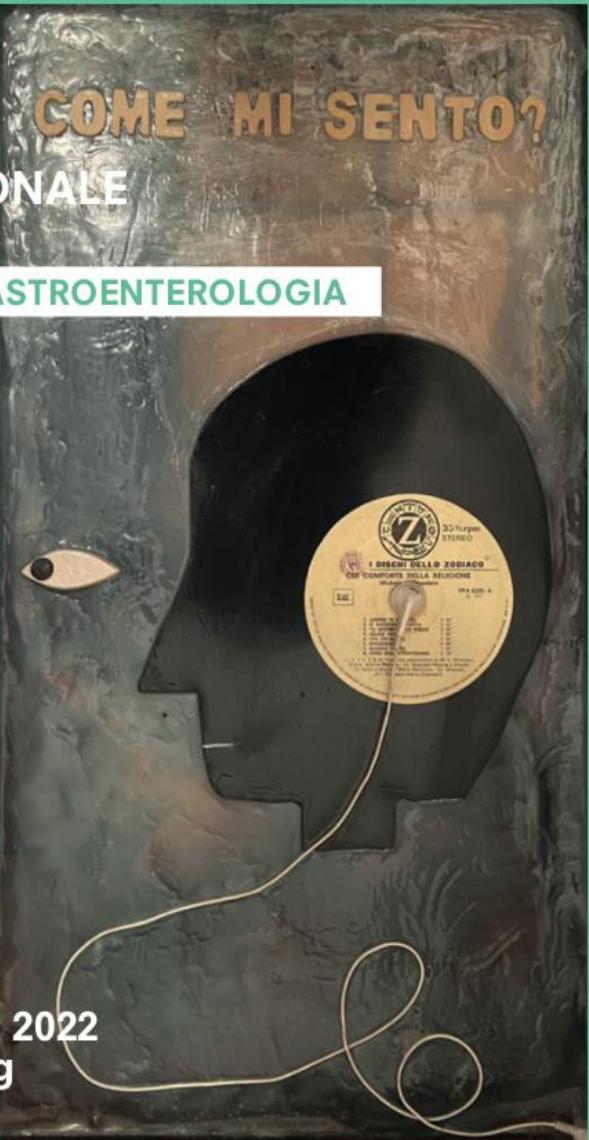


CORSO
INTERREGIONALE
A.I.G.O.

LA NUOVA GASTROENTEROLOGIA

EMILIA ROMAGNA
MARCHE
TOSCANA

RIMINI
11-12 febbraio 2022
Hotel Sporting



FINE DELLA PAURA: L'ENDOSCOPIA SENZA DOLORE

Monica Sbrancia

*UOC Gastroenterologia ed Endoscopia Digestiva Forlì-Cesena
AUSL Romagna*

CORSO INTERREGIONALE A.I.G.O.

LA NUOVA GASTROENTEROLOGIA

EMILIA ROMAGNA
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RAZIONALE SCIENTIFICO

La scienza medica, nonostante i continui progressi e la presenza da anni di istanze volte a renderla più umana e centrata sul paziente, esita nell'approfondire gli aspetti meno tecnici, spesso tralasciando di approfondire l'importanza della relazione umana, l'utilizzo di integratori e fitoterapici, gli approcci non farmacologici.

Eppure, questi temi entrano a pieno diritto in ambulatorio, e se non soddisfatti minano a volte anche pesantemente l'efficacia della cura.

Basti pensare al ruolo fondamentale del rapporto medico-paziente che in gran parte deriva da valutazioni non tecniche da parte del paziente.

La gastroenterologia tra l'altro si distingue dalle altre specialità per avere un'enorme varietà di manifestazioni funzionali, pure o che aggravano il quadro di patologie organiche, ed è fuori discussione che le patologie funzionali si trattano in misura molto limitata con i farmaci del prontuario.

Purtroppo non siamo e non possiamo essere competenti in tutte le discipline "complementari" a quella che è la nostra specialità, e il corso di laurea fornisce nozioni del tutto insufficienti per affrontare completamente la questione. Ciò non toglie che bisogna aumentare la nostra attenzione approfondendo le conoscenze che non sono previste nei curricula accademici ma servono tra le pareti dell'ambulatorio.

Riteniamo anche importante ribadire in questo contesto il ruolo della prevenzione, che quando funziona consente di ottenere il massimo del risultato in medicina, ovvero non far ammalare la popolazione.

Per completare il programma, e come richiesto da chi governa la sanità, parleremo della presa in carico, e presenteremo diverse strategie disponibili.

Si sottolinea che tutti gli argomenti verranno trattati in maniera pratica, in quanto non vogliamo (e non possiamo) invadere ambiti che non ci competono; vogliamo invece fornire strumenti utili e applicabili per rispondere ai bisogni del paziente, alla luce delle nuove evidenze scientifiche.

PROGRAMMA SCIENTIFICO

Venerdì, 11 Febbraio 2022

Registrazione dei partecipanti

Benvenuto dei Presidenti Regionali e del Direttivo Nazionale AIGO

**Paolo Cecinato (Emilia-Romagna), Lina Lai (Marche),
Francesca De Nigris (Toscana), Fabio Monica (Trieste),
Paolo Montalto (Pistoia)**

Il motivo di questo Corso
Francesco Ferrara (Bologna)

I SESSIONE - PREMESSE

Introduce: Marco Soncini (Milano)

Moderatori: Francesco Costa (Pisa), Paolo Sossai (Urbino, PU)

- 15:00 Aspetti non medici della visita medica,
comunicare bene per curare bene
Carlo Fabbri (Forlì-Cesena)
- 15:20 Cosa manca al paziente, i bisogni dall'altro lato della scrivania
Alessandro Agostini (Bologna)
- 15:40 Brain-gut-microbiome axis, la sfida del secolo
Chiara Racchini (Ravenna)
- 16:00 Discussione
Antonio Salzetta (Ravenna)
- 16:10 Accesso alle prestazioni e presa in carico:
cosa non funziona, come risolvere
Vincenzo Cennamo (Bologna)
- 16:30 È iniziata l'era della medicina di genere
anche in gastroenterologia?
Mariaelena Serio (Pesaro)
- 16:50 I disturbi funzionali: il corpo e la mente
Massimo Bellini (Pisa)
- 17:10 Discussione
Maria Grazia Faraci (Urbino)
- 17:20 The chicken or the egg? Mente e IBD
Riccardo Solimando (Ferrara)
- 17:40 A.I. nelle lesioni del colon: l'interesse del paziente
Guido Manfredi (Crema)

Termine della 1^a giornata

Sabato, 12 Febbraio 2022

II SESSIONE - QUESTIONI APERTE

Introduce: Giuseppe Milazzo (Salem)

Moderatori: Giuseppe Feliciangeli (Macerata), Raffaele Manta (Perugia)

- 8:20 Io prescrivo, tu assumi? Terapia cronica e compliance:
l'esempio della mesalazina
Simona Piergallini (Fermo)

- 8:40 La varietà delle terapie biologiche nelle IBD:
siamo nell'era della medicina personalizzata?
Francesco Santilli (Rimini)

- 9:00 Update sulle evidenze scientifiche dei benefici
di un corretto regime alimentare
Luigi Fontana (in collegamento da Sydney)

- 9:35 La NAFLD, malattia del benessere e grave malessere
Sara Traini (Fermo)

- 9:55 Allergie e intolleranze, le chiacchiere e i fatti
Caterina Violanti (Firenze)

- 10:15 Discussione
Marco Di Marco (Rimini)

- 10:25 Break

III SESSIONE - INTERVENTI E SOLUZIONI

Introduce: Romano Sassatelli (Reggio Emilia)

Moderatori: Maurizio Labardi (Firenze), Mauro Manno (Carpì)

- 10:40 Fine della paura: l'endoscopia senza dolore
Monica Sbrancia (Forlì)

- 11:00 La preparazione alla colonoscopia senza fatica
Luigi Maria Daretto (Ancona)

- 11:20 Gli integratori di ferro e vitamine; orientarsi tra le Proposte
Stefano Landi (Bologna)

- 11:40 Gli integratori e i fitoterapici per i disturbi addominali:
principi di efficacia
Antonini Filippo (Fermo)

- 12:00 Gli integratori e i fitoterapici per il reflusso gastroesofageo:
principi di efficacia
Ivano Biviano (Siena)

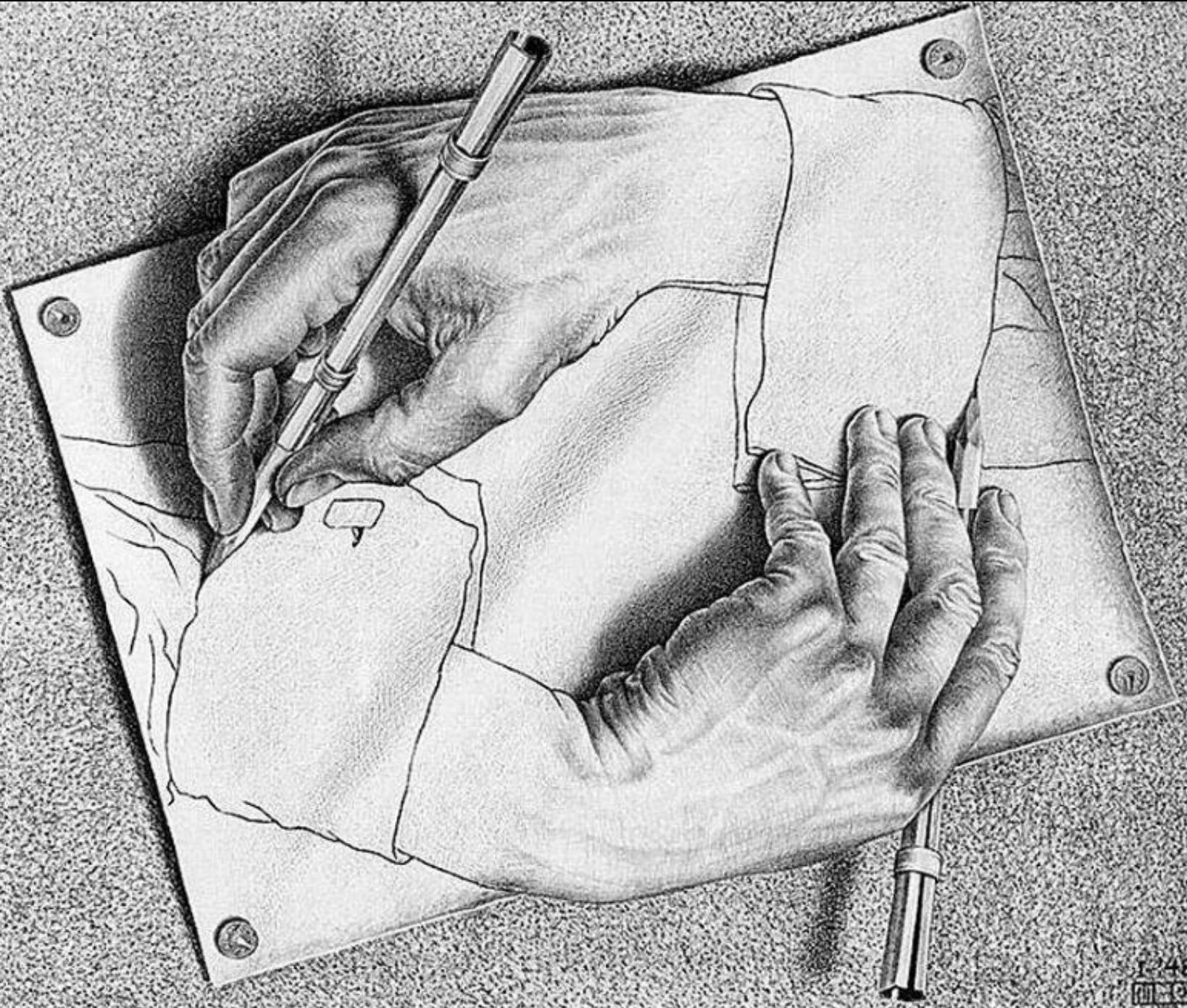
- 12:20 Alimentazione, diete e ambiente
Gioacchino Leandro (Castellana Grotte)

- 12:40 Yoga e Meditazione
Pamela Rossetti (Fermo)

- 13:00 Commenti
Giammarco Fava (Ancona)

Conclusioni del Corso

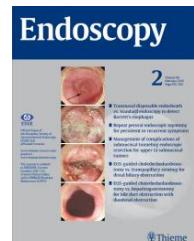
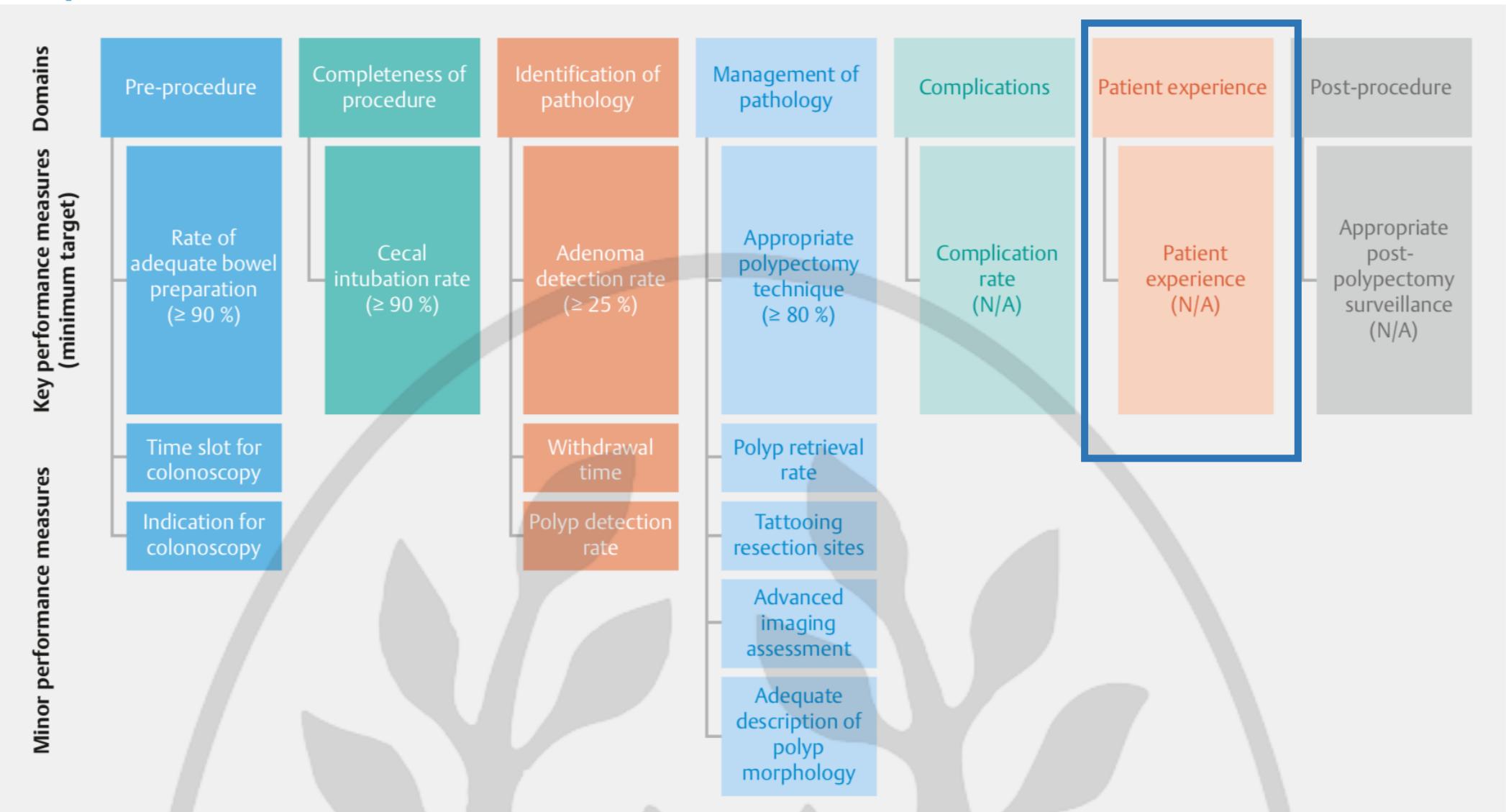
PROCEDURE



PATIENT

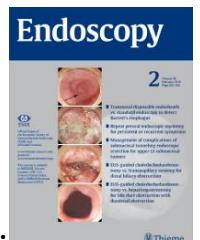


Performance measures for lower gastrointestinal endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) Quality Improvement Initiative



Performance measures for upper gastrointestinal endoscopy: a European Society of Gastrointestinal Endoscopy (ESGE) Quality Improvement Initiative

Domains	Pre-procedure	Completeness of procedure	Identification of pathology	Management of pathology	Complications	Number of procedures	Patient experience	Post-procedure
Key performance measures (minimum target)	Proportion of patients with proper instructions for fasting ($\geq 95\%$)	Proportion of reports stating procedure time ($\geq 90\%$) Proportion with accurate photodocumentation ($\geq 90\%$)	Proportion of reports with standardized terminology ($\geq 95\%$)	Proportion using Seattle biopsy protocol in Barrett's surveillance ($\geq 90\%$)	Proportion with registration of complications after therapeutic procedures ($\geq 95\%$)	No current standard defined	No current standard defined	No key performance measure defined
Minor performance measures			Inspection time in the stomach ($\geq 90\%$) Inspection time in Barrett's esophagus ($\geq 90\%$) Lugol staining in the esophagus for patients at risk of SCC ($\geq 90\%$)	Proportion using a biopsy protocol according to MAPS guidelines ($\geq 90\%$)			Proportion of Barrett's patients entered into a registry to monitor the incidence of dysplasia ($\geq 85\%$)	



A new composite measure of colonoscopy: the Performance Indicator of Colonic Intubation (PICI)

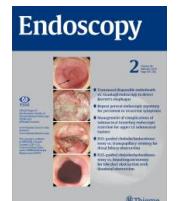
20.085 pts

- Cecal Intubation Rate (CIR)
- Sedation (midazolam \leq 2 mg)
- Patient Comfort 1-3 (Gloucester comfort scale)

PICI% =

procedures with cecal intubation AND comfort score 1–3 AND \leq 2mg midazolam
all procedures

55%



PATIENT EXPERIENCE

« to which extent patients are receiving care that is respectful of and responsive to individual patient preferences, needs and values »



Agency for Healthcare
Research and Quality

2021

PATIENT QUALITY



Agency for Healthcare
Research and Quality

2021



Passionate about improving colonoscopy quality and patient experience?

As part of the packed programme of ESGE Days 2022, our premium partner Norgine will be hosting the following satellite symposium:

Excel, Engage, Empower: Leveraging Simple Changes to Optimise Colonoscopy Quality and Patient Experience.

Date/time:

Friday April 29 from 12:45 to 13:45 (CEST)

Chair:

Raf Bisschops (Belgium)

Speakers:

Cristiano Spada (Italy), Benjamin M. Walter (Germany)

Norgine looks forward to you attending their symposium;

"You are invited to join us on Friday 29th April at 12:45 to 13:45 (CEST) in the Panorama Hall for this interactive panel discussion with renowned experts Professor Raf Bisschops (Belgium), Professor Cristiano Spada (Italy) and Professor Benjamin M. Walter (Germany) who will be discussing quality of colonoscopy:

- *What are the areas in need of improvement?*
- *How to achieve high quality bowel cleansing and optimise patient experience?*
- *How to empower the patient and further engage key actors to get there?"*

[Click to view your invitation to this symposium](#)

PRE

INTRA

POST

Patient-Reported Experience Measures for Colonoscopy: A Systematic Review and Meta-Ethnography

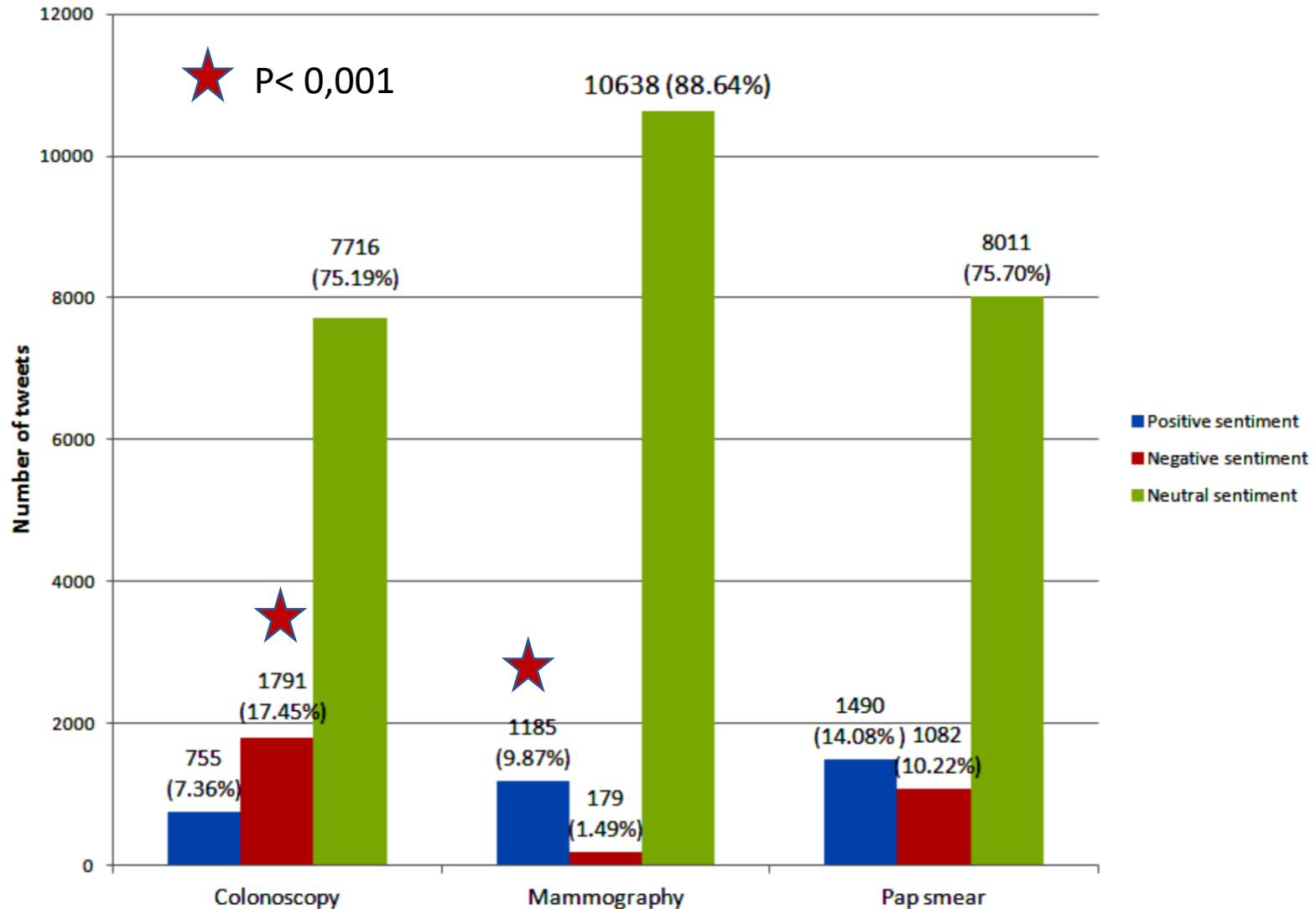
Annica Rosvall ^{1,*}, Magdalena Annersten Gershater ¹, Christine Kumlien ^{1,2}, Ervin Toth ³ and Malin Axelsson ¹

13 studies

Instruments	Health Motivation n = 10		Discomfort n = 12			Information n = 10			A Caring Relationship n = 10			Understanding n = 8		
	Overall	Before	During	After	Before	During	After	Before	During	After	Before	During	After	
CSSQP [50]	—	—	+	—	+	+	+	—	+	—	—	—	—	
Colonoscopy Questionnaire BCSP-NHS [49]	—	—	+	+	+	—	+	—	+	—	+	—	—	
Gastronet [51]	—	—	+	—	+/-	—	+	—	+	—	—	—	—	
GESQ [52]	—	—	+	—	+	—	+	—	+	—	—	—	—	
GI Procedure Patient Satisfaction Survey [45]	—	+	+	+	+	—	+	—	+	—	—	—	—	
Global Rating Scale (GRS) ¹ [46]	—	—	+	—	+	+/-	+	—	+	—	—	—	—	
mGHAA-9 [47]	—	—	+	—	+	—	+	—	+	—	+	—	+	
Patient satisfaction questionnaire [48]	—	—	—	—	+	+	+	—	+	—	+	—	—	

Using Social Media to Characterize Public Sentiment Toward Medical Interventions Commonly Used for Cancer Screening: An Observational Study

300,000



Anxiety Associated with Colonoscopy and Flexible Sigmoidoscopy: A Systematic Review

58 studies

Study period: 2005-2017

24,490 pts

RESULTS:

- The mean anxiety level among individuals having a colonoscopy is higher than that in the general population
- The process of undergoing colonoscopy seems to generate a similar degree of anxiety in patients as undergoing surgery
- 51–56% of patients having moderate-to-severe anxiety



FACTORS ASSOCIATED

AREAS OF ANXIETY CONCERNS	PREDICTORS
Bowel preparation (15-37%)	Female
Embarassement during colonoscopy (22-44%)	Functional abdominal pain
Pain during colonoscopy (28-95%)	Higher baseline anxiety
Fears about diagnosis (22-55%)	Lower education
	Lower income
	Poorly tolerated previous colonoscopy
	Poor doctor-patient relationship



FACTORS ASSOCIATED WITH PATIENT-REPORTED PAIN

NOT MODIFIABLE

- Female sex
- Low BMI
- History of abdominal surgery

MODIFIABLE

- Type of Sedation
- Bowel preparation
- Endoscope generation
- Endoscopists' case volume
- Insertion technique

Seip B, *Endoscopy* 2010

Paggi S, *Gastrointest Endosc* 2012

Holme O, *Endoscopy* 2013

Hsieh YH, *AMJ* 2014

Cadoni S, *GIE* 2015

Sajid MS, *Colorect Dis* 2015

Bugaiski M, *GUT* 2017

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- Conclusioni del Corso

TECHNICAL ASPECTS



PATIENT EXPERIENCE



SEDATION

**Impact of sedation on technical
performance indicator:**

ADR - CIR

P

Technical Performance of Colonoscopy: The Key Role of Sedation/Analgesia and Other Quality Indicators

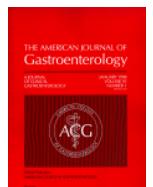
278 centers

12.835 pts

Franco Radaelli, M.D.,¹ Gianmichele Meucci, M.D.,¹ Giusy Sgroi, Ph.D.,² Giorgio Minoli, M.D.,¹ and the Italian Association of Hospital Gastroenterologists (AIGO)

¹Department of Gastroenterology, Valduce Hospital, Como, Italy; and ²Institute of Biostatistics, OPIS, Milan, Italy

	Total Examinations	N (%) of Examinations	
		Reaching the Cecum	Detecting Polyps
Valid colonoscopies (patients)	12,835	10,344 (80.7)	3,495 (27.3)
Missing		9	16
Type of center by organizational complexity			
Complex operative unit	5,587	4,586 (82.1)	1,570 (28.1)
Simple operative unit	4,961	3,954 (79.7)	1,334 (26.9)
Outpatient unit/other	1,887	1,475 (78.6)	552 (29.4)
Missing	410	329	29
Sedation			
None	5,737	4,366 (76.1)	1,520 (26.5)
Benzodiazepine IV	3,701	3,076 (83.1)	994 (26.9)
Benzodiazepine + opiate IV	1,975	1,736 (87.9)	540 (27.3)
Propofol	398	348 (87.4)	116 (29.1)
Other sedation regimens	965	770 (79.8)	311 (32.2)
Missing	59	48	14



P

Technical Performance of Colonoscopy: The Key Role of Sedation/Analgesia and Other Quality Indicators

Franco Radaelli, M.D.,¹ Gianmichele Meucci, M.D.,¹ Giusy Sgroi, Ph.D.,² Giorgio Minoli, M.D.,¹ and the Italian Association of Hospital Gastroenterologists (AIGO)

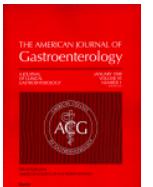
¹*Department of Gastroenterology, Valduce Hospital, Como, Italy; and* ²*Institute of Biostatistics, OPIS, Milan, Italy*

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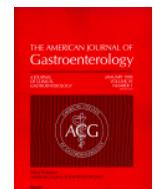
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55,3%



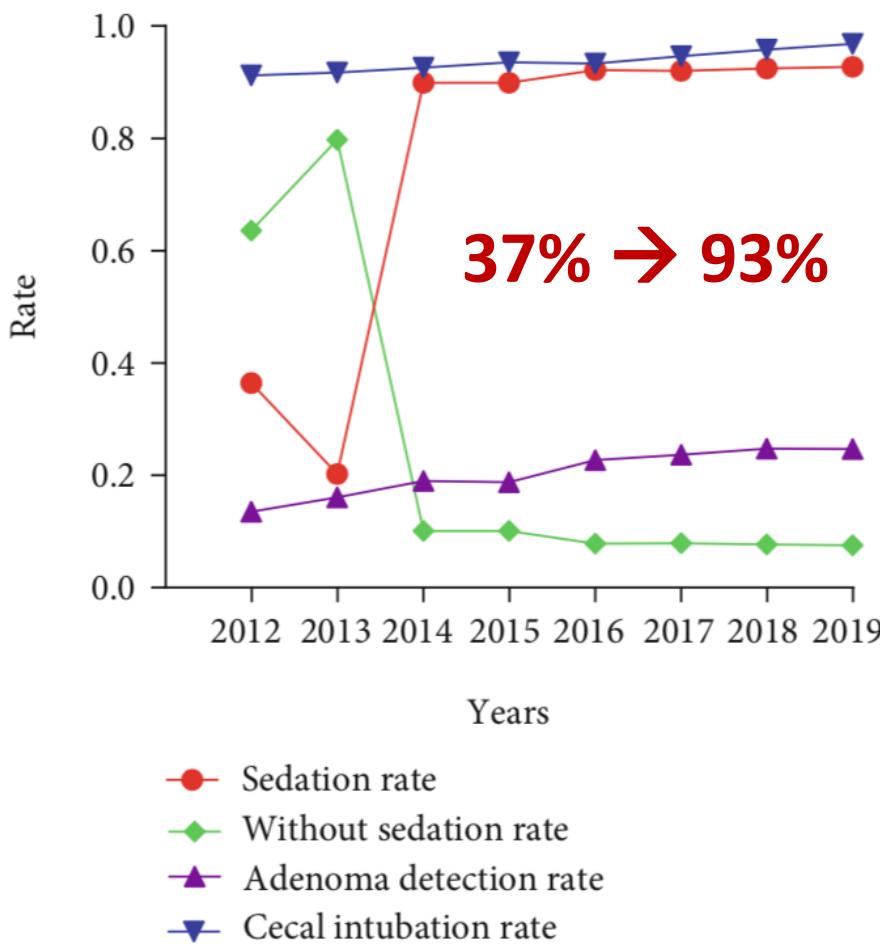
FACTORS INFLUENCING TECHNICAL PERFORMANCE OF COLONOSCOPY

	Model 1 Reaching the Cecum		Model 2 Detecting Polyps	
	OR	95% CI	OR	95% CI
Type of center by organizational complexity				
Complex operative unit	1.000	—	*	*
Simple operative unit	0.772 [†]	0.682–0.874		
Outpatient unit	0.660 [†]	0.550–0.791		
Center colonoscopy volume				
>1000	1.000	—	*	*
≤1000	0.857 [†]	0.982–0.675		
Endoscopist colonoscopy volume				
>500	1.000	—	*	*
300–500	0.817 [†]	0.717–0.932		
<300	0.677 [†]	0.584–0.785		
Sedation				
None	1.000	—	1.000	—
Benzodiazepine IV	1.460 [†]	1.282–1.663	1.121 [†]	1.016–1.236
Benzodiazepine + opiate IV	2.128 [†]	1.766–2.565	1.105	0.979–1.247
Propofol	2.355 [†]	1.590–3.488	1.317 [†]	1.042–1.666
Other sedation regimens	1.151	0.935–1.419	1.340 [†]	1.151–1.561
Bowel cleansing				
Excellent	1.000	—	1.000	—
Good	0.586 [†]	0.514–0.667	1.015	0.928–1.110
Poor	0.246 [†]	0.209–0.290	0.910	0.793–1.044
Inadequate	0.013 [†]	0.009–0.018	0.511 [†]	0.404–0.647



The Impact of Sedation on Adenoma Detection Rate and Cecal Intubation Rate in Colonoscopy

2012-2019
63,417 colonoscopies
82% with sedation



	With sedation	Without sedation	P-value
ADR (%)	22,5	17	<0,001
CIR (%)	94,7	91,2	<0,001

AND THE EXPERIENCE OF ENDOSCOPIST

ADR

TABLE 3: Logistic regression analysis of risk factors for adenoma detection rate in subgroups stratified by experience of colonoscopy.

Variable	≤ 500		>500	
	OR (95% CI)	p value	OR (95% CI)	p value
Patient factor				
Sedation				
Without sedation	Reference		Reference	
With sedation	1.339 (1.097-1.633)	0.004	1.431 (1.227-1.670)	<0.001

CIR

TABLE 5: Logistic regression analysis of risk factors for cecal intubation rate in subgroups stratified by experience of colonoscopy.

Variable	≤ 500		>500	
	OR (95% CI)	p value	OR (95% CI)	p value
Patient factor				
Sedation				
Without sedation	Reference		Reference	
With sedation	2.304 (1.683-3.153)	<0.001	1.374 (1.024-1.844)	0.034

Impact of sedation on patient experience

P

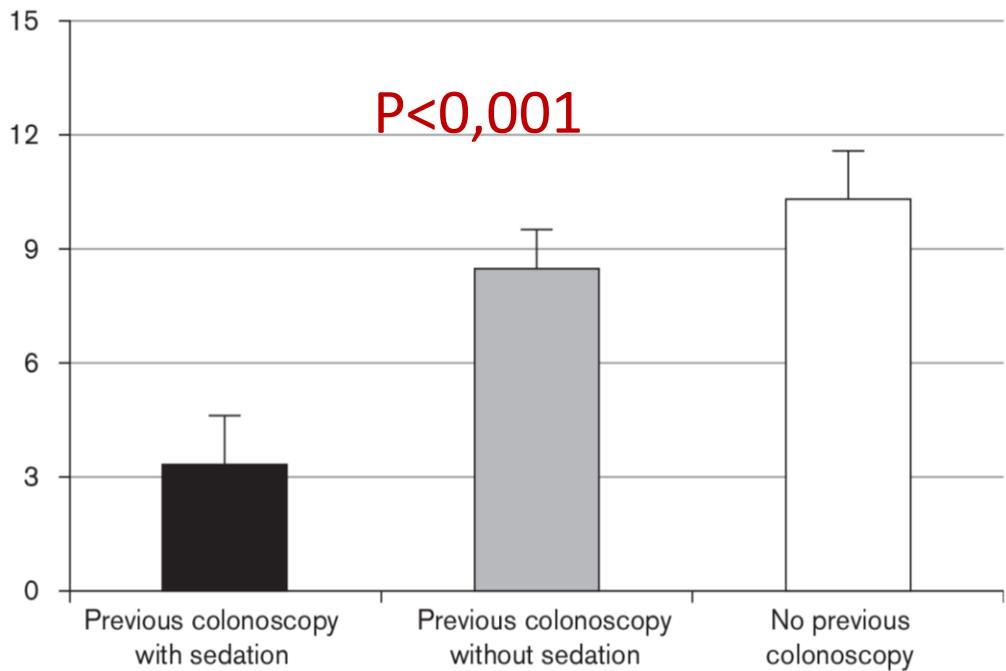
The sedation increases the acceptance of repeat colonoscopies

Juan-Salvador Baudet^a and Armando Aguirre-Jaime^b

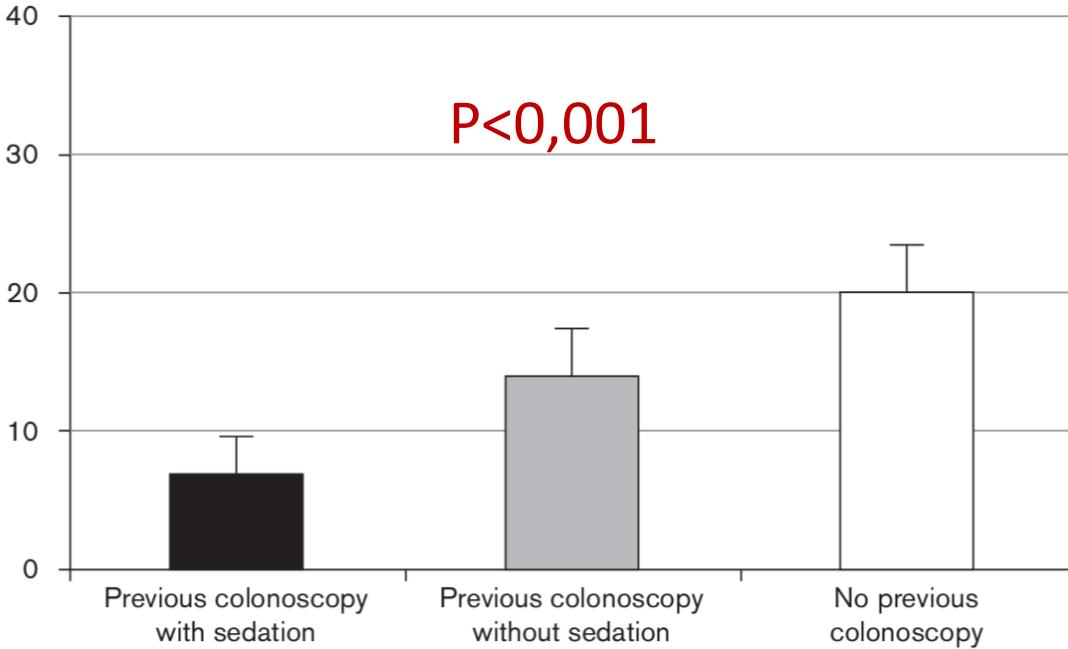
2016 pts

63%

Study period: 2008-2010



ANXIETY SCORE



FEAR SCORE

70% of sedated patients would be willing to undergo the procedure again
VS 25% of non sedated patients ($p<0,001$)



Sedation but:

1. How to sedate (mild-moderate VS deep)

2. Safety: concerns about adverse events

3. Who performe

GUIDELINES

Digestive Endoscopy 2021; 33: 21–53

doi: 10.1111/den.13882

Guidelines

Guidelines for sedation in gastroenterology (second edition)

Takuji Gotoda,¹  Takuji Akamatsu,¹  Seiichiro Abe,¹  Masaaki Saito,¹ Yousuke Nakai,¹  Waku Hatta,¹  Naoki Hosoe,¹  Yoshimasa Miwa,¹ Daisuke Yamaguchi,¹  Naohisa Yoshida,¹  Yosuke Kawaguchi,²  Shigeo Kondo,²  Hajime Isomoto,¹  Atsushi Irisawa,¹  Yasushi Iwao,¹ Toshio Urao,¹ Takeo Nakayama,³ Kazuma Fujimoto¹ and Haruhiro Inoue¹

¹Japanese Gastroenterological Endoscopy Society, Tokyo, ²Japanese Society of Anesthesiology, Tokyo, ³Department of Health Informatics, Kyoto University School of Public Health, Kyoto,



GUIDELINE



Guidelines for sedation and anesthesia in GI endoscopy

Prepared by: ASGE STANDARDS OF PRACTICE COMMITTEE

Dayna S. Early, MD, FASGE, Jenifer R. Lightdale, MD, MPH, FASGE, John J. Vargo, II, MD, MPH, FASGE (invited content expert, ad hoc member), Ruben D. Acosta, MD, Vinay Chandrasekhara, MD, Krishnavel V. Chathadi, MD, John A. Evans, MD, Deborah A. Fisher, MD, MHS, FASGE, Lisa Fonkalsrud, BSN, RN, CGRN, Joo Ha Hwang, MD, PhD, FASGE, Mouen A. Khashab, MD, V. Raman Muthusamy, MD, FASGE, Shabana F. Pasha, MD, FASGE, John R. Saltzman, MD, FASGE, Amandeep K. Shergill, MD, Brooks D. Cash, MD, FASGE,



Non-anesthesiologist administration of propofol for gastrointestinal endoscopy: European Society of Gastrointestinal Endoscopy, European Society of Gastroenterology and Endoscopy Nurses and Associates Guideline – Updated June 2015



Authors

Jean-Marc Dumonceau¹, Andrea Riphaus², Florian Schreiber³, Peter Vilmann⁴, Ulrike Beilenhoff⁵, Jose R. Aparicio⁶, John J. Vargo⁷, Maria Manolaraki⁸, Caroline Wientjes⁹, István Rácz¹⁰, Cesare Hassan¹¹, Gregorios Paspatis¹²

SEDATION LEVELS

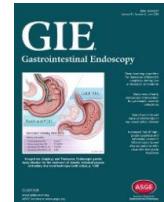
	Minimal sedation (anxiolysis)	Moderate sedation (conscious sedation)	Deep sedation	General anesthesia
Responsiveness	Normal response to verbal stimulation	Purposeful response to verbal or tactile stimulation	Purposeful response after repeated or painful stimulation	Unarousable even with painful stimulus
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular function	Unaffected	Usually maintained	Usually maintained	May be impaired



Pharmacological properties

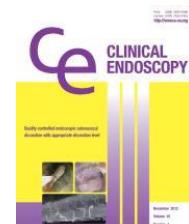
Regimens

Reversal agent



Pharmacological properties and reversal agents

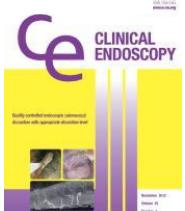
	Primary action	Onset of action (IV), min	Peak effect, min	Duration of effect ^{a)} , min	Metabolism/excretion	Reversal agent	Significant adverse effects
Midazolam	Sedation	1-2	3-4	15-80	Hepatic and intestinal/ excreted in urine	Flumazenil	Respiratory depression, paradoxical response
	Amnesia						
Propofol	Sedation	0.5-1	1-2	4-8	Hepatic/ excreted in urine	None	Respiratory depression, hypotension
	Amnesia						
Meperidine	Analgesia	3-6	5-7	60-180	Hepatic/ excreted in urine	Naloxone	Respiratory depression, nausea, vomiting
Fentanyl	Analgesia	1-2	3-5	30-60	Hepatic/ excreted in urine	Naloxone	Respiratory depression, nausea, vomiting



Regimens

Midazolam alone	Initial dose: midazolam 1–2 mg or 0.03 mg/kg Additional dose ^{a)} : midazolam 1 mg or 0.02–0.03 mg/kg (2–3 min)	Maximum doses for routine endoscopic sedation: Midazolam 6 mg Meperidine 150 mg Fentanyl 200 µg Propofol 400 mg
Midazolam plus opioids	Initial dose: midazolam 0.5–2.5 mg + meperidine 12.5–50 mg midazolam 0.5–1 mg + fentanyl 12.5–75 µg Additional dose ^{a)} : midazolam 1 mg (2–3 min) midazolam 1 mg or fentanyl 12.5–50 µg (1–3 min)	
Propofol alone		
Bolus	Initial dose: propofol 10–60 mg Additional dose ^{a)} : propofol 10–20 mg (0.5 min)	
Continuous	Continuous infusion by infusion pump: 2–5 mg/kg/hr or 100–200 mg/hr, with or without initial bolus 0.25–0.5 mg/kg	
Combination propofol	Preinduction: midazolam 0.5–2.5 mg and/or meperidine 25–50 mg/fentanyl 25–75 µg Induction: propofol 10–40 mg or up to 0.5 mg/kg Maintenance of sedation: propofol 5–20 mg	

^{a)}Minimal interval of administration.



ASA SCORE CLASSIFICATION

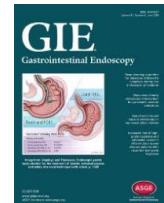
ASA PS Classification	Definition	Examples including, but not limited to:
ASA I	A normal healthy patient	Healthy, non-smoking, no or minimal alcohol use
ASA II	A patient with mild systemic disease	Mild diseases only without substantive functional limitations. Examples include (but not limited to): current smoker, social alcohol drinker, pregnancy, obesity ($30 < \text{BM} < 40$), well-controlled DM/HTN, mild lung disease
ASA III	A patient with severe systemic disease	Substantive functional limitations; One or more moderate to severe diseases. Examples include (but not limited to): poorly controlled DM or HTN, COPD, morbid obesity ($\text{BMI} \geq 40$), active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of ejection fraction, ESRD undergoing regularly scheduled dialysis, premature infant PCA < 60 weeks, history (>3 months) of MI, CVA, TIA, or CAD/stents.
ASA IV	A patient with severe systemic disease that is a constant threat to life	Examples include (but not limited to): recent (< 3 months) MI, CVA, TIA, or CAD/stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of ejection fraction, sepsis, DIC, ARD or ESRD not undergoing regularly scheduled dialysis
ASA V	A moribund patient who is not expected to survive without the operation	Examples include (but not limited to): ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ/system dysfunction
ASA VI	A declared brain-dead patient whose organs are being removed for donor purposes	

SEDATION LEVELS

	Minimal sedation (anxiolysis)	Moderate sedation (conscious sedation)	Deep sedation	General anesthesia
Responsiveness	Normal response to verbal stimulation	Purposeful response to verbal or tactile stimulation	Purposeful response after repeated or painful stimulation	Unarousable even with painful stimulus
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular function	Unaffected	Usually maintained	Usually maintained	May be impaired



TRAINING



SEDATION TRAINING COURSE

496

Guidelines

European Curriculum for Sedation Training in Gastrointestinal Endoscopy: Position Statement of the European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA)



Endoscopy



2013
Thieme

EUROPEAN CURRICULUM

Dumonceau JM.

2013

Theoretical part

- Pharmacology, pharmacokinetics, and interactions of sedatives, analgesics, and respective antidotes
- Principles of sedation and monitoring patients including analysis of ECG monitoring
- Different sedation concepts
- Pre-, intra-, and post-endoscopy patient care concerning sedation, monitoring, recovery, discharge criteria, management of complications, and documentation
- Legal aspects (e. g. delegation, informed consent)

Practical part

- Basic airway management (e. g. freeing of airways, chin lifts, jaw thrust, bag-valve mask ventilation)
- Use of different tubes for airway ventilation (e.g. Mayo and Guedel tube, laryngeal tube)
- Treatment of acute respiratory problems
- BLS and ALS, including the use of defibrillators

ECG, electrocardiogram; BLS, basic life support; ALS, advanced life support.

Endoscopy

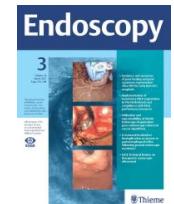


P

Implementation of the European Society of Gastrointestinal Endoscopy (ESGE) and European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) sedation training course in a regular endoscopy unit

2017-2018

AIM: occurrence of adverse events related to non-anesthesiology sedation (NAS) after implementation of the training program



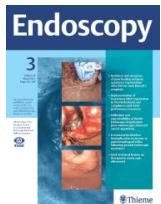
NON-ANESTHESIOLOGY SEDATION

Mild-Moderate

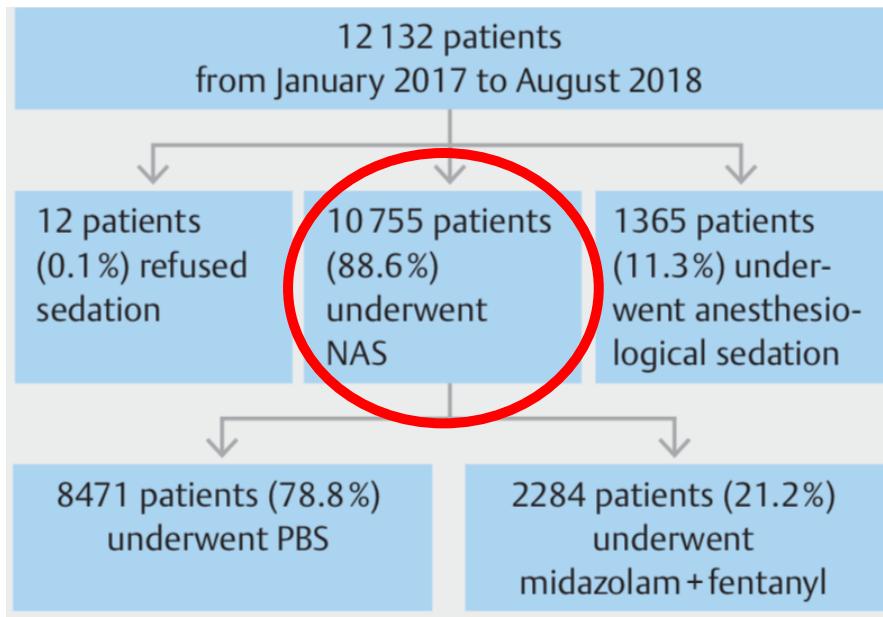
- Midazolam 0,03 mg/kg (+ 0,03 mg/kg after 3-4 minutes)
- Fentanyl 1-1,3 mcg/kg (+ 25-50 mcg in long lasting procedures > 45 min)

Deep

- + Propofol 0,3-0,6 mg/kg (+ 0,3-0,4 mg/kg after 2 minutes)

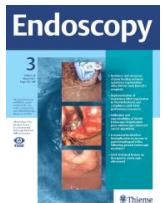


Results



	Total procedures	Midazolam + fentanyl	PBS
Total population			
Total AEs	23/10 755 (0.21 %)	5/2284 (0.22 %)	18/8471 (0.21 %)
Sentinel AEs	0	0	0
Moderate risk AEs	5	0	5
▪ Oxygen desaturation	3	0	3
▪ Hypotension	2	0	2
Minor risk AEs	18	5	13
▪ Oxygen desaturation	9	2	7
▪ Bradycardia	3	0	3
▪ Tachycardia	3	2	1
▪ Hypertension	3	1	2
Patients ≥ 80 years			
Total adverse events	4/1125 (0.36 %)	2	2
Sentinel AEs	0	0	0
Moderate risk AEs	0	0	0
Minor risk AEs	4	2	2
▪ Oxygen desaturation	3	2	1
▪ Bradycardia	1	0	1

NAS:
LOW
Adverse
events rate



PROpofol: who performe

PROpofol: who performs

RR

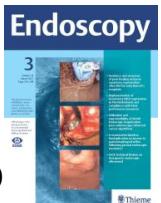
Non-anesthesiologist administration of propofol sedation for colonoscopy is safe in low risk patients: results of a noninferiority randomized controlled trial

277 pts

Non-Anesthesiology **VS** Anesthesiology

No differences in:

- Procedural time (colonoscopy time, withdrawal time, recovery time)
- Sedation doses
- Incidence of adverse events
- Patient reported outcome (pain, satisfaction, amnesia, willingness to repeat, would recommend)



P

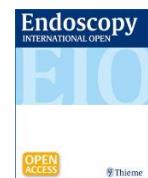
Outcomes of colonoscopy with non-anesthesiologist-administered propofol (NAAP): an equivalence trial

2017-2018
630 screening

Sedation type	MAC (n=247)	NAAP (n=262)	P value
Quality indicators for colonoscopy			
Withdrawal time > 6 min. (%)	100	100	-
Exploration time (min.) (mean \pm SD)	24.83 \pm 7.75	23.42 \pm 8.99	0.060
Outcomes of colonoscopy			
▪ Adenoma detection rate (ADR) (%)	61.94	62.98	0.810
▪ Advanced ADR (%)	38.87	33.21	0.196
▪ Sessile serrated ADR (%)	4.07	4.58	0.830
▪ MAP (mean \pm SD)	1.40 \pm 1.58	1.64 \pm 1.91	0.137
▪ Complication rate (%)	0.81	0.76	1.000

NO DIFFERENCES

Alburquerque M



2021

Non
Anesthesiology



Anesthesiology

ANALGO-SEDAZIONE IN ENDOSCOPIA DIGESTIVA

Verso un approccio multidisciplinare per la qualità e la sicurezza: la posizione inter-societaria SIAARTI-SIED per un percorso di Buona Pratica Clinica



PROPOFOL: NOTA AIFA 02/10/2015

4.4 **Avvertenze speciali e opportune precauzioni di impiego**

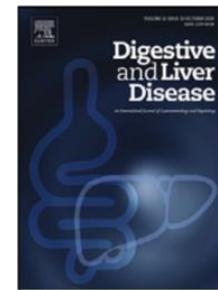
Propofol deve essere somministrato da operatori sanitari specializzati in anestesia (o, quando appropriato, da medici qualificati nel trattamento di pazienti in terapia intensiva).



Contents lists available at ScienceDirect

Digestive and Liver Disease

journal homepage: www.elsevier.com/locate/dld

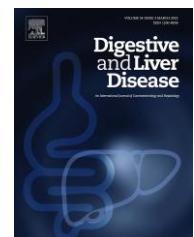


Correspondence

Non-anesthesiologist sedation (NAS): The Italian retrotopia needs to be overcome

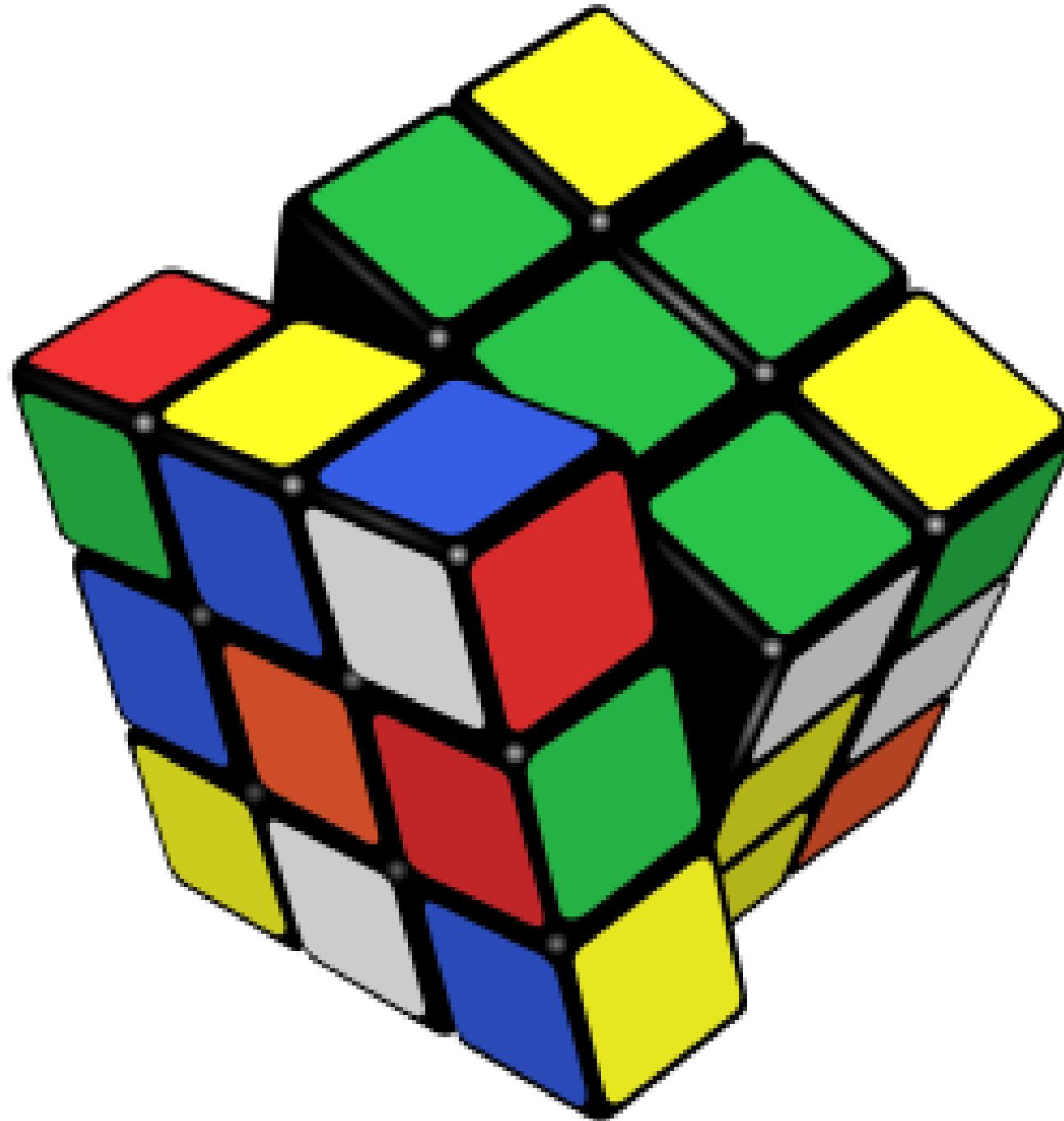


The time for a cultural change in sedation management in GI endoscopy has arrived. We do not accept that this document [1] represents a “starting point”, as this would mean going back in time by at least 15 years. Rather, Gastroenterologists should seek to establish a cultural partnership with local Anesthetists by implementing existing international guidelines. We hope that out-



Manno M.

2021



**SURVEY REGIONALE MULTICENTRICA SULLA PROGRAMMAZIONE DI PROCEDURE ENDOSCOPICHE IN
ASSISTENZA ANESTESIOLOGICA**

Centro Promotore

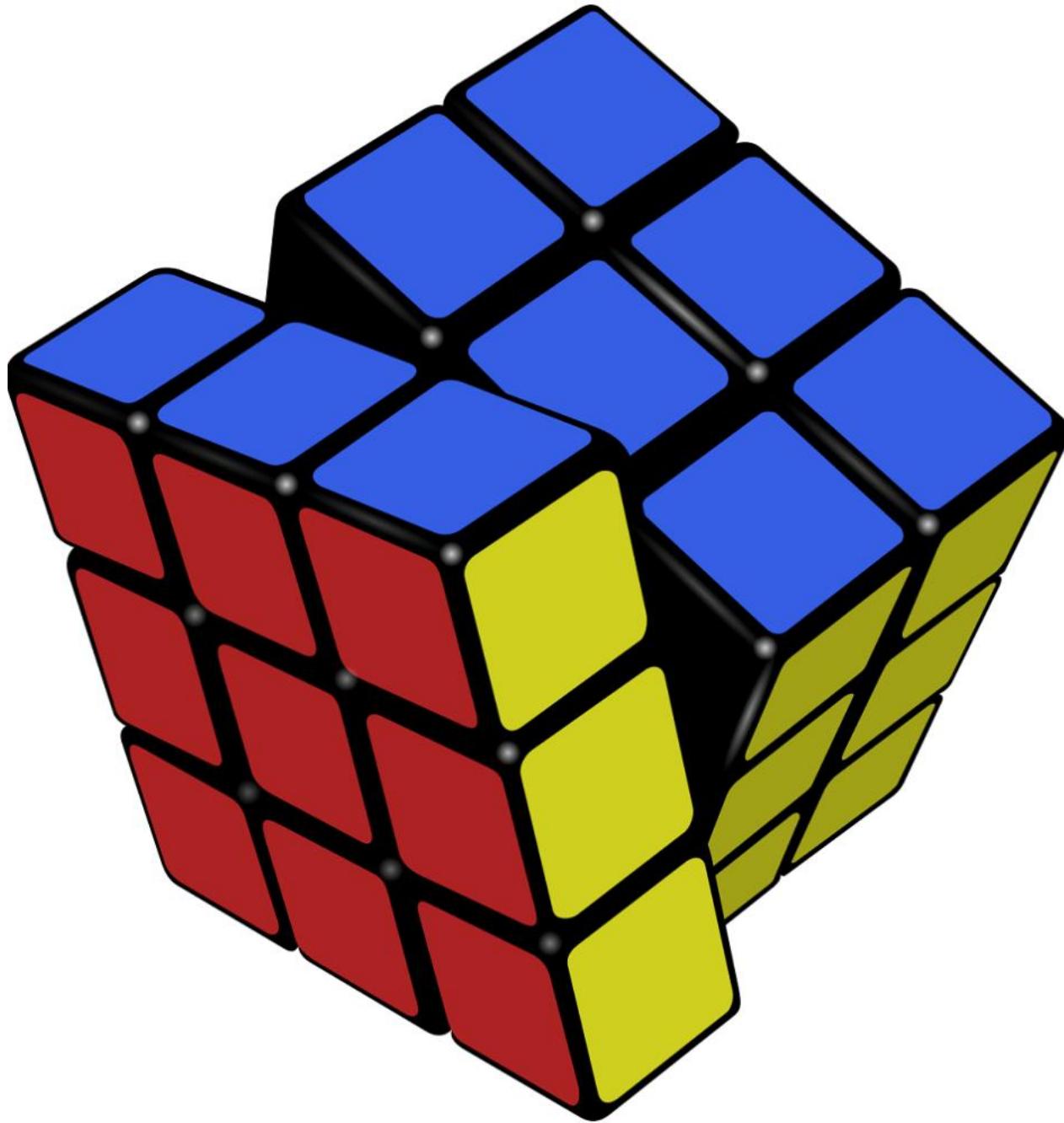
UOC di Gastroenterologia ed Endoscopia Digestiva, AUSL di Modena

Promotore

Mauro Manno, Direttore UOC di Gastroenterologia ed Endoscopia Digestiva, AUSL di Modena



**SURVEY REGIONALE "ENDOSCOPIA
DIGESTIVA CON o SENZA ASSISTENZA
ANESTESIOLOGICA"**



NON-PHARMACOLOGICAL INTERVENTIONS

Can Visual Distraction Decrease the Dose of Patient-Controlled Sedation Required During Colonoscopy? A Prospective Randomized Controlled Trial

	<i>Group 1 visual distraction + PCS (n = 52)</i>	<i>Group 2 audiovisual distraction + PCS (n = 52)</i>	<i>Group 3 PCS alone (n = 53)</i>	<i>P value</i>
Mean dose of propofol \pm SD, mg/kg	1.17 \pm 0.81	0.81 \pm 0.49	1.18 \pm 0.60	< 0.01*
Mean pain score \pm SD (range 0–10)	6.2 \pm 2.2	5.1 \pm 2.5	7.0 \pm 2.4	< 0.01* †
Mean satisfaction score \pm SD (range 0–10)	8.2 \pm 2.4	8.4 \pm 2.4	6.1 \pm 2.9	< 0.01* †
Willing to repeat procedure with same mode of sedation, n (%)	38 (73 %)	44 (85 %)	28 (53 %)	< 0.01#

Endoscopy



Lee DWH

2004

Virtual reality distraction for patients to relieve pain and discomfort during colonoscopy

19 pts



Pilot study

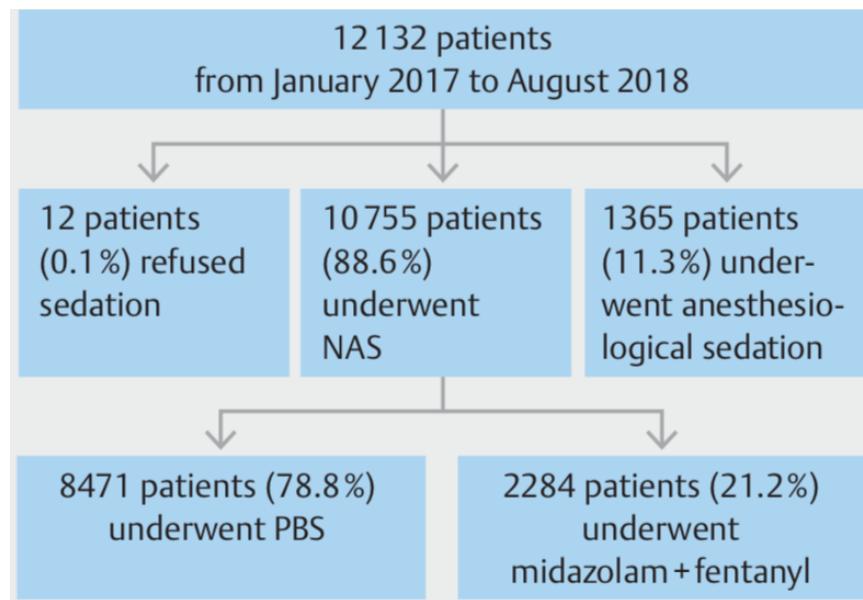
- Comfort, pain, anxiety, patient satisfaction: NO differences
- Positive distracting effect

TAKE HOME MESSAGES:

- Sedation empowerment
- Training implementation (with Anesthesiologists)
- Psychological experience of patients
- Equality of care

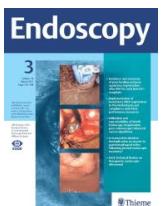
GRAZIE

Results



Procedures and drug	Midazolam + fentanyl	PBS
Total population		
Upper GI endoscopy		
▪ Propofol, mg		68.3 (40.0)
▪ Midazolam, mg	3.5 (1.1)	2.4 (1.0)
▪ Fentanyl, µg	61.4 (7.6)	63.1 (8.1)
Colonoscopy		
▪ Propofol, mg		66.5 (49.1)
▪ Midazolam, mg	3.0 (1.1)	2.3 (0.8)
▪ Fentanyl, µg	81.5 (20.2)	74.4 (19.8)
Upper GI endoscopy + colonoscopy		
▪ Propofol, mg		95.6 (54.2)
▪ Midazolam, mg	3.0 (1.0)	2.3 (0.8)
▪ Fentanyl, µg	71.3 (18.6)	69.4 (21.6)

PROpofol:
Dosage
drugs



anestesista impegnato in un altro setting o in un'altra procedura... ***In conclusione, al fine di garantire la sicurezza dei pazienti e diminuire il rischio clinico dell'analgo-sedazione moderata, è necessario che tali procedure continuino ad essere seguite e gestite da medici anestesiologi specializzati....".***

RICHMOND AGITATION AND SEDATION SCALE

Scale	Label	Description
+4	COMBATIVE	Combative, violent, immediate danger to staff
+3	VERY AGITATED	Pulls to remove tubes or catheters; aggressive
+2	AGITATED	Frequent non-purposeful movement, fights ventilator
+1	RESTLESS	Anxious, apprehensive, movements not aggressive
0	ALERT & CALM	Spontaneously pays attention to caregiver
-1	DROWSY	Not fully alert, but has sustained awakening to voice (eye opening & contact >10 sec)
-2	LIGHT SEDATION	Briefly awakens to voice (eyes open & contact <10 sec)
-3	MODERATE SEDATION	Movement or eye opening to voice (no eye contact)
→ If RASS is ≥ -3 proceed to CAM-ICU (Is patient CAM-ICU positive or negative?)		V O I C E
-4	DEEP SEDATION	No response to voice, but movement or eye opening to physical stimulation
-5	UNAROUSEABLE	No response to voice or physical stimulation
→ If RASS is -4 or -5 → STOP (patient unconscious), RECHECK later		T O U C H

Considerable Variability of Procedural Sedation and Analgesia Practices for Gastrointestinal Endoscopic Procedures in Europe

Survey 2012

Country	Patients served by USC for GI endoscopy, %	% Patients served by CSC for GI endoscopy, %
Austria	<25	50–75
Belgium	50–75	25–50
Bulgaria	<25	>75
Czech Republic	50–75	<25
England	>75	<25
France	<25	>75
Germany	<25	>75
Italy	50	25–50
Luxembourg	<25	25–50
Norway	75	<25
Poland	30	60
Portugal	<25	>75
Spain	<25	>75
The Netherlands	>75	<25
Switzerland	<25	>75
Sweden	50–75	25–50

Table 2. Sedation Practitioner Healthcare Professional Performing Controlled Sedation Care during Gastrointestinal Endoscopy

Country	Anesthesiologist (MD)	Endoscopist (MD)	Endoscopist nurse	Nurse administered propofol sedation	Non-anesthesiologist	Endoscopy assistant (MD)	Nurse anesthetist	Sedation practitioner
Austria							x	
Belgium					x			
Bulgaria	★ ^{a)}							
Czech Republic	★ ^{a)}							
France							x	
Germany				x				
Great Britain				x				x
Italy			x	x			x	
Luxembourg	★ ^{a)}							
Norway							x	
Poland							x	
Portugal	★ ^{a)}							
Spain			x	x			x	
The Netherlands			x					x
Switzerland			x	x	x			
Sweden							x	



Quality standards in upper gastrointestinal endoscopy: a position statement of the British Society of Gastroenterology (BSG) and Association of Upper Gastrointestinal Surgeons of Great Britain and Ireland (AUGIS)

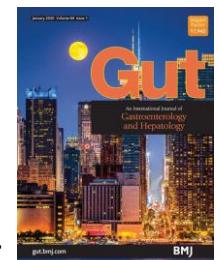
EGDS

Intravenous sedation and local anaesthetic throat spray can be used in conjunction if required. Caution should be exercised in those at risk of aspiration.

Level of agreement: 100%

Grade of evidence: moderate

Strength of recommendation: strong



DIAGNOSTIS EGDS: SEDATION REGIMENS

LOCAL SPRAY

MIDAZOLAM

MIDAZOLAM+ OPIOID

OTHER



The Benefit of Fentanyl in Effective Sedation and Quality of Upper Endoscopy: A Double-Blinded Randomized Trial of Fentanyl Added to Midazolam Versus Midazolam Alone for Sedation

EGDS

Midazolam + Fentanyl

	Fentanyl (n=68)	Placebo (n=69)	P-value
Patient satisfaction, mean 1–5*	1.3	1.5	P=0.4
MD satisfaction, mean 1–5*	1.4	2.5	P<0.001
Nurse satisfaction, mean 1–5*	1.4	2.5	P<0.001
Significant Retching, n	3	34	P<0.001
Willing to repeat, n, %	60, 100	56, 100	n/a
Procedure time, minutes	8.5	11.1	P=0.001
Discharge time, minutes	35.6	37.2	P=0.54



The Benefit of Fentanyl in Effective Sedation and Quality of Upper Endoscopy: A Double-Blinded Randomized Trial of Fentanyl Added to Midazolam Versus Midazolam Alone for Sedation

EGDS

Midazolam + Fentanyl

	Fentanyl (n=68)	Placebo (n=69)	P-value
Patient satisfaction, mean 1–5*	1.3	1.5	P=0.4
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Willing to repeat, n, %	60, 100	56, 100	n/a
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