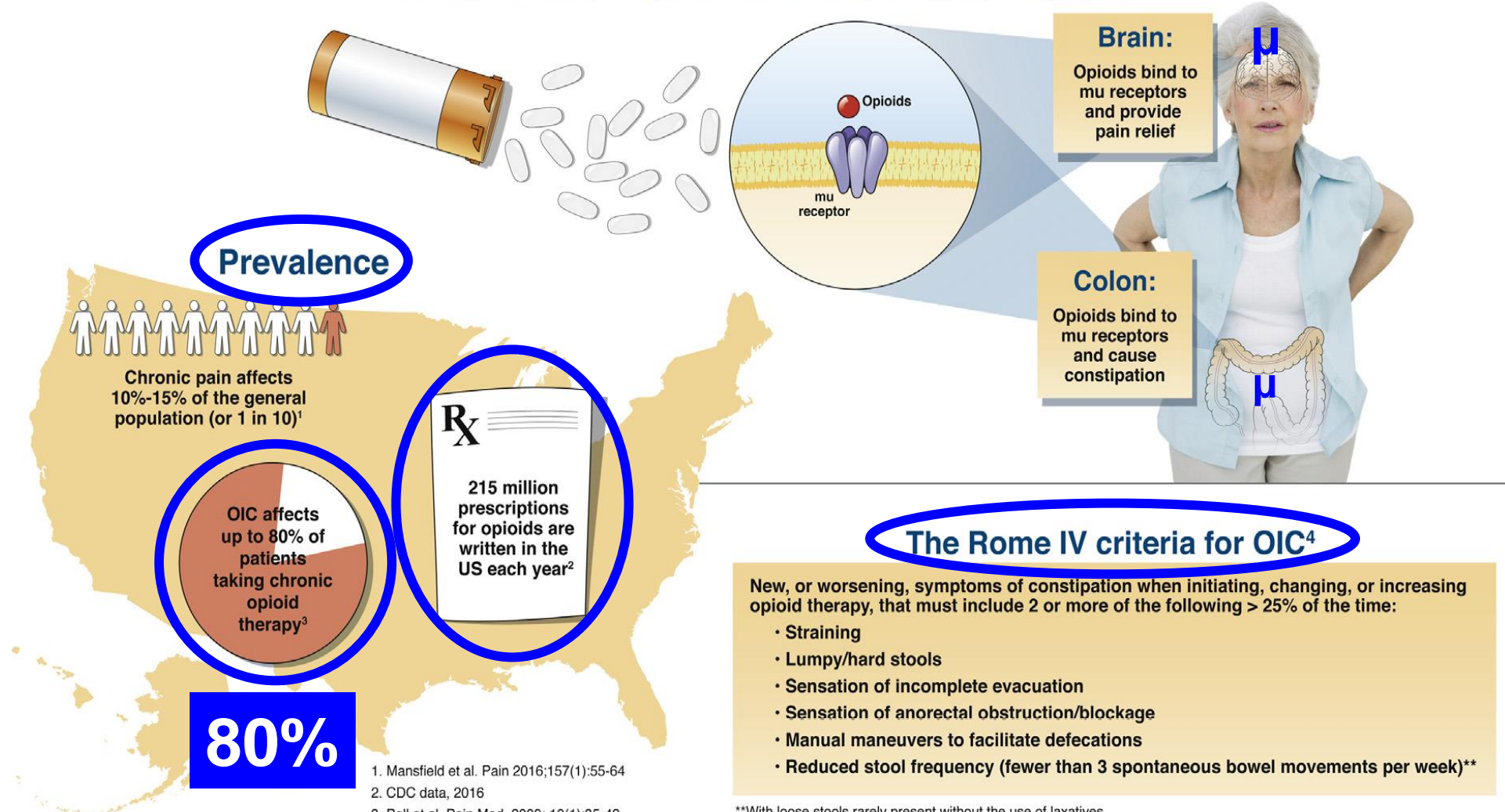


# Opioid-Induced Constipation (OIC) Guideline

Seth Crockett, MD, MPH<sup>1</sup>; Katarina B. Greer, MD, MS<sup>2</sup>; Shahnaz Sultan, MD, MHSc<sup>3</sup>

<sup>1</sup>University of North Carolina School of Medicine, Chapel Hill, NC; <sup>2</sup>Division of Gastroenterology and Liver Disease, Department of Medicine, University Hospitals Cleveland Medical Center, Cleveland, OH; Department of Medicine, Louis Stokes Cleveland VA Medical Center, Cleveland, OH;

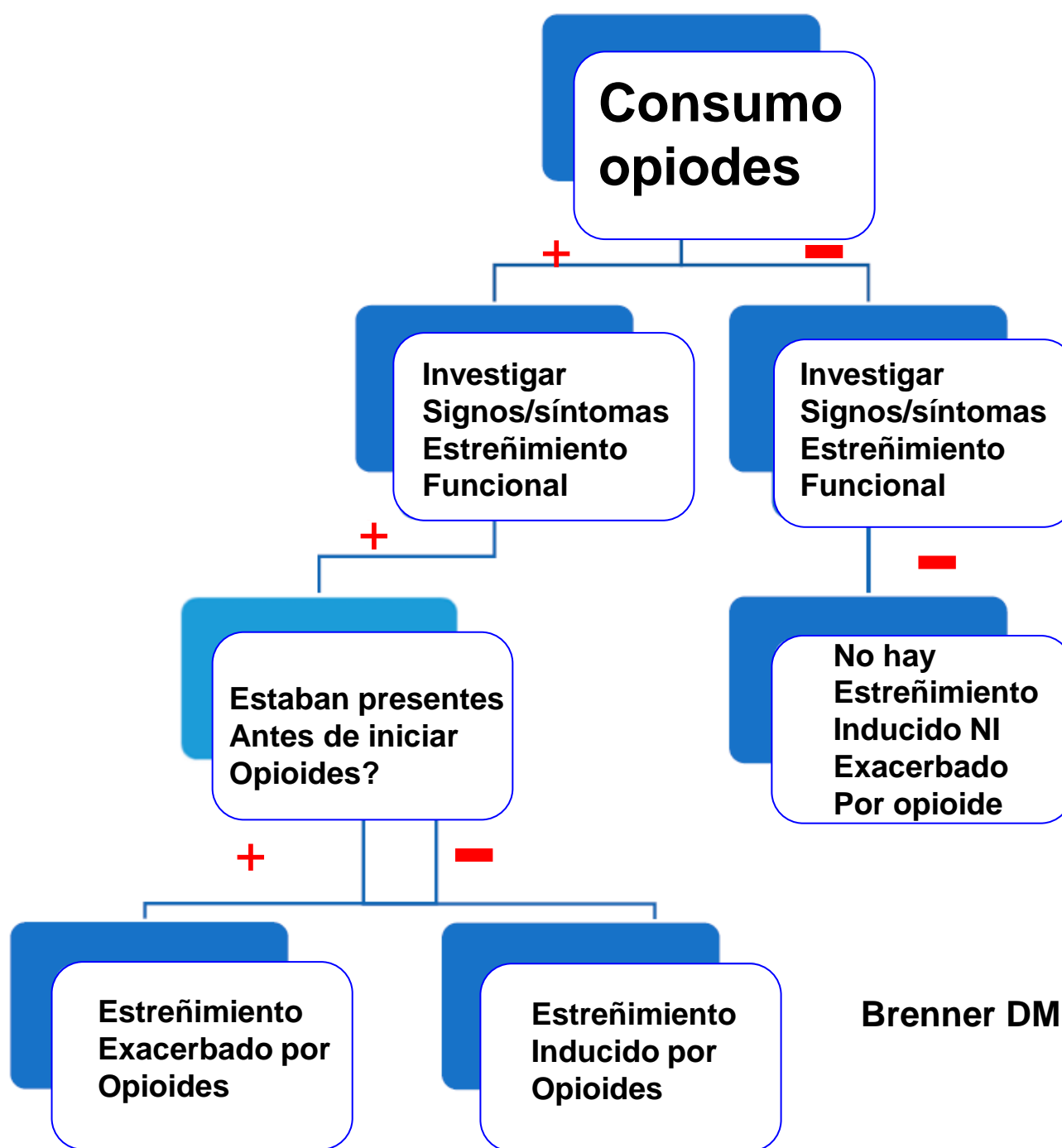
<sup>3</sup>University of Minnesota, Minneapolis Veterans Affairs Healthcare System, Minneapolis, MN



1. Mansfield et al. Pain 2016;157(1):55-64  
2. CDC data, 2016  
3. Bell et al. Pain Med. 2009; 10(1):35-42

\*\*With loose stools rarely present without the use of laxatives

<sup>4</sup>Lacy BE, Mearin F, Chang L, Chey WD, Lembo AJ, Simren M, Spiller R. Bowel Disorders. *Gastroenterology*, 2016. 150(16) 1393-1407.



Brenner DM, Am J Gastroenterol 2020;115:307-10.

# American Gastroenterological Association Institute Technical Review on the Medical Management of Opioid-Induced Constipation



Brian Hanson,<sup>1,\*</sup> Shazia Mehmood Siddique,<sup>2,\*</sup> Yolanda Scarlett,<sup>3</sup> and Shahnaz Sultan,<sup>1</sup> on behalf of American Gastroenterological Association Institute Clinical Guidelines Committee

UNITED EUROPEAN  
GASTROENTEROLOGY  
**ueg journal**

*Review Article*

## Pathophysiology and management of opioid-induced constipation: European expert consensus statement

United European Gastroenterology Journal

2019, Vol. 7(1) 7–20

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Adam D Farmer<sup>1,2,3</sup>, Asbjørn M Drewes<sup>2</sup>, Giuseppe Chiarioni<sup>4,5</sup>,  
Roberto De Giorgio<sup>6</sup>, Tony O'Brien<sup>7,8</sup>, Bart Morlion<sup>9</sup> and Jan Tack<sup>10</sup>








Adv Ther (2021) 38:3589–3621  
<https://doi.org/10.1007/s12325-021-01766-y>

REVIEW

## Management of Opioid-Induced Constipation and Bowel Dysfunction: Expert Opinion of an Italian Multidisciplinary Panel

Roberto De Giorgio · Furio Massimino Zucco · Giuseppe Chiarioni ·  
Sebastiano Mercadante · Enrico Stefano Corazziari · Augusto Caraceni ·  
Patrizio Odetti · Raffaele Giusti · Franco Marinangeli ·  
Carmine Pinto

# PAMORAs Antagonistas Periféricos Receptor $\mu$

	<b>Polyethylene glycol (Miralax)</b>	<b>Bisacodyl (Dulcolax)</b>	<b>Naldemedine (Symproic)</b>	<b>Naloxegol (Movantik)</b>	<b>Methylnaltrexone (Relistor)</b>	<b>Lubiprostone (Amitiza)</b>	<b>Prucalopride</b>
							
<b>Mechanism of action</b>	Osmotic laxative <i>Draws water into intestine to hydrate and soften stool</i>	Stimulant laxative <i>Irritates sensory nerve endings to stimulate colonic motility</i>	Peripherally acting mu opioid receptor antagonist (PAMORA) <i>Blocks opioid receptors in the gut</i>	Peripherally acting mu opioid receptor antagonist (PAMORA) <i>Blocks opioid receptors in the gut</i>	Peripherally acting mu opioid receptor antagonist (PAMORA) <i>Blocks opioid receptors in the gut</i>	Intestinal secretagogue <i>Acts on chloride channels in the gut to stimulate fluid secretion</i>	Selective 5-HT agonist <i>Activates 5-HT4 receptor, leading to increased colonic motility and accelerated transit</i>
<b>Route of administration</b>	• Oral	• Oral • Suppository	• Oral	• Oral	• Oral • Subcutaneous injection	• Oral	• Oral
<b>Recommended dose</b>	17–34 g/day	5–15 mg/day	0.2 mg/day	12.5–25 mg/day	Oral: 450 mg/day SubQ: 12 mg/day	24 mcg twice daily	2 mg/day
<b>Estimated monthly cost (USD)*</b>	\$	\$	\$\$\$	\$\$\$	\$\$\$\$	\$\$\$	Unknown: currently not FDA approved
<b>AGA recommendation</b>	In patients with OIC, the AGA recommends use of laxatives as first-line agents (strong recommendation, moderate quality evidence)	In patients with OIC, the AGA recommends use of laxatives as first-line agents (strong recommendation, moderate quality evidence)	In patients with laxative-refractory OIC, the AGA recommends naldemedine over no treatment (strong recommendation, moderate quality evidence)	In patients with laxative-refractory OIC, the AGA recommends naloxegol over no treatment (strong recommendation, moderate quality evidence)	In patients with laxative-refractory OIC, the AGA suggests methylnaltrexone over no treatment (conditional recommendation, low quality evidence)	In patients with OIC, the AGA makes no recommendation for the use of lubiprostone (no recommendation, evidence gap)	In patients with OIC, the AGA makes no recommendation for the use of prucalopride (no recommendation, evidence gap)

A Randomized, Multicenter, Prospective, Crossover,  
Open-Label Study of Factors Associated With Patient  
Preferences for Naloxegol or PEG 3350 for  
Opioid-Induced Constipation

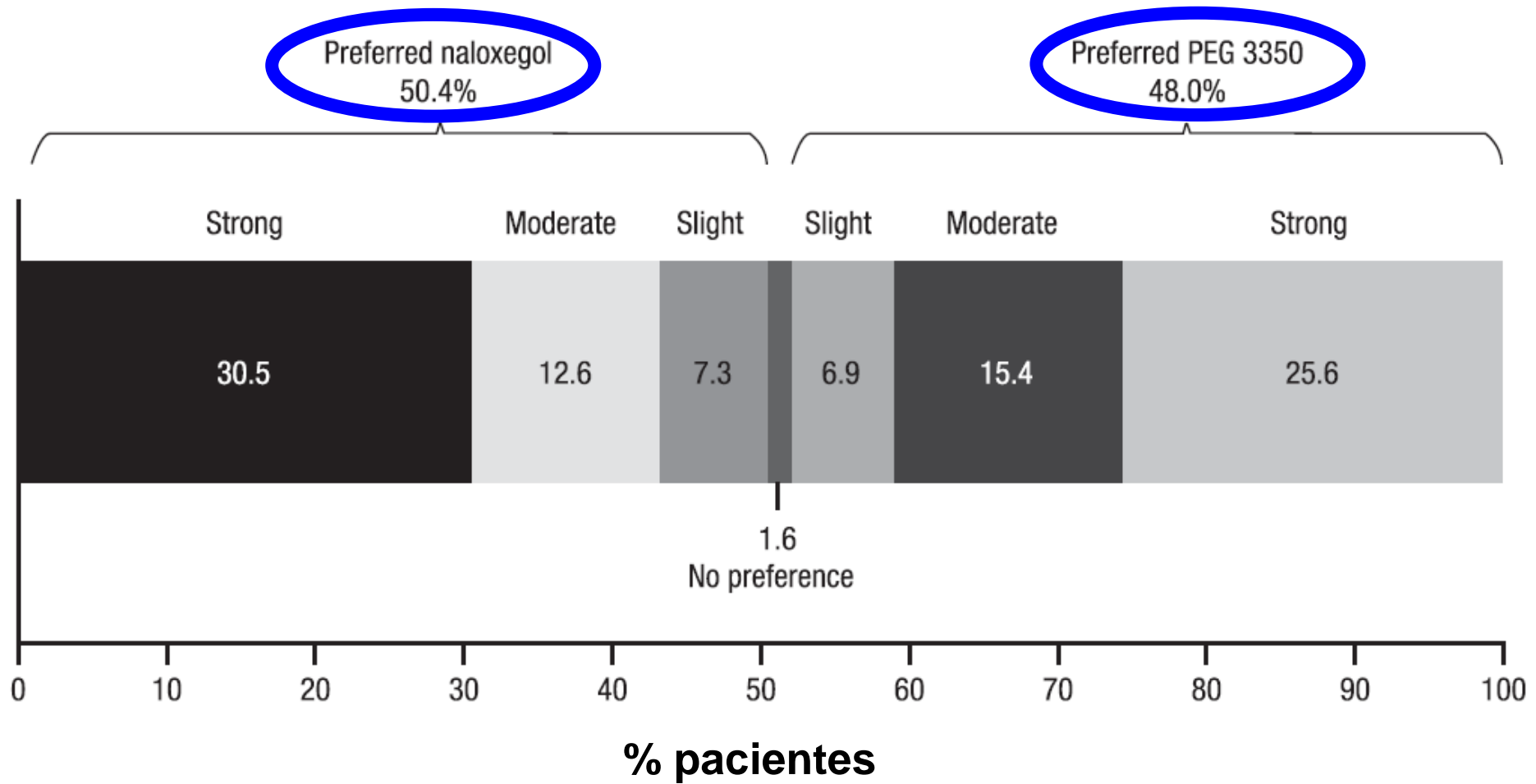
Darren M. Brenner, MD<sup>1</sup>, Yiqun Hu, MD, PhD<sup>2</sup>, Catherine Datto, MD, MS<sup>2</sup>, Dana Creanga, PhD<sup>2</sup> and Michael Camilleri, MD<sup>3</sup>

**Brenner DM, Am J Gastroenterol 2019;114:954–63.**

**Table 3. TEAEs with an incidence  $\geq 2\%$  in either treatment group (safety-analysis population)**

System organ class Preferred term	Naloxegol (n = 271)	PEG 3350 (n = 268)
Gastrointestinal disorders	44 (16.2)	29 (10.8)
Abdominal pain	15 (5.5)	6 (2.2)
Upper abdominal pain	10 (3.7)	4 (1.5)
Diarrhea	11 (4.1)	4 (1.5)
Flatulence	9 (3.3)	9 (3.4)
Nervous system disorders	12 (4.4)	0 (0.0)
Headache	6 (2.2)	0 (0.0)

PEG, polyethylene glycol; TEAE, treatment-emergent adverse event.



**Similar mejoría del estreñimiento**

**A randomized double-blind placebo-controlled trial showing to improve constipation by reducing methane production and accelerating colon transit: A pilot study**

Uday C. Ghoshal<sup>1</sup> · Deepakshi Srivastava<sup>1</sup> · Asha Misra<sup>1</sup>

**Estreñimiento crónico >> CH4 controles  
Rifaximina 400 g 3v/d 14 días << CH4 vs placebo  
TT colónico Mejoró Rifaximina vs placebo  
> Deposiciones Rifaximina vs placebo**

Sa1708 — 2020

Poster of Distinction

AGA

## SMALL INTESTINAL BACTERIAL OVERGROWTH IN REFRACTORY CONSTIPATION IS ASSOCIATED WITH DELAYED COLONIC TRANSIT, BUT NOT DYSSYNERGIC DEFECTION

### Colorectal Diseases

*Constipation and Other Functional Colonic Syndromes*

Presented on Saturday, May 2, 2020 12:30 PM

**Author(s):** Samuel Tanner<sup>1</sup>, Ahson Chaudhry<sup>1</sup>, Navneet Goraya<sup>1</sup>, Rohan Badlani<sup>1</sup>, Asad<sup>1</sup> Temple University Hospital, Philadelphia, Pennsylvania, United States

# Estreñimiento refractario tránsito lento 61% IMO → CH<sub>4</sub>, Defecación disinérgica NO IMO

**Introduction:** Small intestinal bacterial overgrowth (SIBO) is known to cause symptoms such as abdominal bloating, distension, and gas. SIBO has also been associated with diarrhea and constipation, although the exact pathophysiology is less clear. In this study, we correlate both the presence and subtypes of SIBO to whole gut transit (gastric emptying (GE), small bowel transit (SBT), and colonic transit (CT)) and anorectal function in patients referred to a tertiary motility center with refractory constipation. **Methods:** Lactulose breath testing (LBT), whole gut transit scintigraphy (WGTS), and high resolution anorectal manometry (HR-ARM) of consecutive patients being evaluated for refractory constipation between 6/2016 and 11/2019 were included. LBT was performed using the BreathTracker Analyzer (QuinTron Instruments). SIBO by hydrogen (H-SIBO) was defined as a rise of 20 ppm in hydrogen from baseline within the first 90 minutes of testing. SIBO by methane (M-SIBO) was defined as a peak value of  $\geq 10$  ppm. CT was assessed by WGTS using the geometric center of radioactivity from cecum/ascending colon (region 1) to rectosigmoid (region 6) and excreted stool (region 7). HR-ARM was performed using ManoScan™ and analyzed using ManoView™ software (Medtronic). **Results:** 222 patients with refractory constipation completed LBT and WGTS. Of these patients, 201 also completed HR-ARM. SIBO was diagnosed in 137 patients (61%). This comprised of 53 patients with H-SIBO, 47 with M-SIBO, and 37 with both H-SIBO & M-SIBO. **Colonic Transit:** Patients with SIBO had slower CT at 48 h and 72 h (Table 1, both  $p < 0.01$ ), but no significant difference in GE, SBT, or CT at 24 h. M-SIBO, in particular, had slower CT at 48 h and 72 h compared to H-SIBO and H-SIBO & M-SIBO ( $p = 0.02$  and  $p = 0.01$ , respectively). Baseline methane level was negatively correlated to CT at 72 h ( $r = -0.36$ ,  $p < 0.001$ ). This correlation was stronger in patients with M-SIBO vs. M-SIBO & H-SIBO ( $r = -0.49$ ,  $p < 0.01$  vs.  $r = -0.12$ ,  $p = 0.48$ ). **Anorectal Function:** Patients with SIBO had a lower mean anal sphincter pressure ( $62.5 \pm 2.3$  vs.  $73.7 \pm 2.2$  mm Hg,  $p < 0.001$ ). Lower mean anal sphincter pressure was seen in H-SIBO and M-SIBO, but not combined M-SIBO and H-SIBO ( $p = 0.03$ ). Otherwise, the presence of SIBO was not associated with differences in dyssynergic defecation or abnormal balloon expulsion testing and there were no statistically significant differences among SIBO subtypes (although sample size is small). **Conclusions:** SIBO is common in patients with refractory constipation. It was found in 61% of patients referred to our center. SIBO, and in particular M-SIBO, is associated with delayed CT, but not dyssynergic defecation. Baseline methane level correlates with CT. This suggests that methane in particular may play a role in the pathophysiology of delayed CT.

**SIBO asociado a CH4**



*Methanosphaera stadtmaniae*  
*Methanobrevibacter smithii*

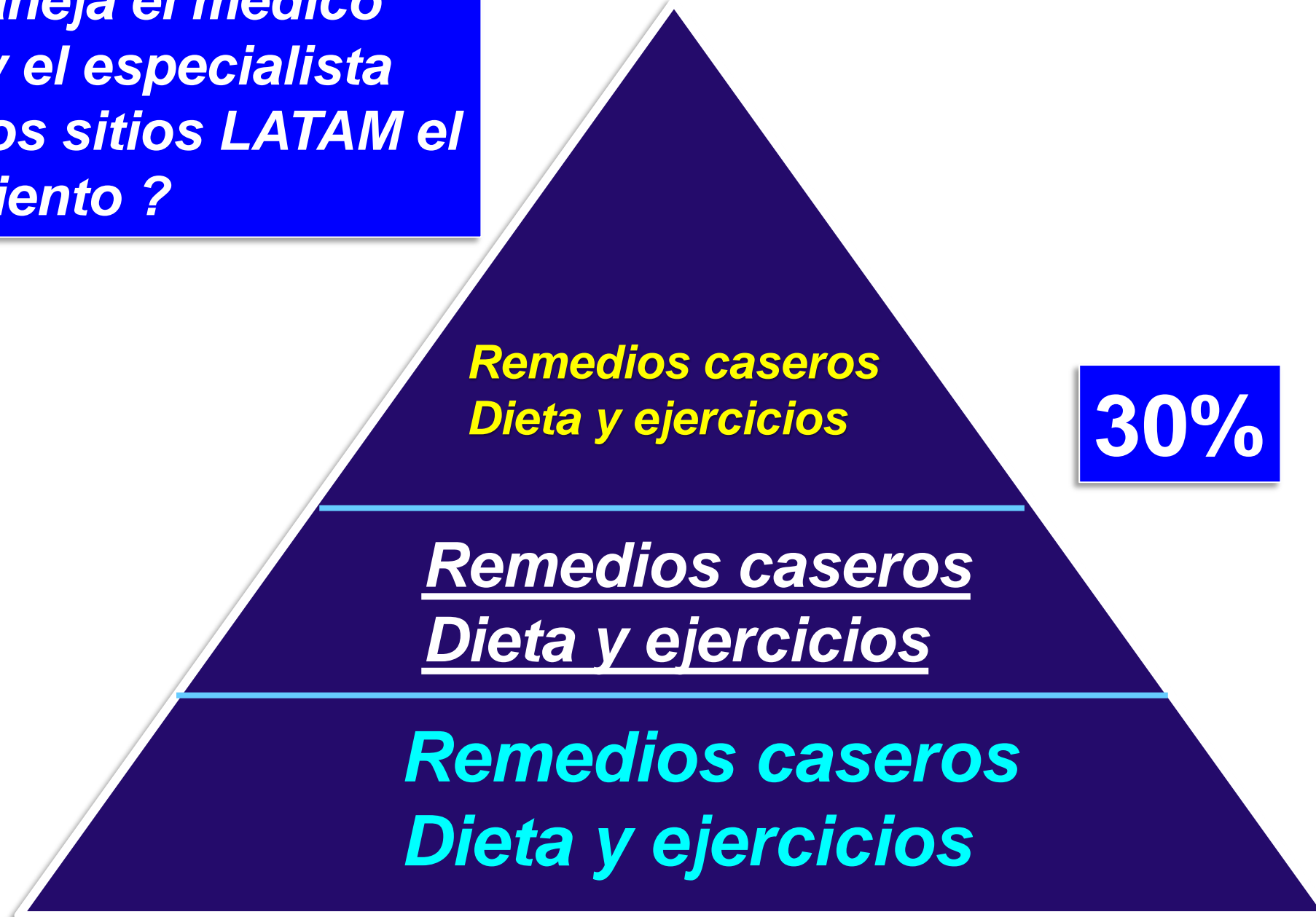
**Estreñimiento**



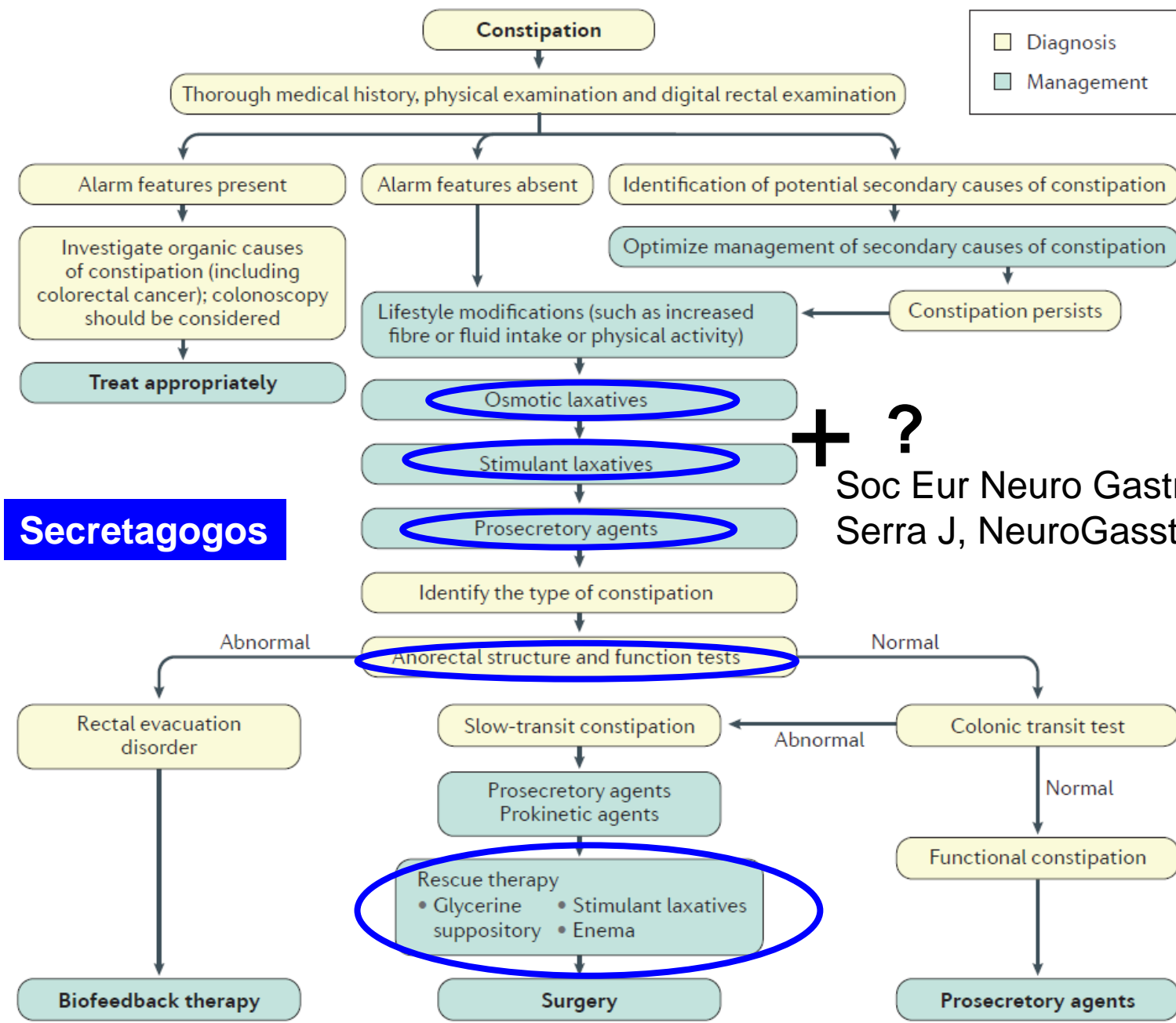
**Neurotransmisor anticolinérgico**  
**Sistema nerviosos entérico**

Pimentel M, Am J Physiol Gastrointest Liver Physiol 2006;290:G1089-95  
Park YM, Neurogastroenterol Motil 2017;29:e113077  
Suri J, Med (Baltimore) 2018;97:10554

***Cómo maneja el médico General y el especialista de muchos sitios LATAM el Estreñimiento ?***



**En el 2023 hay más  
Conocimiento**



**Secretagogos**

**+ ?**  
 Soc Eur Neuro Gastro Motill  
 Serra J, NeuroGasstroenterol Motil 2021

***40-50% insatisfechos  
Con el tratamiento  
farmacológico***



***Tratamiento no  
farmacológico***

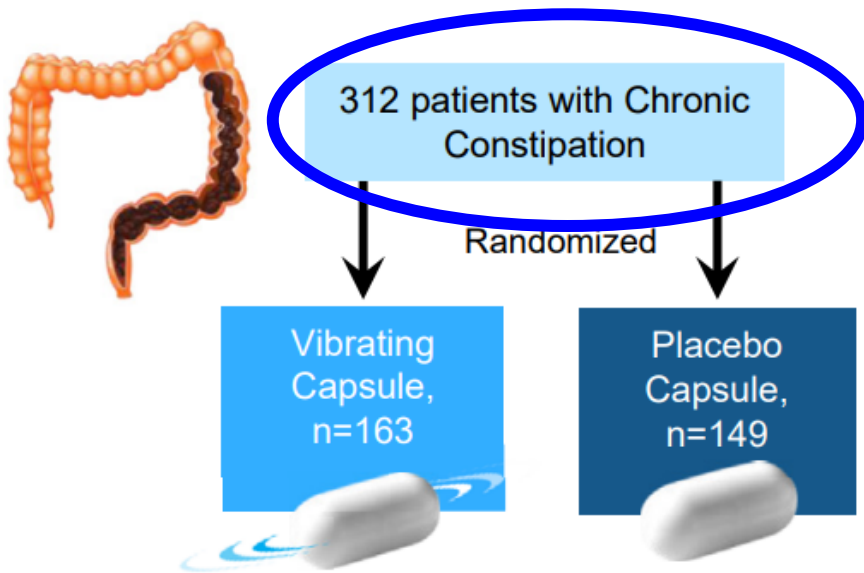
Oh SJ, Am J Gastroenterol 2020;115:895-905  
Basilisco G, Aliment Pharmacol Ther 2020;51:629-36

# Randomized Placebo-Controlled Phase 3 Trial of Vibrating Capsule for Chronic Constipation

Satish S. C. Rao,<sup>1</sup> Eamonn M. M. Quigley,<sup>2</sup> William D. Chey,<sup>3</sup> Amol Sharma,<sup>1</sup> and Anthony J. Lembo<sup>4</sup>

## Vibrating Capsule Treatment for Chronic Constipation

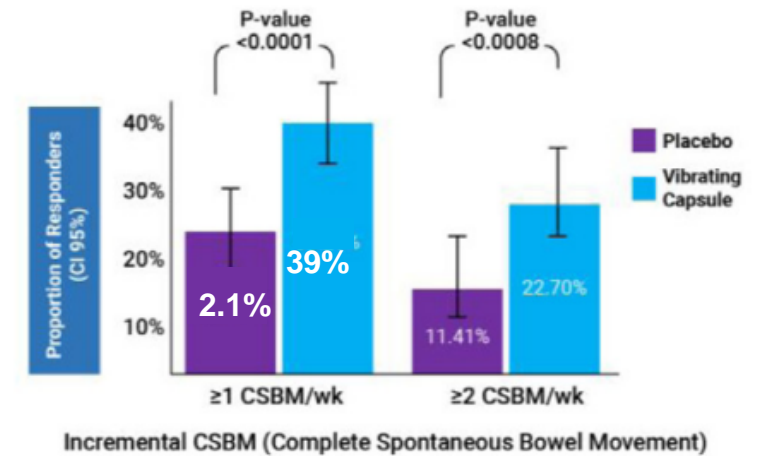
Phase 3, Double Blind, Multicenter, Placebo controlled trial



- Patients ingested one capsule at bedtime daily for 5 days a week
- Duration of study= 8 weeks

**Primary Outcome Measures:**  
Increase in one or more or two or more complete spontaneous bowel movements (CSBM) per week over baseline in 6 out of 8 weeks

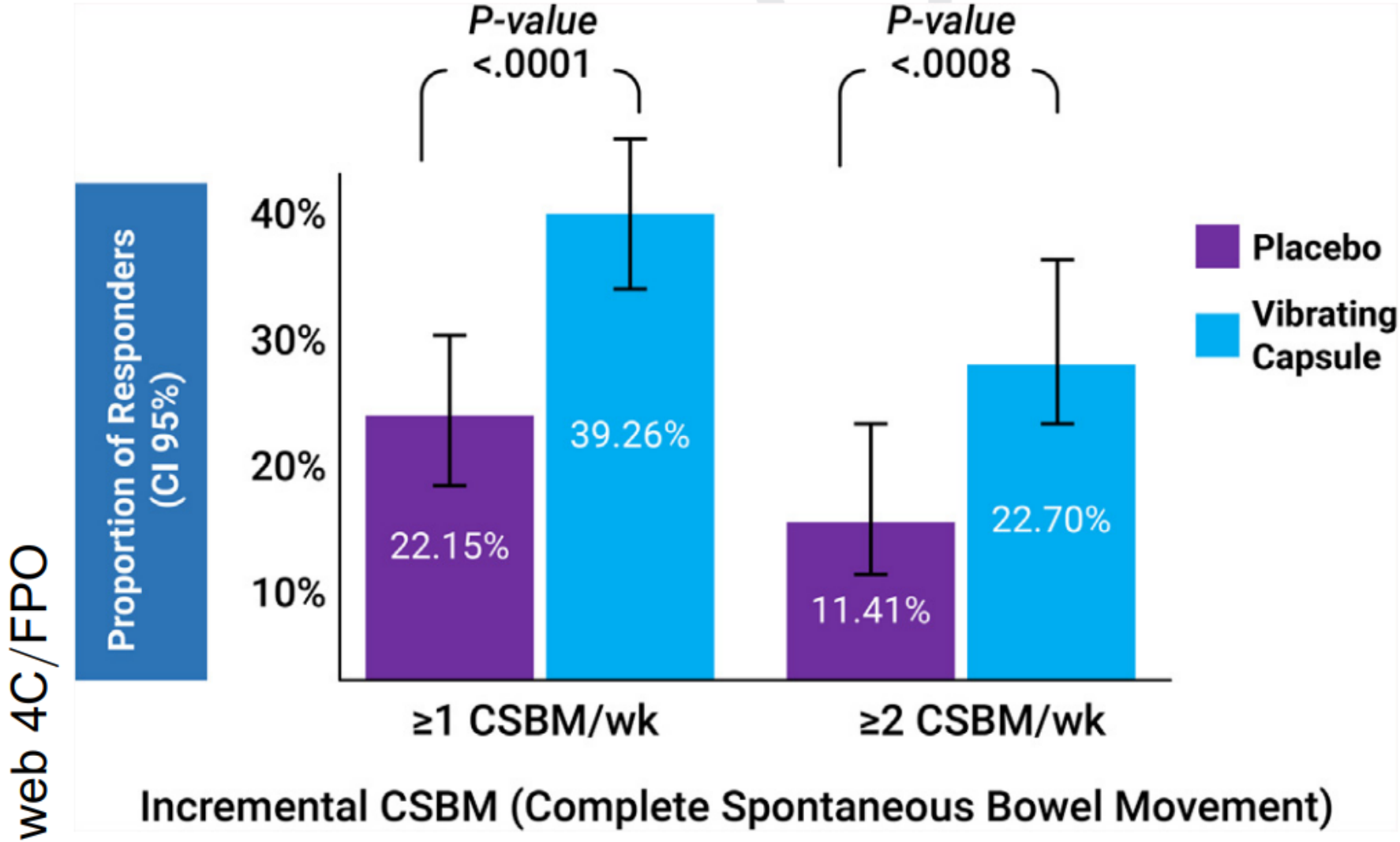
Effect of Vibrating Capsule on CSBM, Primary Outcomes



Vibrating Capsule was superior to Placebo capsule in improving constipation symptoms and quality of life, and was safe and well tolerated

# Randomized Placebo-Controlled Phase 3 Trial of Vibrating Capsule for Chronic Constipation

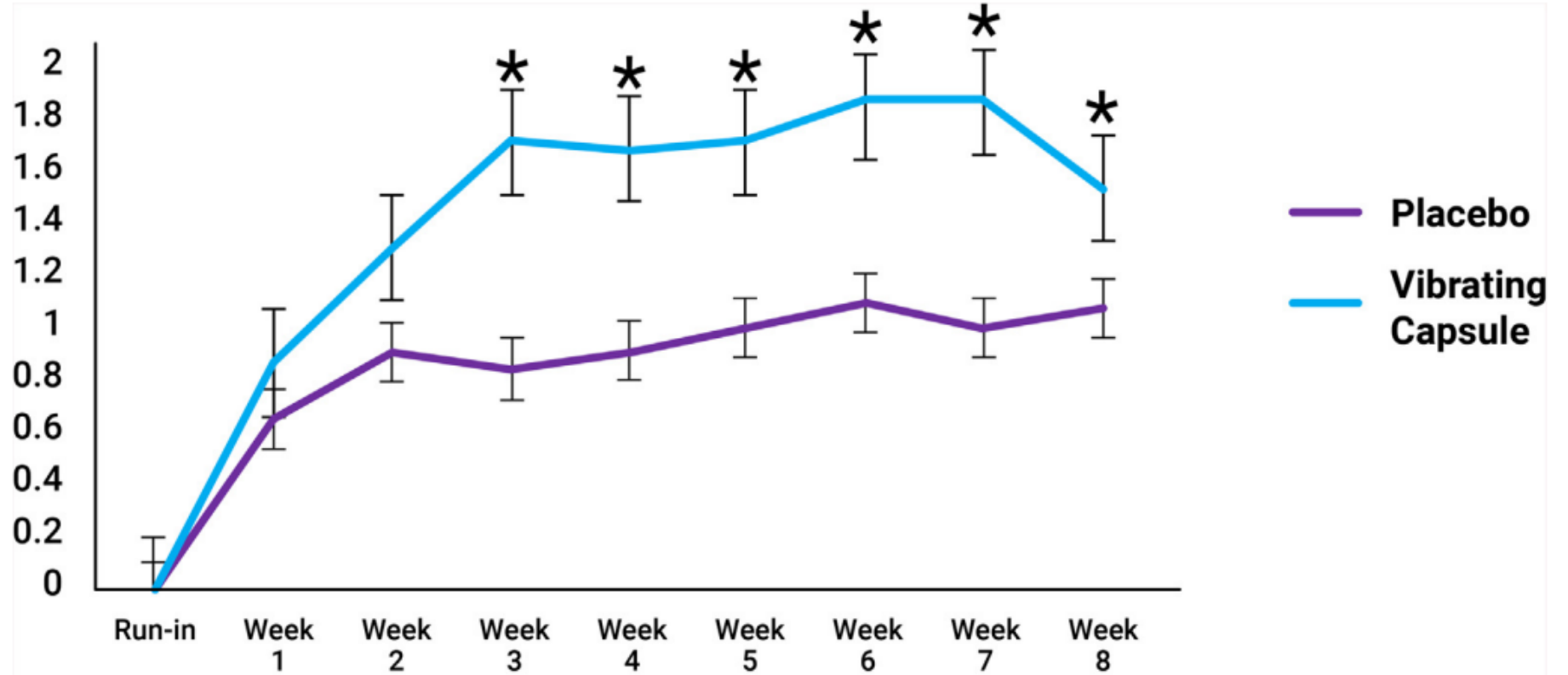
Satish S. C. Rao,<sup>1</sup> Eamonn M. M. Quigley,<sup>2</sup> William D. Chey,<sup>3</sup> Amol Sharma,<sup>1</sup> and Anthony J. Lembo<sup>4</sup>



# Randomized Placebo-Controlled Phase 3 Trial of Vibrating Capsule for Chronic Constipation

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web 4C/FPO



**Figure 4.** The change from baseline in the mean weekly CSBM<sub>1</sub> rate during the entire trial period.

## ***Mensajes para la casa***

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***La “fibra y el agua” no es el único tratamiento***

***PEG primera línea 17-34 g, niños, útil opioides***

***PEG eficaz, seguro más económico***

***Prucalopride 1-2 mg/día***

***Lubiprostone 24 mcg/2v/día***

***Linaclootide 290 mcg/día***

***Colonoscopia tiene indicaciones***

***Defecación obstructiva exámenes biofeedback***

***SII-E no es diferente al EC primario***

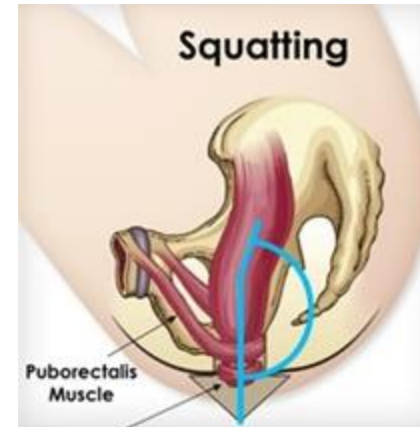
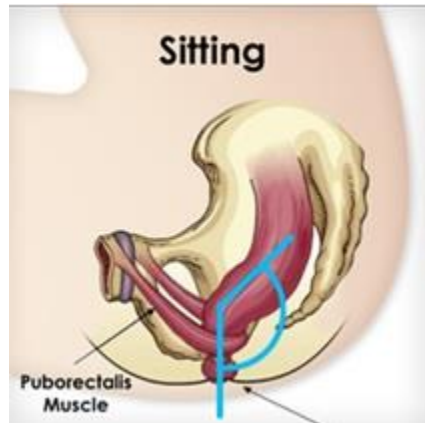
***En la práctica tratamiento es similar***

Así es más fisiológico

✗ 90°



✓ 35°



***Siempre tacto rectal***



***Muchas gracias!***



***Muchas gracias!***



# Estreñimiento-Síntoma

## Estreñimiento Funcional

## SII Estreñimiento

Disminución tránsito colónico  
< Contracciones alta amplitud  
Tránsito lento  
Disinergia piso pélvico

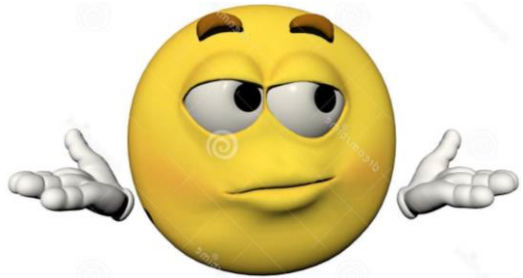
*Microbiota  
Metanogénica  
Responden similar  
Defecación  
Disinérgica*

Hipersensibilidad visceral  
Alodinia, hiperalgesia  
> Permeabilidad  
SIBO  
Disinergia piso pélvico

**SII con  
Estreñimiento ?**



**Estreñimiento  
Funcional ?**



**Tranquilo:  
Mientras la ciencia lo descubre**

**Los remedios son similares**

**El dolor requiere otros medicamentos**

**Anti espasmódicos, Rifaximina, SII**

# Estreñimiento refractario

Pruebas Específicas  
Colon, ano-recto

Manometría ano-rectal  
Test de expulsión del balón  
Tránsito colónico  
Defecografía RM

Estreñimiento  
Con tránsito lento

Estreñimiento  
Con tránsito normal

Disfunción de  
Piso pélvico

- linaclotide
- lubiprostone
- biofeedback

- PEG
- lubiprostone
- SSRI

- Biofeed-back

**Cirugía**

Colectomía subtotal  
Ileo-recto-anastomosis  
Colostomía, ileostomía