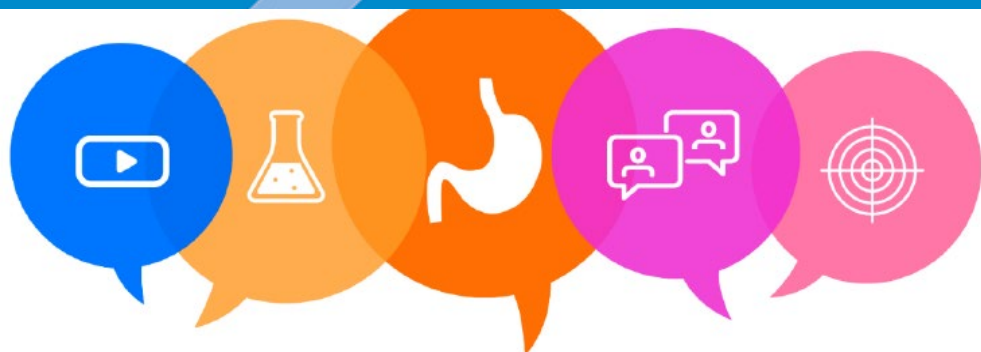


LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS



WEBINAR
TERZA
STAGIONE

S.I.C.OB.  Società Italiana di Chirurgia dell'Obesità
e delle malattie metaboliche

Vincenzo Borrelli MD PhD

STATEMENT SICOB-SIAARTI SU ERAS IN CHIRURGIA BARIATRICA (ERABS)

COORDINATORE:
Giuseppe M. Marinari

PANELIST

Per SICOB
Vincenzo Borrelli
Vincenzo Bruni
Giovanni Fantola
Mirto Foletto
Roberto Moroni
Carlo Nagliati
Giuseppe Navarra

Per SIAARTI
Rita Cataldo
Roberta Monzani
Daniela Sanna
Michele Carron
Luigi Tritapepe

A

EFFICACIA E SICUREZZA DELL'ERABS

L'adozione di un protocollo ERABS in chirurgia bariatrica:

① Riduce la durata della degenza ospedaliera	Livello di Evidenza	1
	Raccomandazione su Evidenze	A
② È una procedura sicura	Livello di Evidenza	1
	Raccomandazione su Evidenze	A
③ Non aumenta i costi della chirurgia	Livello di Evidenza	2
	Raccomandazione su Evidenze	B



Efficiency and Safety Effects of Applying ERAS Protocols to Bariatric Surgery: a Systematic Review with Meta-Analysis and Trial Sequential Analysis of Evidence

Preet Mohinder Singh¹ · Rajesh Panwar² · Anuradha Borle¹ · Basavana Goudra³ · Anjan Trikha¹ · Bart A van Wagensveld⁴ · Ashish Sinha⁵

The results of our meta-analysis suggest that the implementation of ERAS protocol reduce the length of stay by around 1.5 days without any significant increase in the overall or major complications (Clavien–Dindo grade IIIa and higher), anastomotic leak, and readmission rates. The TSA analysis rules out the possibility of a false-positive result. Our meta-analysis sample size is well past the estimated required

ERAS protocols have been found to decrease the length of stay without any significant increase in the complication and readmission rates in various nonbariatric surgeries including colorectal procedures, gastrectomies, and pancreatoduodenectomies [2, 16–18]. The obvious advantages of a successful ERAS protocol are reduced hospital costs and early return to normal functional activity. The implications of our results have a far-reaching economic impact. Daily cost of hospital stay for an uncomplicated patient in a state-funded hospital across the USA varies from US\$1000 to 3000 [19]. These values are likely to be higher for bariatric patients who have many associated



Meta-Analysis of Enhanced Recovery Protocols in Bariatric Surgery

Ola S. Ahmed¹ • Ailín C. Rogers¹ • Jarlath C. Bolger¹ • Achille Mastro Simone¹ • William B. Robb¹

Received: 15 December 2017 / Accepted: 5 February 2018
© 2018 The Society for Surgery of the Alimentary Tract

Inclusion Criteria

Studies involving anti-obesity surgery (sleeve gastrectomy or Roux-en-Y bypass) where one patient group undergoes “enhanced recovery” / “fast-track” / “early recovery” protocol, as compared with standard care

Original publication (reviews, opinions, letters, protocols and conference proceedings excluded)

Reported outcome measures on at least one of;

- length of stay,
- morbidity,
- mortality,
- readmission/reintervention rates

Exclusion criteria

Studies where gastric banding only was performed

Papers where data was unavailable or uninterpretable and authors uncontactable

Papers in languages other than English

Non-human studies

The results on the STAMPEDE trial are encouraging and further support the efficacy of bariatric surgery compared to medical management contributing to its growing popularity.⁴¹ As obesity rates continue to soar, more institutions are likely to perform bariatric procedures warranting further evidence-based guidelines on perioperative care. The current meta-analysis demonstrates superiority of enhanced protocols in terms of reduced morbidity rates, operative time, LOS, and, in some instances, readmission rates. ERAS protocols appear safe and effective for use in bariatric surgery and are associated with improved perioperative outcomes.

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ELSEVIER

Surgery for Obesity and Related Diseases ■ (2019) 1–13

SURGERY FOR OBESITY
AND RELATED DISEASES

Original article

Employing Enhanced Recovery Goals in Bariatric Surgery
(ENERGY): a national quality improvement project using the
Metabolic and Bariatric Surgery Accreditation and Quality
Improvement Program

POCHI CENTRI ADOTTANO PROTOCOLLI ERAS IN CHIRURGIA BARIATRICA



**“La frase
più pericolosa
in assoluto è:**

Abbiamo sempre fatto così.”

(Grace Murray Hopper)

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

- **DIGIUNO DALLA SERA PRIMA**
- **DRENAGGIO SEMPRE**
- **SNG SEMPRE PER INTERVENTI UGI**
- **DEAMBULAZIONE AUTONOMA ED ALIMENTAZIONE IL GIORNO DOPO INTERVENTO**
- **RISVEGLIO ANESTESIOLOGICO «lungo»**
- **RICOVERI P.O. «protetti»**

**DOGMI
E
POTERE**

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

ITEMS



SCIENTIFIC REVIEW

Guidelines for Perioperative Care in Bariatric Surgery: Enhanced Recovery After Surgery (ERAS) Society Recommendations

A. Thorell¹ · A. D. MacCormick^{2,3} · S. Awad^{4,5} · N. Reynolds⁴ · D. Roulin⁶ ·
N. Demartines⁶ · M. Vignaud⁷ · A. Alvarez⁸ · P. M. Singh⁹ · D. N. Lobo¹⁰

- 21 Items
- 36 Raccomandations

It could be assumed that for some ERAS elements, such as early mobilisation and oral intake, adherence is relatively high in most centres, whereas there may be room for improvement for others, such as postoperative oxygenation and non-invasive positive pressure ventilation. Since the recommendation grade for the use of most of the included ERAS elements for obese individuals undergoing surgery in general is strong, the use of systematic ERAS pathway may have the potential to improve outcomes after bariatric surgery.

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

- **Numero elevato di ITEMS e spesso difficili da applicare**

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

- Creare un'equipe che vada oltre la «solita» multidisciplinare
- E lavorare in sintonia



Implementing enhanced recovery after bariatric surgery protocol: a retrospective study

Monika Proczko¹ · Lukasz Kaska¹ · Pawel Twardowski² · Pieter Stepaniak^{1,3}

team' concept. A dedicated group of surgeons, anesthesiologist and circulating nurses worked together. Instead of operating on two to four patients per day on several days of the week with different anesthesiologist and nurses, the team now works together all day for 2 days per week. This contributes to team cohesion and may increase the team work and safety climate and productivity [9, 10]. In conclu-

ERABS increase productivity (5/6 procedures Vs 2/3)

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

CONCLUSIONI

- È ancora sentita come innovazione, cambiamento, rivoluzione.
- Items numerosi e spesso non tutti «immediatamente applicabili»
- L'equipe multidisciplinare, chirurgica di sala operatoria, anestesiologicala, di reparto, patient manager, case manager deve lavorare in simbiosi sia per far funzionare bene ERABS , ma anche perché è un sistema che per «convenire» deve produrre.

LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

ESPERIENZA PERSONALE

Dicembre 2012 Dott. Marinari

con equipe chirurgica, anestesiologicala, infermieristica ed
AMMINISTRATIVA visita al Department of Surgery and
Anesthesia, Aleris Hospital Oslo



High-Volume Bariatric Surgery in a Single Center: Safety, Quality, Cost-Efficacy and Teaching Aspects in 2,000 Consecutive Cases

H. J. Jacobsen · A. Bergland · J. Raeder · H. G. Gislason

Published online: 25 November 2011
© Springer Science+Business Media, LLC 2011

Methods In September 2005, we established a bariatric surgery program. Until December 2010, 2,000 patients underwent LRYGB. Clinical pathways were established, with focus on safety, fast-track methodology and training of surgeons. Time recordings from all parts of the treatment, as well as clinical outcome, were prospectively registered.

FAST TRACK PRINCIPLES

- MINIMAL INVASIVE TECHNIQUE
- STANDARDIZED SURGERY
- EXPERIENCED SURGEONS
- CONSISTENT TREATMENT TEAM
- STANDARDIZED ANESTHESIA
- MULTIMODAL PAIN THERAPY (OPIOIDS/NON-OPIOIDS)
- LOCAL ANESTHESIA
- ANTIEMETICS



EXCLUSION OF ADDITIONAL INTERVENTIONS:

- GASTRIC TUBE
- URINE CATHETER
- CENTRAL VEIN CATHETER
- ARTERIAL CANNULA
- DRAINAGE

POST OPERATIVE MANAGEMENT:

- ENHANCED MOBILIZATION
- WALKING TEST WITHIN 2 HRS
- FREE ORAL FLUID

Fig. 1 Fast-track principles



Abstracts from the 19th World Congress of the International Federation for the Surgery of Obesity & Metabolic Disorders (IFSO), Montreal, Canada 26–30 August 2014

P.072 FAST TRACK BARIATRIC SURGERY IN A HIGH VOLUME CENTRE

PRESENTER: G.M. Marinari

Co-authors: A. Zarccone, P. Cutolo, G. D'alessandro, V. Borrelli

Humanitas Gavazzeni, Bergamo, Italy

Introduction: Lowering the perioperative complication rate and the total costs is essential to implement a high volume centre in bariatric surgery. A fast track surgical program (FTSP) is the key to success.

Objectives: To demonstrate safeness, feasibility and efficiency of fast track bariatric surgery.

Methods: In 2012 we performed 408 bariatric procedures in a traditional surgical setting (TSS). Since February 2013 we adopted a FTSP with two experienced surgeons, out of the learning curve, two young surgeon and a skilled anaesthesiologist. Procedures were sleeve gastrectomy, gastric banding, gastric bypass and biliopancreatic diversion. All the operations were performed by two surgeons: we never used NGT and CVC, all the patients received drugs against postoperative vomiting and pain, and all stayed 2 h in recovery room, where they started drinking and walking before discharge to ward. We had a 6-months teamwork training period, therefore the comparison is between data before and after training period.

Results: Thanks to FTSP in 2013 we performed 597 bariatric procedures, with an almost 50 % increase compared to 2012. In the comparison between TSS and

ESPERIENZA PERSONALE NELL' ISTITUIRE PROTOCOLLI ERABS

HUMANITAS GAVAZZENI

(Bariatrica alto volume e VLS da oltre 10 aa)

Gennaio 2013

MARINARI

HUMANITAS ROZZANO

(VLS da oltre 10 aa Bariatrica occasionale)

Luglio 2015

ISTITUTO DI CURA CITTA' DI PAVIA Gennaio 2016

(No Bariatrica, VLS occasionale)

POLICLINICO SAN PIETRO Ottobre 2018

(Bariatrica e VLS alti volumi da oltre 10aa)

SAN PIER DAMIANO HOSPITAL marzo 2021

(Ortopedia urologia)

DIFFICILE

MEDIO

SEMPLICE

ESPERIENZA PERSONALE NELL' ISTITUIRE PROTOCOLLI ERABS

- **LIQUIDI CHIARI FINO A 2 ORE PRIMA**
- **DRENAGGIO NO**
- **DEAMBULAZIONE E DIETA IDRICA IMMEDIATA**
- **ALIMENTAZIONE PRECOCE**



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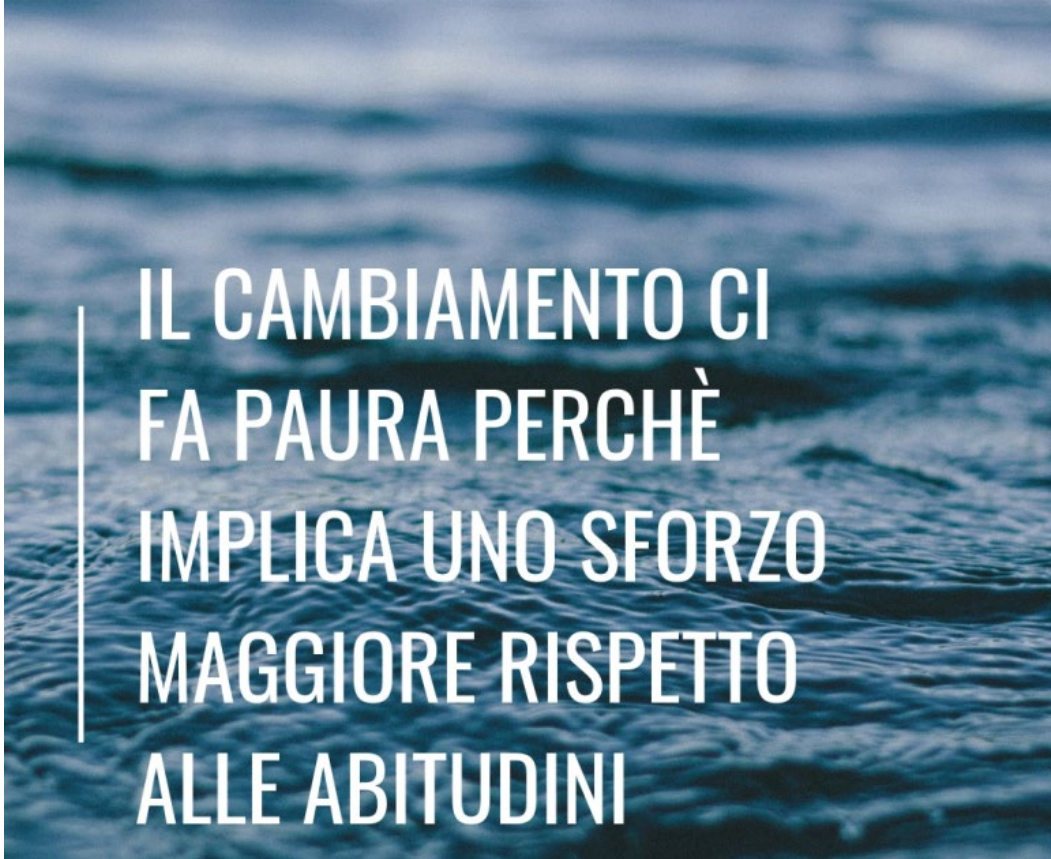
ESPERIENZA PERSONALE 2013- OGGI CONSIGLI

- ITEMS IMPRESCINDIBILI (chirurgici, anestesilogici, infermieristici) senza i quali meglio non iniziare
- Sinergismo di tutti i componenti dell'equipe multidisciplinare durante il percorso, dalla prima visita alla prima visita di controllo

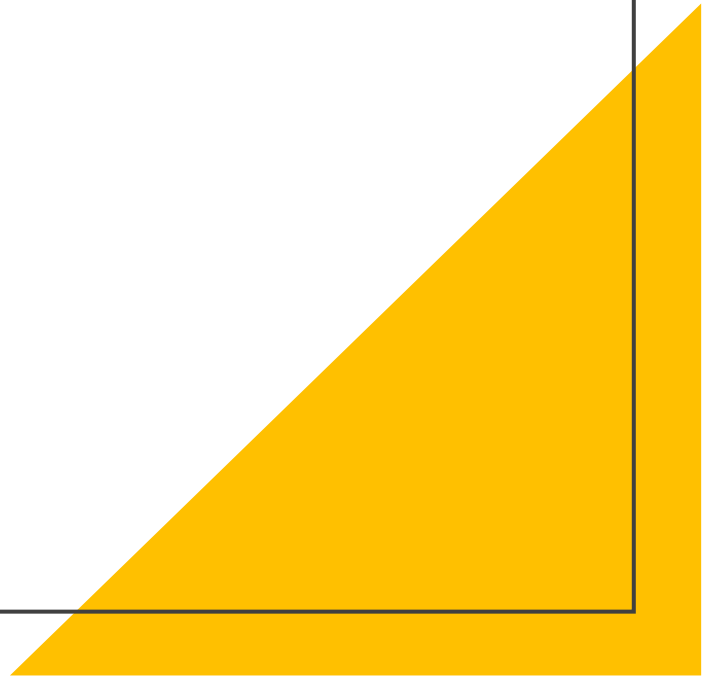
LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

ESPERIENZA PERSONALE 2013- OGGI CONSIGLI

- Capacità di adattare il protocollo ERABS alle differenze strutturali e/o organizzative (non tutti gli items ...) e poi incrementarlo.
- Evitare «learning curve» chirurgica nei primi mesi
- Più semplice iniziare in una realtà «vergine».



IL CAMBIAMENTO CI
FA PAURA PERCHÈ
IMPLICA UNO SFORZO
MAGGIORE RISPETTO
ALLE ABITUDINI





IF NOT
NOW,
WHEN?



WEBINAR TERZA STAGIONE

S.I.C.OB.  Società Italiana di Chirurgia dell'Obesità
e delle malattie metaboliche

Società Italiana di Chirurgia dell'Obesità e delle Malattie Metaboliche

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STATEMENT

2° e 3° APPUNTAMENTO

6 aprile 2021 - 16:30 - 19:00

Responsabile Scientifico Roberto Moroni

ERABS

16.40 - 16.55 ERABS: LO STATO NUTRIZIONALE DEL PAZIENTE FA LA DIFFERENZA?

Dr Stefano Pintus

Responsabile Ambulatorio Dietologico

Chirurgia Bariatrica ARNAS G. Brotzu - Cagliari

17.00 - 17.15 LE CRITICITA' NELL'APPLICAZIONE DEI PROTOCOLLI ERABS

Dr Vincenzo Borrelli

Direttore Chirurgia Bariatrica

Policlinico S. Pietro - Bergamo

PRESENTAZIONE DI CASI CLINICI

17.20 - 17.35 1° CASO CLINICO

Dr Rita Cataldo - Dr Vincenzo Bruni, Campus Bio-Medico - Roma

17.40 - 18.05 2° CASO CLINICO

Dr Carlo Nagliati, Ospedale Gorizia-Monfalcone

18.10 - 18.35 3° CASO CLINICO

Dr Giovanni Fantola, ARNAS G. BROTZU - Cagliari

DISCUSSIONE

PANEL DEGLI ESPERTI: Zappa, Moroni, Balani, Pintus, Borrelli, Monzani, Cataldo, Sanna, Fantola, Nagliati.

CONSIDERAZIONI FINALI DEL PRESIDENTE DELLA SICOB - PROF DIEGO FOSCHI



WEBINAR TERZA STAGIONE

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Obesity Surgery (2020) 30:4101–4102
<https://doi.org/10.1007/s11695-020-04676-0>

LETTER TO THE EDITOR



Is There a Role for ERAS Program Implementation to Restart Bariatric Surgery After the Peak of COVID-19 Pandemic?

Giovanni Fantola¹ · Carlo Nagliati² · Mirto Foletto³ · Alessandro Balani² · Roberto Moroni¹

Published online: 15 May 2020
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A negative prognostic link of obesity as a risk factor for a severe disease in case of SARS-COV-2 infection has already been suggested [7, 8], and further studies seem to confirm an elevated body mass index (BMI) as the first preventable risk factor [9, 10], just following advanced age. A BMI > 35 kg/m² would increase about seven times the risk of switching to mechanical ventilation compared to BMI < 25 kg/m² [9].

Finally, ERAS protocol could be a major turning point for this second pandemic phase, capable to reduce intra-hospital infection rates and to promote better resource allocation, significantly improving the performances of BS centers.

ERAS[®] Society



ERAS National Chapter Italy

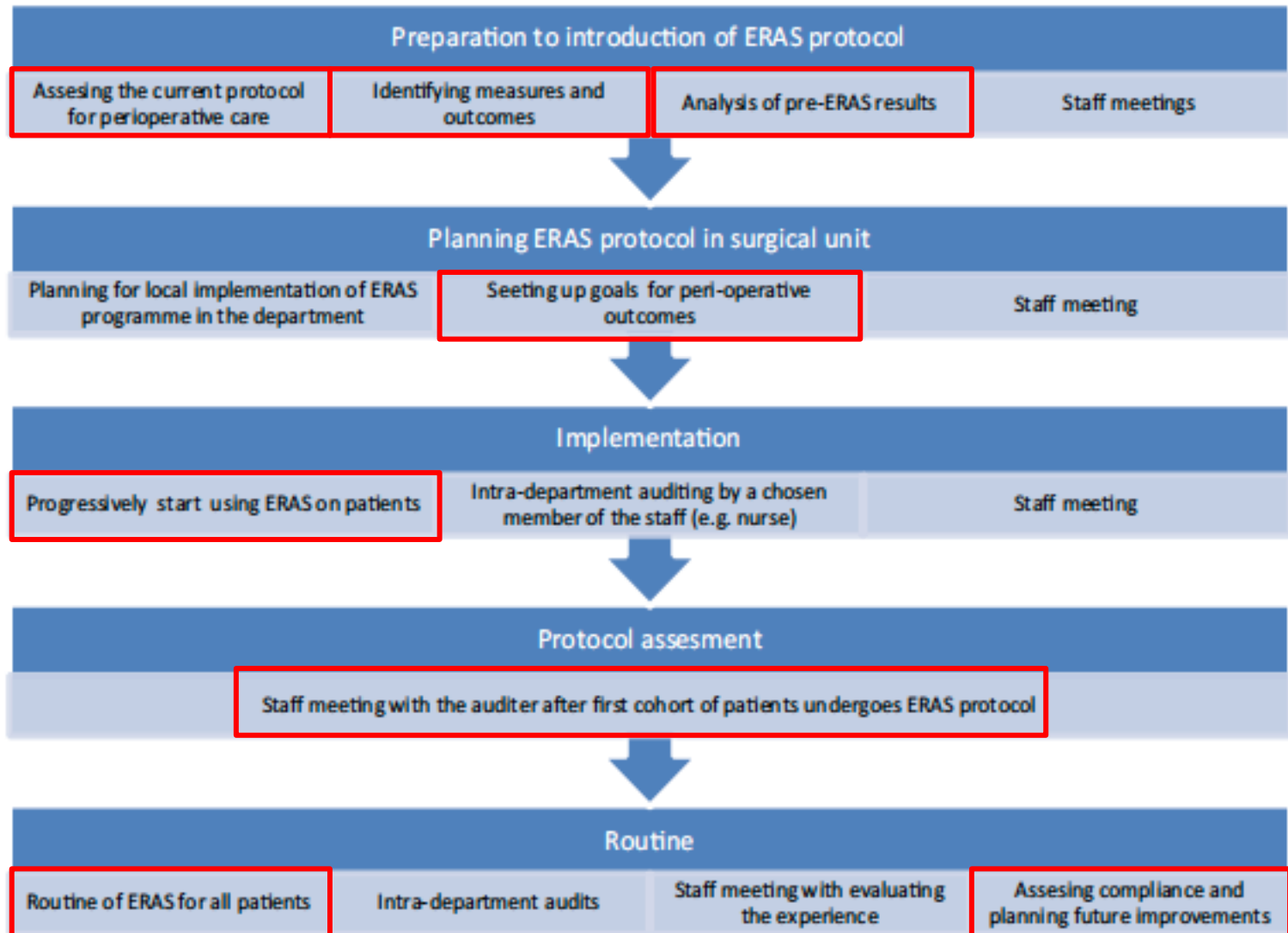


ERAS[®] Implementation

The following is an example of a well-balanced team:

- Surgeon (Team leader)
- Surgical Nurse (usually the ERAS Coordinator, responsible for registration)
- Anesthesiologist (may be also Team leader)
- Anesthesia/high-dependency nurse
- Sponsor (required) – this is the person who is financially responsible for the department. Could be department head or member of hospital's executive board. This person orders and supports the process but does not take active part.
- Representative from hospital's quality department
- Dietician (optional)

Eras implementation program





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ERABS: indicatori degli obiettivi e dei risultati

- Length of stay (LOS)
- Morbidity
- Mortality
- Hospital readmission
- Reintervention rates
- • Adherence to ERABS protocol items



How can lean thinking improve ERAS program in bariatric surgery?

Giovanni Fantola¹ · Marina Agus¹ · Matteo Runfola¹ · Cinzia Podda² · Daniela Sanna¹ · Federica Fortunato¹ · Stefano Pintus¹ · Roberto Moroni¹

Received: 4 May 2020 / Accepted: 17 August 2020
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Surgical Endoscopy

Table 1 Items of the ERABS protocol with adherence

Prehabilitation/Pre-operative	Patient and family counseling	100%
	> 4-week smoking cessation	96.8%
	Preoperative weight loss	52.1%
	If severe OSAS detected: > 2 weeks of CPAP therapy before surgery	100%
	Glycemic control optimization and glycated hemoglobin < 7%	100%
	Shortening fasting time: fasting > 6 h for solid and > 2 h for clear liquid and carbohydrate drink loading since 2 h before surgery	100%
Intraoperative	Premedication (paracetamol and H2 pump inhibitors)	100%
	Parallel team work	100%
	Awake patient position	100%
	Standardized anesthesia and multimodal analgesia opioid-sparing	100%
	Noninvasive monitoring	100%
	Prophylactic antibiotics before surgery	100%
	Compression stocking and pneumatic stocking	100%
	Hypothermia prevention	100%
	Goal directed fluid management	100%
	PONV prevention (preoperative dexamethasone injection)	100%
	Laparoscopy	98.9%
	Avoiding nasogastric tube	100%
	Avoiding urinary catheter	96.8%
	Avoiding abdominal drain	91.34%
Postoperative	Early mobilization	100%
	Early oral fluid	100%
	Venous thromboembolism prophylaxis (BMI-adjusted dose)	100%
	Discharge planning	100%

24

Items



SIARTI
 PRO VITA CONTRA DOLOREM SEMPER



Reducing complication rates and hospital readmissions while revising the enhanced recovery after bariatric surgery (ERABS) protocol

Marjolijn Leeman¹ · Stefanle R. van Mil¹ · L. Ulas Blter¹ · Jan A. Apers¹ · Kees Verhoef² · Martin Dunkelgrun¹

Received: 21 May 2019 / Accepted: 10 February 2020 / Published online: 12 February 2020
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Conclusion An improvement of the ERABS protocol was associated with a decrease in minor complication rates, number of unplanned hospital revisits and readmission rates after primary bariatric procedures.

Preoperatively	Information evening: extensive provision of information with films and interviews Intake day: screening by bariatric nurse, dietician and psychologist Analysis day: screening by physician, dietician and if indicated psychologist Planning day: screening by surgeon and anesthesiologist
Perioperatively	Mandatory weighing 1 week prior to surgery and at admission on the day of surgery Start LMWH (Dalteparin 5000 IE) on the evening before surgery Anti-thrombosis stockings in case of DVT or PE Intake of solid food up to 6 h and clear fluids up to 2 h prior to surgery No urinary catheters No sedative premedication Scheduling of high-risk patients first on the OR Antibiotics, analgesia and anti-emetics 15 min before surgery Patient in French position with anti-Trendelenburg, head positioned on special HELP cushion Early ambulation by asking patient to slide into their bed from the operation table
Postoperatively	Direct encouraging to drink full liquid diet and ambulate Analgesia with 4 times daily 1000 mg acetaminophen and 2 times daily 10 mg oxycodone when necessary Decrease anti-diabetic medication immediately for drug-dependent T2DM with close monitoring Low administration of intravenous fluids, decreased in accordance to oral intake Extra group session with dietician on the morning of discharge Mobilizing under guidance of physical therapist Discharge when patient meets discharge criteria

21

Items



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PROTOCOLLO ERABS: ITEMS

14

Items

- 1 COUNSELLING PREOPERATORIO
- 2 OTTIMIZZAZIONE DEL PAZIENTE
- 3 DIGIUNO PREOPERATORIO
- 4 PROFILASSI NAUSEA E VOMITO POSTOPERATORIO
- 5 PROFILASSI TROMBOEMBOLISMO VENOSO
- 6 PROFILASSI ANTIBIOTICA
- 7 ANALGESIA MULTIMODALE
- 8 PROTOCOLLO DI ANESTESIA STANDARDIZZATO
- 9 SONDINO NASO-GASTRICO
- 10 DRENAGGIO ADDOMINALE
- 11 CATETERE VESCICALE
- 12 MOBILIZZAZIONE PRECOCE POSTOPERATORIA
- 13 RIALIMENTAZIONE PRECOCE POSTOPERATORIA
- 14 DIMISSIONE

Original article

Employing Enhanced Recovery Goals in Bariatric Surgery (ENERGY): a national quality improvement project using the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program

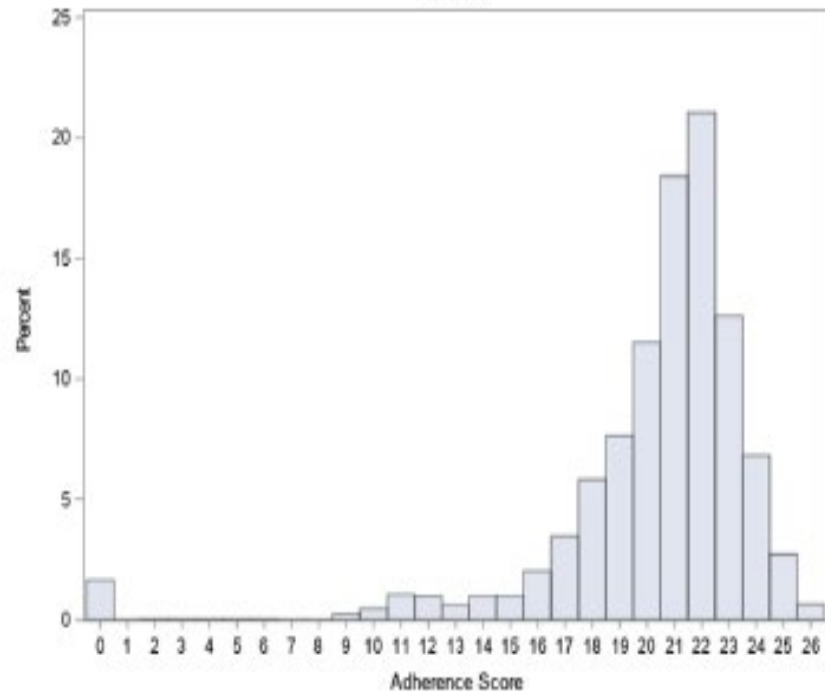
Stacy A. Brethauer, M.D.^{a,*}, Arielle Grieco, M.P.H.^b, Teresa Fraker, M.S., R.N.^b,
Kimberly Evans-Labok, B.A.^b, April Smith, Pharm.D., B.C.P.S.^c,
Matthew D. McEvoy, M.D.^d, Alan A. Saber, M.D.^e, John M. Morton, M.D.^f,
Anthony Petrick, M.D.^g

<https://doi.org/10.1016/j.socd.2019.08.024>

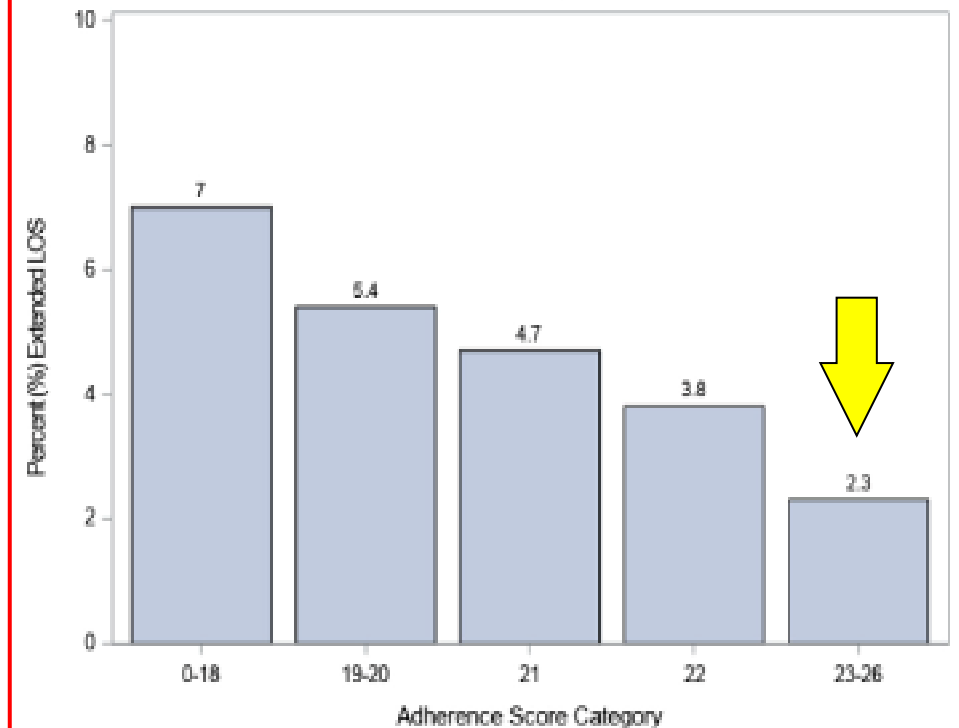
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18.048
pts

Distribution of Adherence Scores
[0-26]



Extended LOS (%) by Adherence Score Categories





Impact of Adherence to the ERAS® Protocol on Short-term Outcomes after Bariatric Surgery

15 items

Piotr Małczak^{1,2} · Michał Wysocki^{1,2} · Hanna Twardowska¹ · Alicja Dudek¹ · Justyna Tabiś¹ · Piotr Major^{1,2} · Magdalena Pisarska^{1,2} · Michał Pędzwiatr^{1,2}

OBES SURG (2020) 30:1498–1505

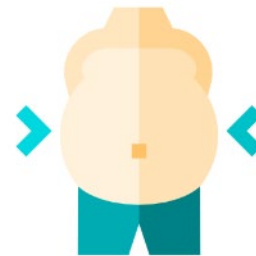
1501

Table 3 Recovery parameters and perioperative outcomes

	Group 1	Group 2	P value
Multimodal analgesia, <i>n</i> (%)	59 (39.9%)	432 (70.1%)	<0.001
Early mobilization, <i>n</i> (%)	71 (75.5%)	520 (93.4%)	<0.001
Median POD of oral feeding tolerance (IQR)	2 (2–2)	2 (1–2)	<0.001
Median volume of oral fluids on POD0, ml (IQR)	0 (0–300)	450 (200–700)	<0.001
Median diuresis on POD0, ml (IQR)	2400 (1700–3300)	1800 (1400–2300)	<0.001
iv fluids on POD0, number of patients (%)	125 (84.5%)	377 (61.2%)	<0.001
Postoperative morbidity, <i>n</i> (%)	20 (13.6%)	17 (2.8%)	<0.001
LSG	10 (11.6%)	13 (2.6%)	<0.001
LRYGB	10 (16.1%)	4 (3.4%)	0.002
CD I	12	10	
Rhabdomyolysis	7	4	
Delayed gastric emptying	2	5	
Fever of unknown origin	1	-	
Pulmonary infection	2	1	
CD II	1	-	
Pulmonary infection requiring antibiotics	1	-	
CD III	3	5	
Hemorrhage	2	3	
Anastomotic leakage	1	2	
CD IV	2	2	
Pneumonia with acute respiratory distress syndrome	1	-	
Cardiorespiratory failure requiring ICU	1	2	
Anastomotic leakage with peritonitis, cardiorespiratory failure after reoperation requiring ICU		1	
CD V	2	-	
Pulmonary embolism	1	-	
Hernia strangulation with intestine necrosis, anastomosis dehiscence and peritonitis	1	-	
Median length of hospital stay, days (IQR)	4 (3–5)	3 (2–4)	<0.001
Prolonged LOS (> 4 days), <i>n</i> (%)	79 (53.4%)	225 (36.5%)	<0.001
LSG	45 (52.3%)	182 (36.6%)	0.006
LRYGB	34 (54.8%)	43 (36.1%)	0.016
Readmissions, <i>n</i> (%)	16 (10.8%)	35 (5.7%)	0.04

CASO CLINICO

F.T.



F.T.  48 aa **BMI 36.1** Altezza 173cm - Peso 108 Kg

Portatrice di **LAGB** (2008)

BMI iniziale 38.1 (Peso 114 Kg)

BMI minimo raggiunto **30.4** - Peso 91 Kg

Pregresso **fallimento di BiB** (2007, - 8 Kg recuperati)

APR: ipertensione arteriosa in terapia

osteoartrosi polidistrettuale (attende artroprotesi ginocchio dx)

appendicectomia

isterectomia per malattia fibromatosa

disturbo ansioso-depressivo

... TRE MESI PRIMA ...

Visita chir: candidabilità a chirurgia bariatrica revisionale
rimozione LAGB + OAGB differito

MDT: nulla osta a procedere

EGDS: ndp, non esofagite

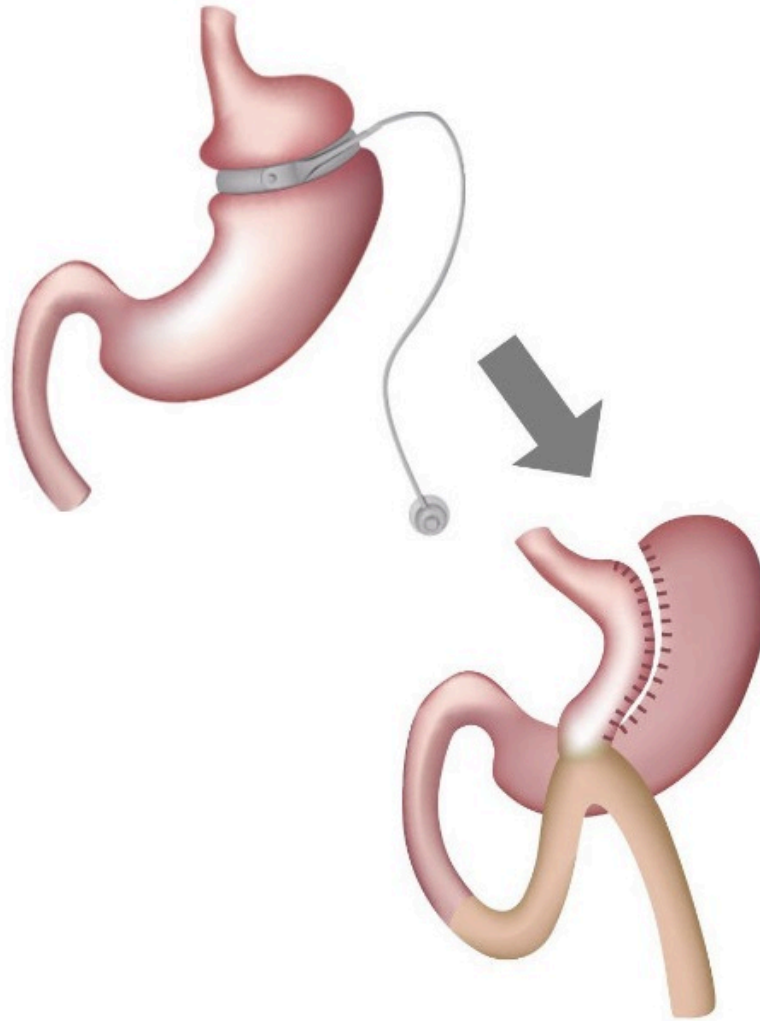
Rimozione LAGB

Non complicanze

Regolare post-operatorio ERAS

Dimessa in gg 0

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Programmato **Mini Bypass Gastrico / OAGB**

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Protocollo anestesilogico standard

Fentanyl, Ossicodone, Paracetamolo, Ketorolac, Desametasone, Ondansetron

Profilassi antibiotica 1 dose all'induzione

cefazolina 2 g

Infiltrazione preincisionale siti di accesso

levobupivacaina 1,25% 20 mL

Ansa biliare _____	180 cm
Ansa comune _____	> 350 cm (misurati)
Anastomosi _____	lineare 45mm
Tempo chirurgico (compresa adesiolisi)	160 '
EBL	50 ml

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Protocollo anestesilogico standard

Fentanyl, Ossicodone, Paracetamolo, Ketorolac, Desametasone, Ondansetron

Profilassi antibiotica 1 dose all'induzione

cefazolina 2 g

Infiltrazione preincisionale siti di accesso

levobupivacaina 1,25% 20 mL

Irrigazione peritoneale con AL

Si

SNG

No

CV

No

Drenaggi

No

Richiesta Rx transito I GPO

Si (inizio esperienza MGB/OAGB)

Esami ematochimici

No (se stabile/apiretica)

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Permanenza in **PACU** 2:45 h

PV nell'immediato postop nella norma

Richiesta ossicodone	2 + 1 + 2 + 2 mg
Richiesta midazolam	2 mg
PA	129/77 (max) - 105/65 (min)
FC	< 75
SpO ₂	97-99% (AA)
Temperatura	apiretica
NRS	0 - 0 - 0 - 0 - 8 - 0 - 4 - 0 - 0 - 0 - 0
Mobilizzazione (assisa)	1 h dalla chirurgia

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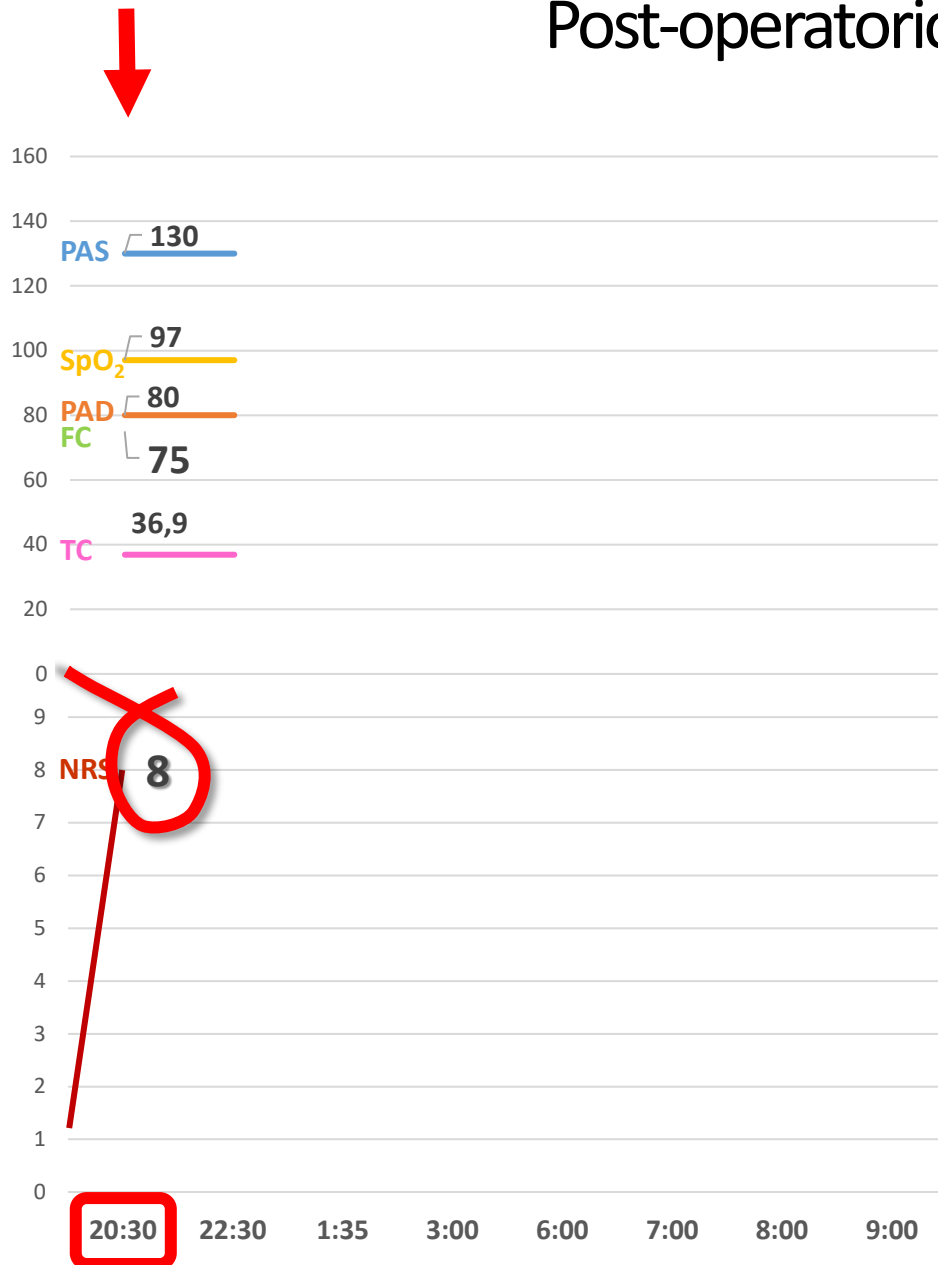
Rientro in **REPARTO** (prime 6 h)

Regolare postoperatorio precoce

Dieta	idrica dal rientro in reparto
Mobilizzazione	seduta - deambulante
Diuresi spontanea	ripresa entro 1 h
PA	105/70 (max) - 95/60 (min)
FC	< 75
SpO ₂	98-100% (AA)
Temperatura	apiretica
NRS	1 - 1
Analgesia	paracetamolo 1gr iv q8h ketorolac 30mg ab (<i>non somministrato</i>)
PONV	NO ondansetron 4 mg se PONV (<i>non somministrato</i>)

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Post-operatorio - *REPARTO*



h 20.30

1° STOP

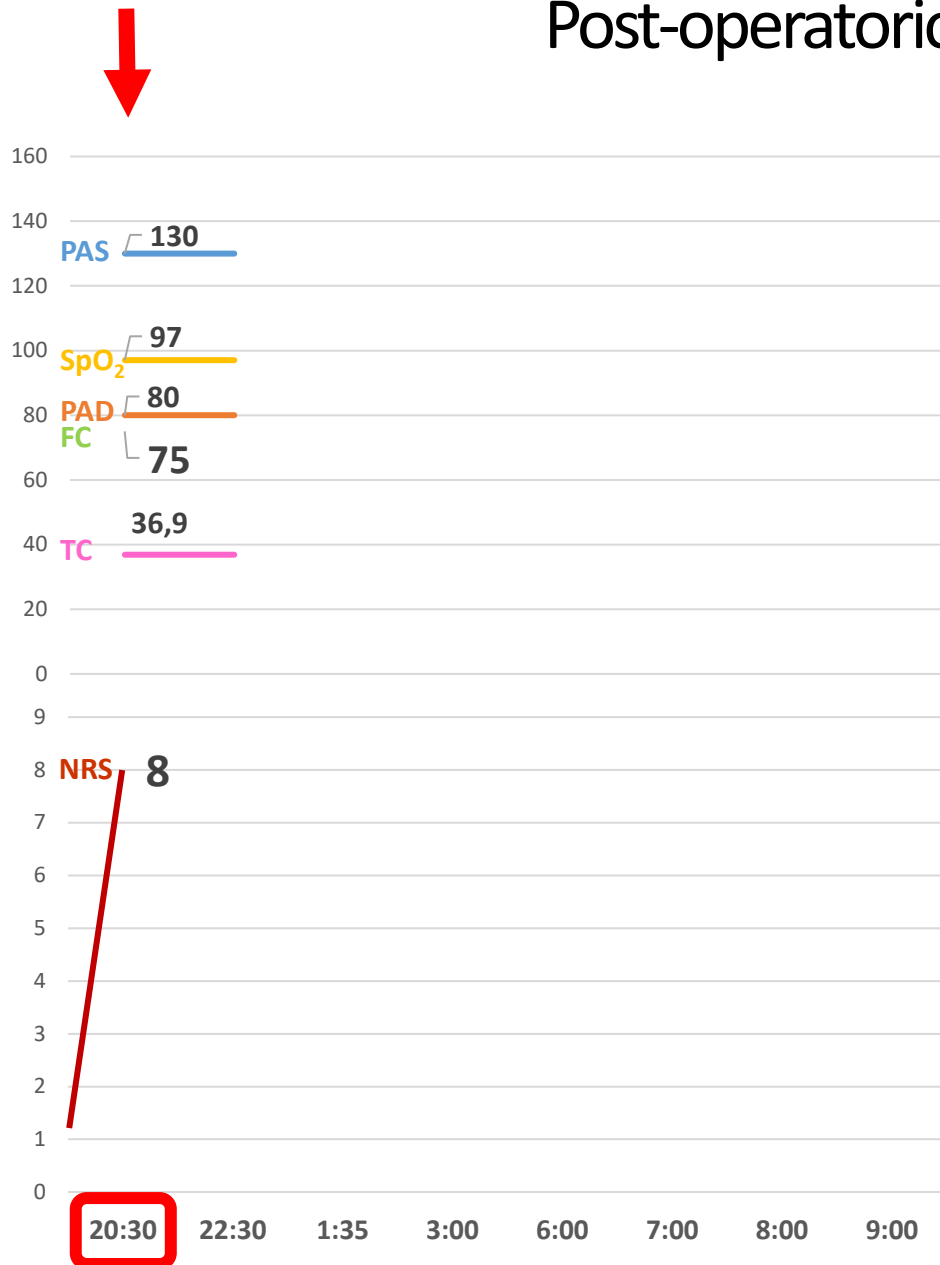
Dolore addominale (NRS 8)

CHE FARE ?

- Oppiacei ?
- Antibiotico ?
- Esami ?
- TC addome ?
- Re-laparoscopia ?

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Post-operatorio - *REPARTO*



h 20.30

1° STOP

Dolore addominale (NRS 8)



CHE FARE ?

Oppiacei

Antibiotico

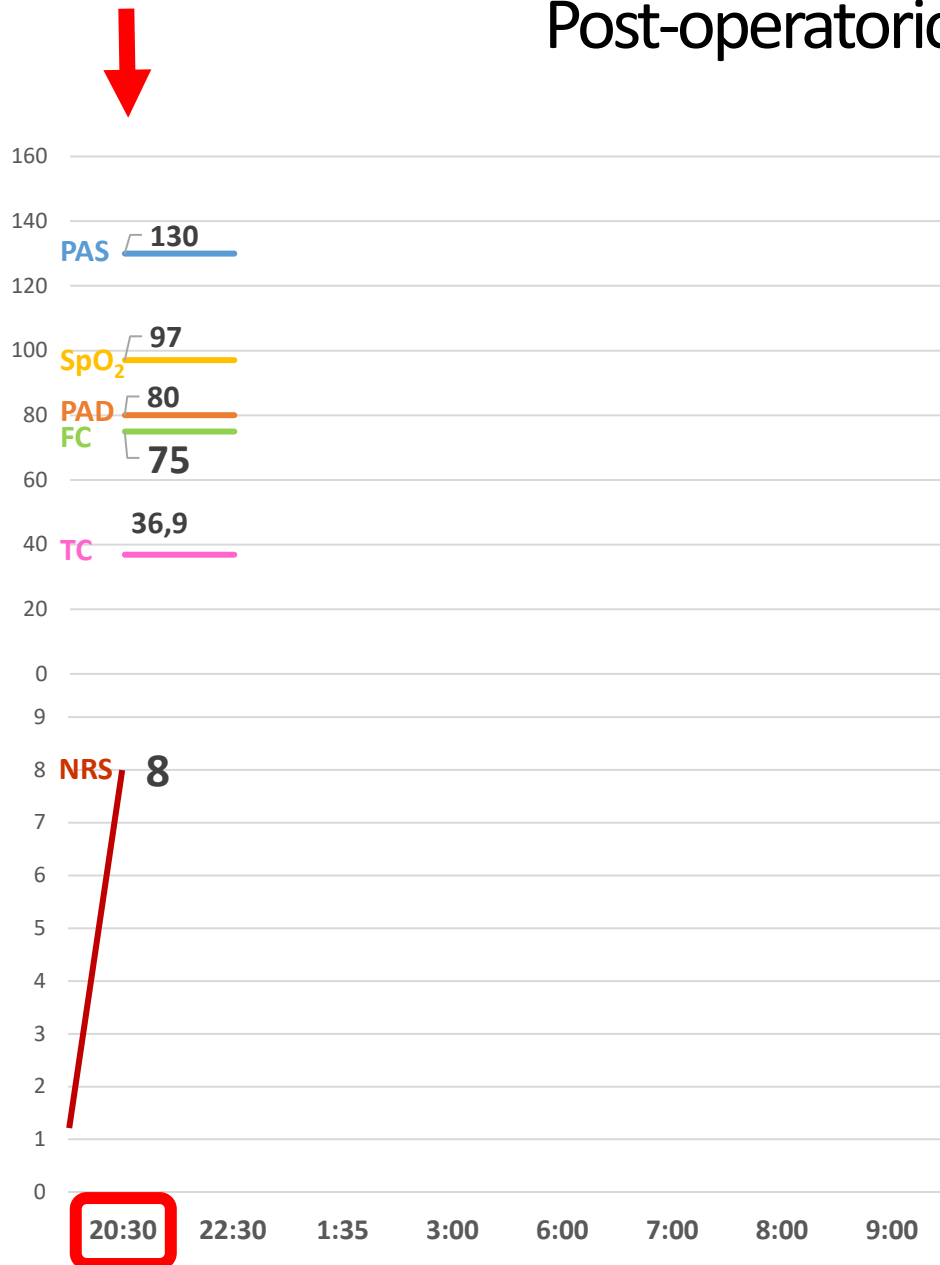
Esami

TC addome

Re-laparoscopia

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Post-operatorio - *REPARTO*



h 20.30

1° STOP

Dolore addominale (NRS 8)



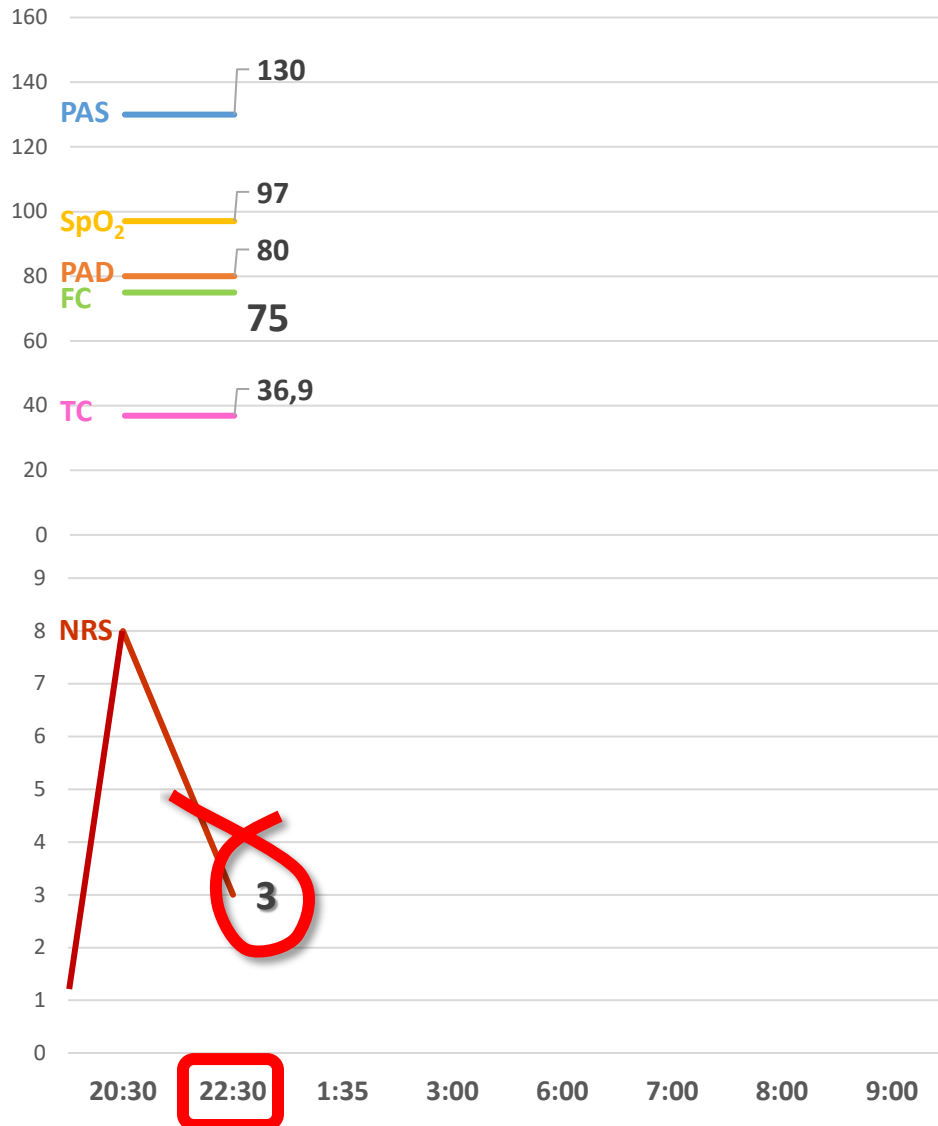
AZIONI

Paracetamolo
Petidina

1000 mg ev
50 mg ev

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Post-operatorio - *REPARTO*



h 22.30

1° STOP

Dolore regredito (NRS 3)



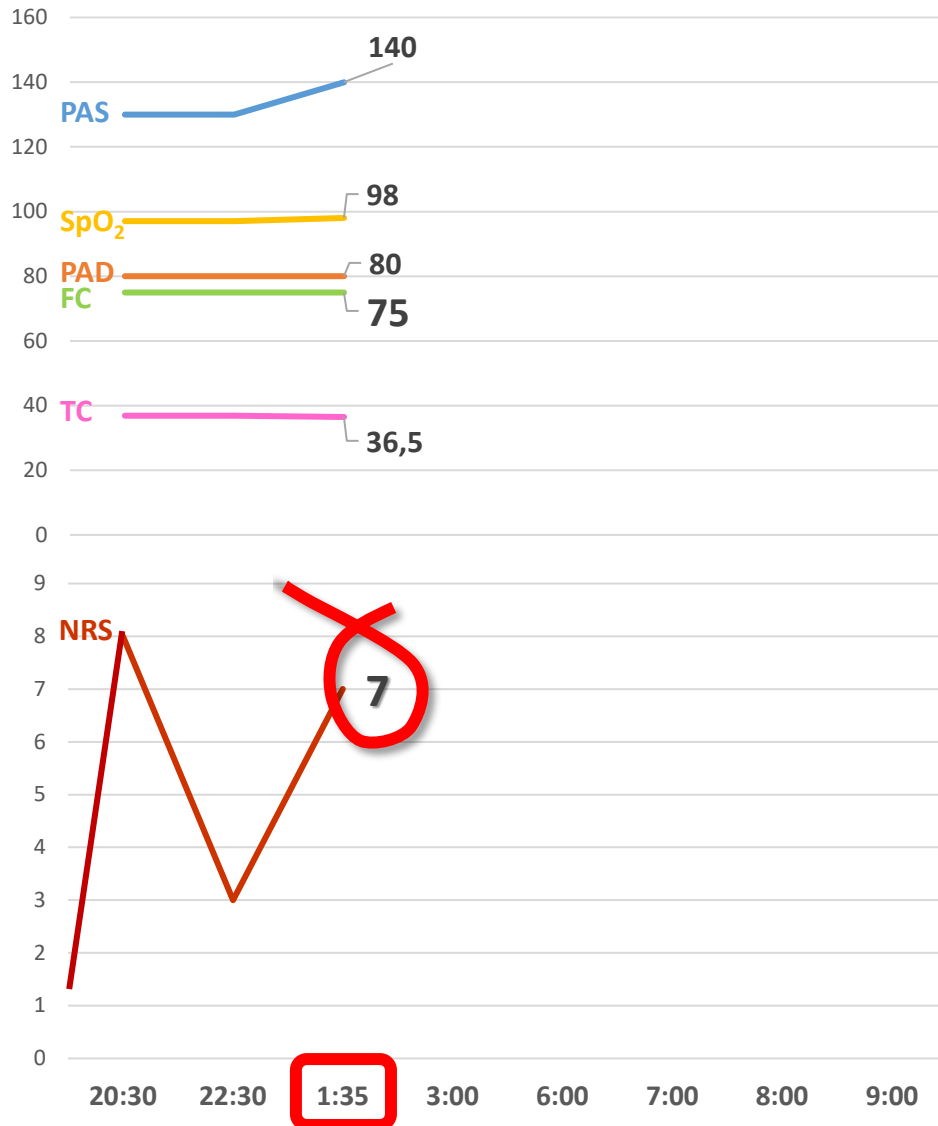
PROGRAMMA

- **Monitoraggio**



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Post-operatorio - *REPARTO*



h 1.35

2° STOP

Dolore addominale (NRS 7)

Vomito

CHE FARE ?

Oppiacei ?

Antibiotico ?

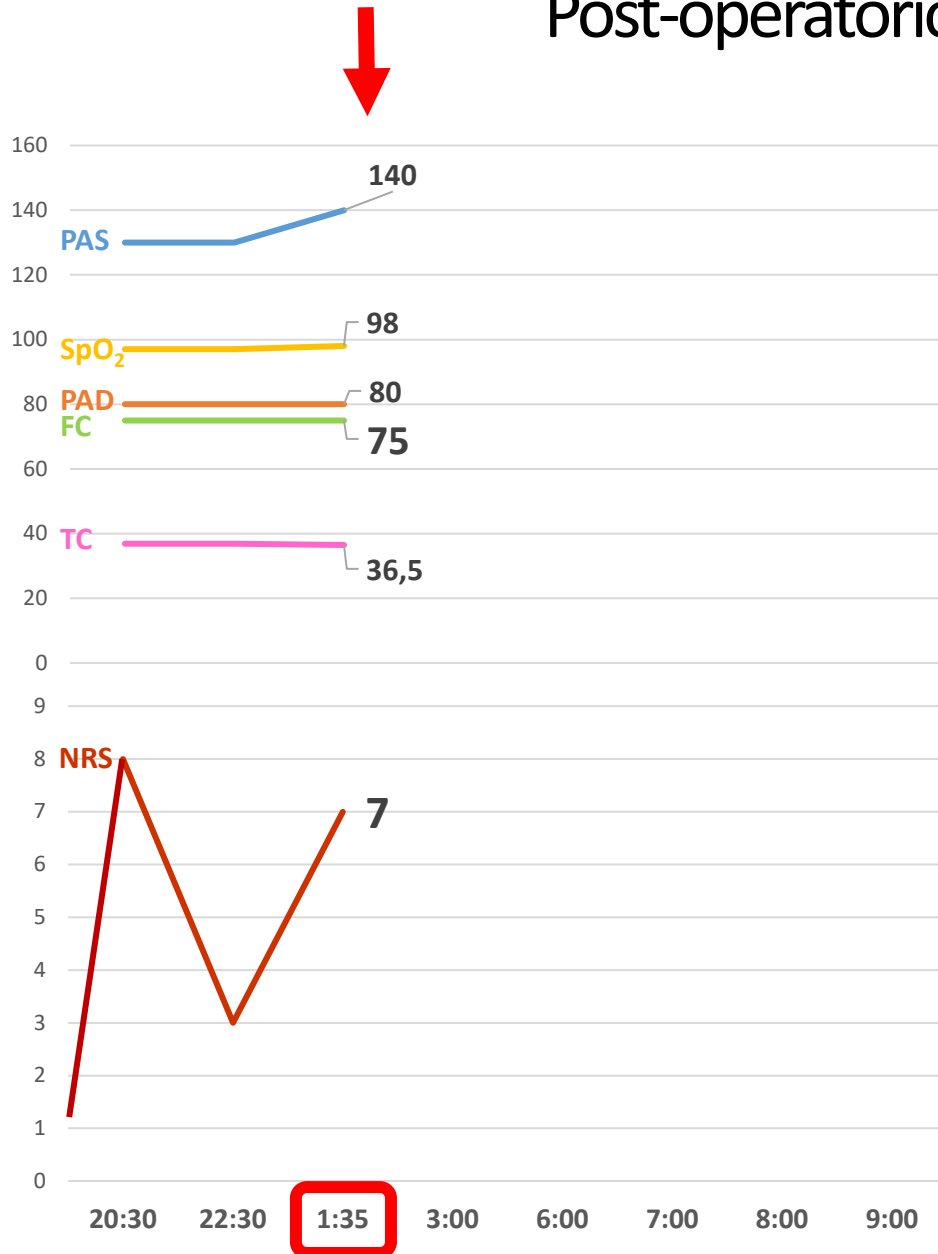
Esami ?

TC addome ?

Re-laparoscopia ?

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Post-operatorio - *REPARTO*



h 1.35

2° STOP

Dolore addominale (NRS 7)
Vomito



AZIONI

Oppiacei

Antibiotico

Esami

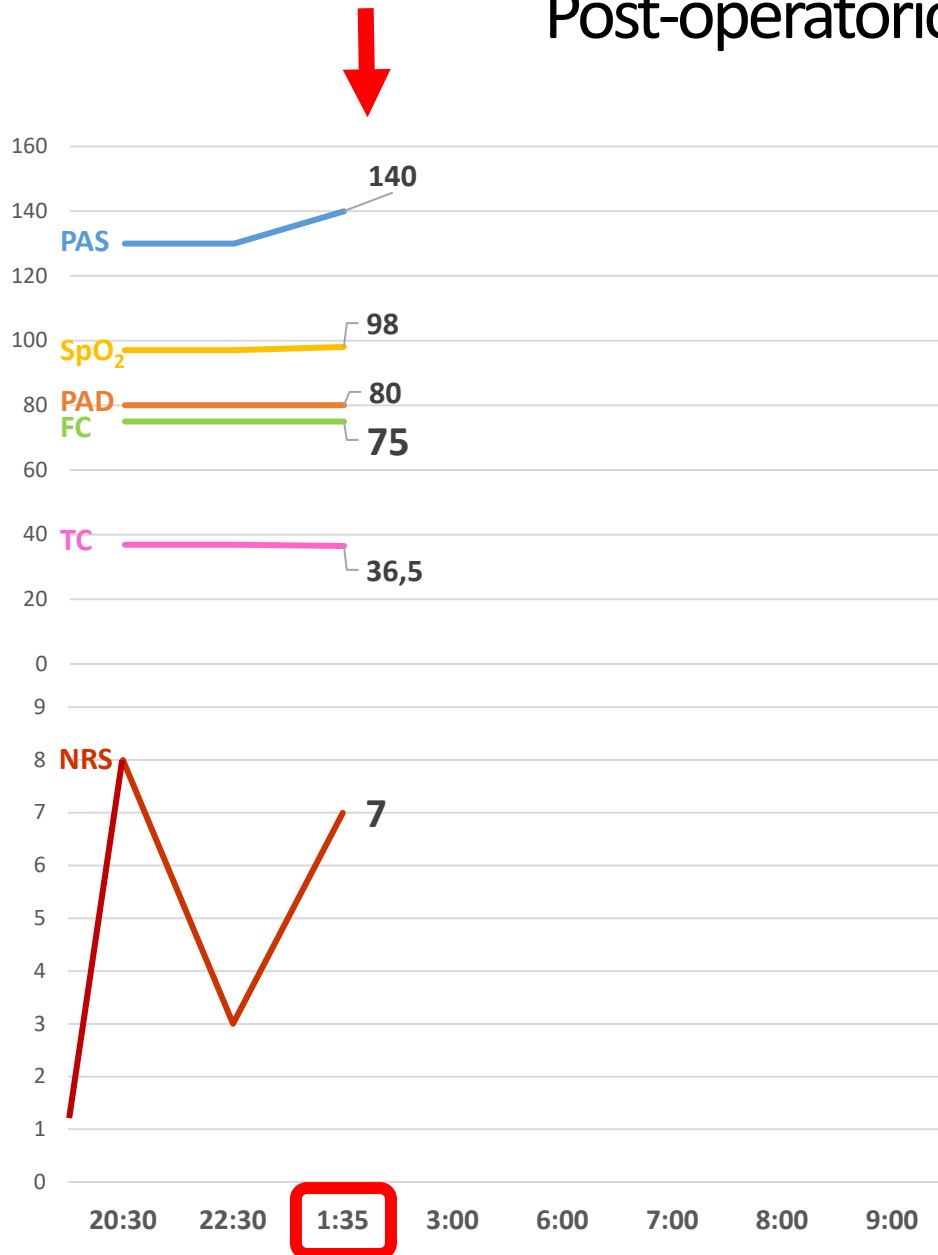
TC addome

Re-laparoscopia



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Post-operatorio - *REPARTO*



h 1.35

2° STOP

Dolore addominale (NRS 7)
Vomito

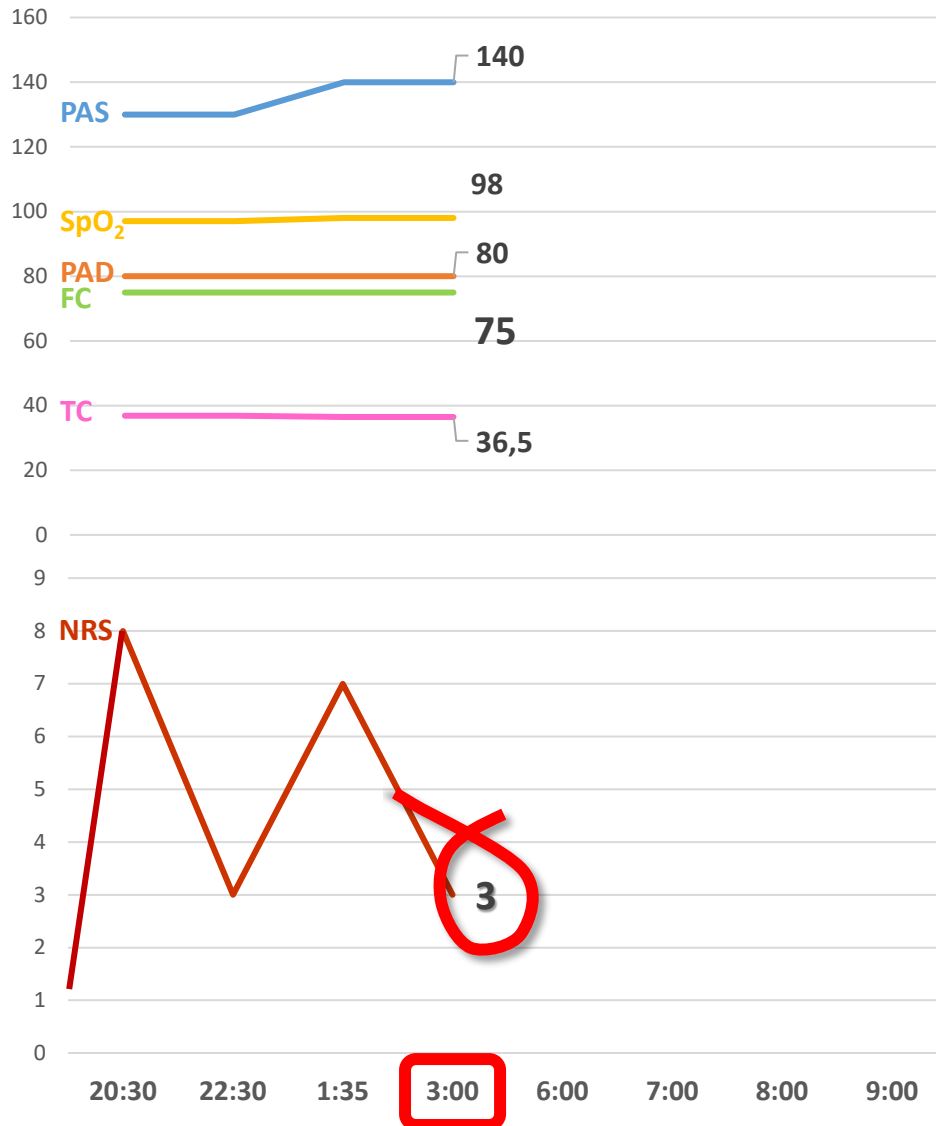


- Metoclopramide 10 mg ev
- Petidina 50 mg (cons. antalgica)

WBC 11.700 - Hb 12.5

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Post-operatorio - *REPARTO*



h 3.00

2° STOP

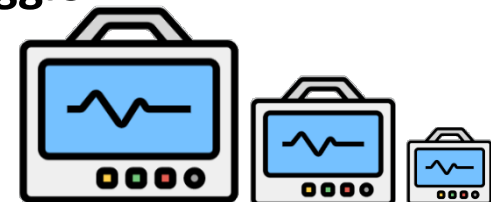
Dolore regredito (NRS 3)

Nausea, non vomito



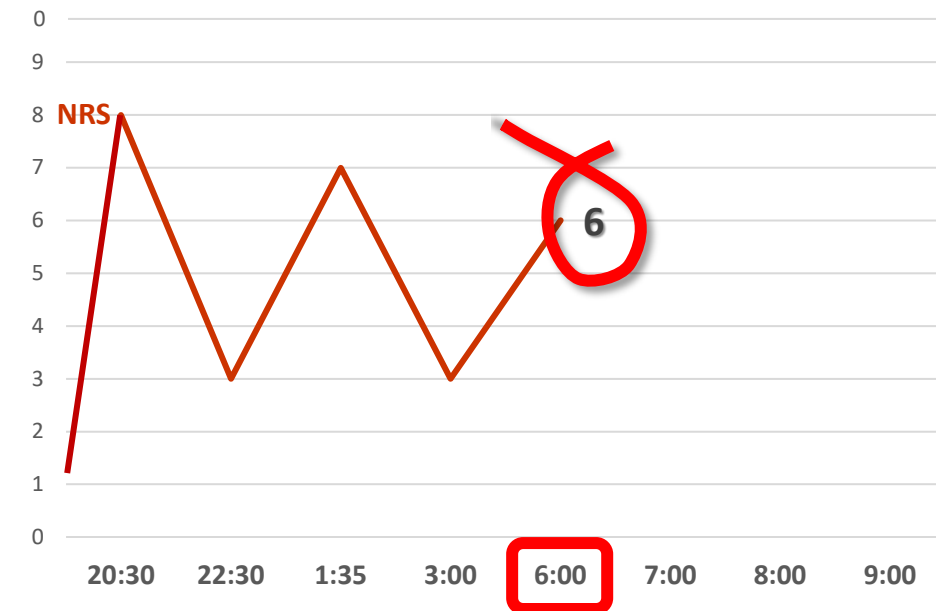
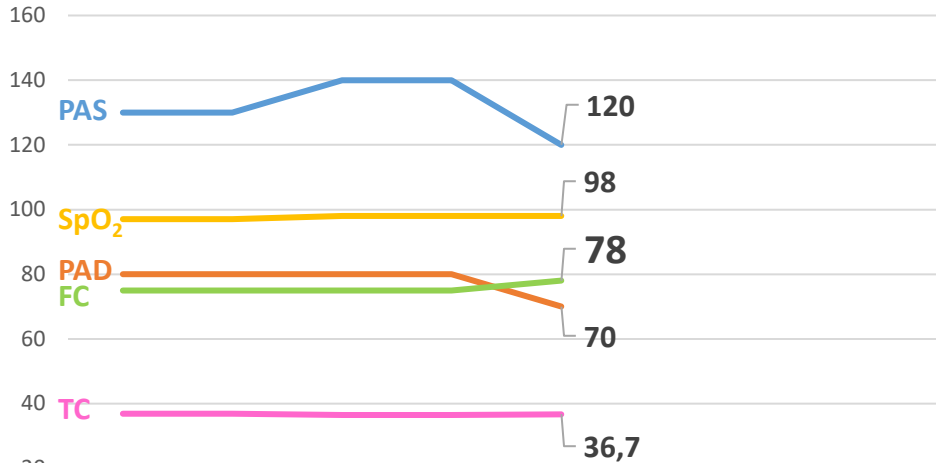
PROGRAMMA

- Ripete emocromo ore 7
- Monitoraggio



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Post-operatorio - *REPARTO*



h 6.00

PASSANO TRE ORE...

Dolore addominale (NRS 6)

Nausea



AZIONI

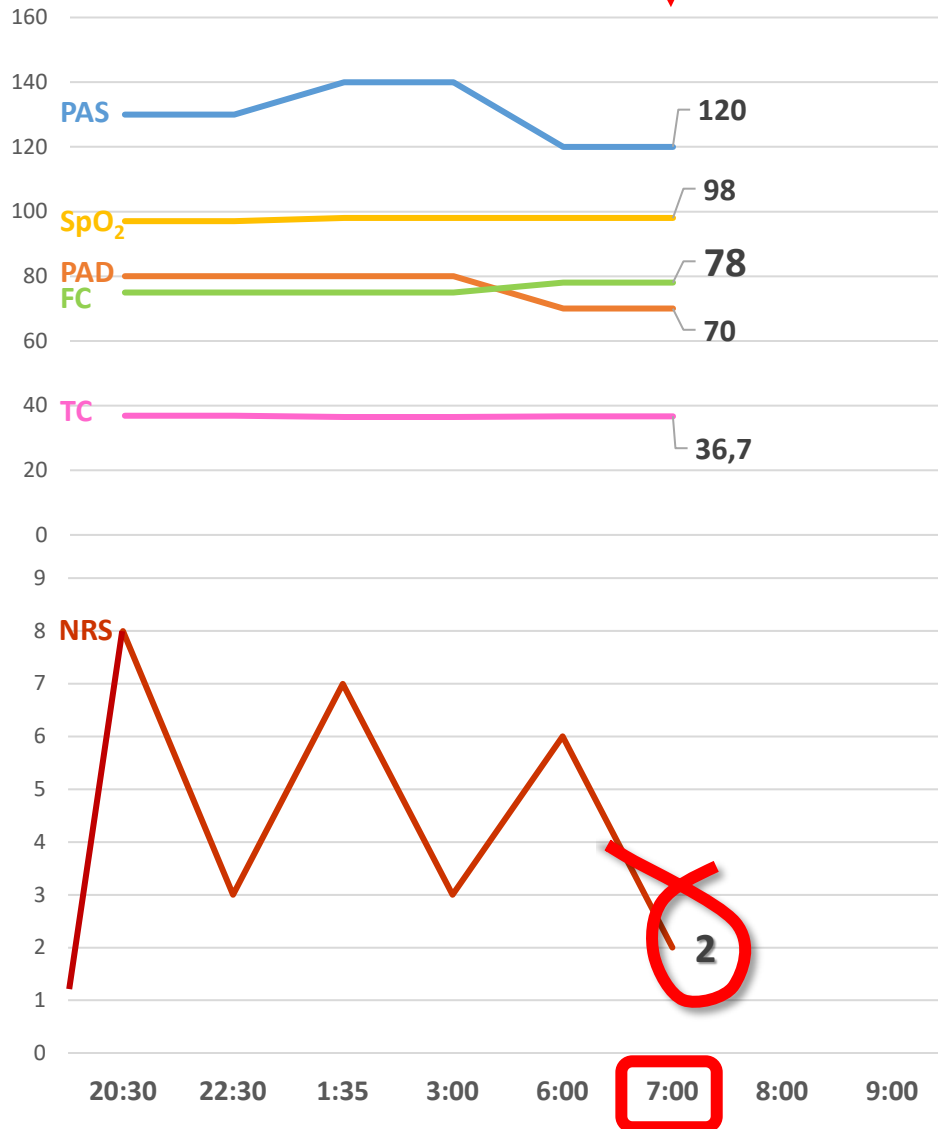
- Ondansetron 4 mg ev
- Paracetamolo 1 g ev

Anticipa emocromo

WBC 10.000 - Hb 12.8

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Post-operatorio - *REPARTO*



h 7.00

ESITO AZIONE

Dolore regredito (NRS 2)

Non nausea/vomito



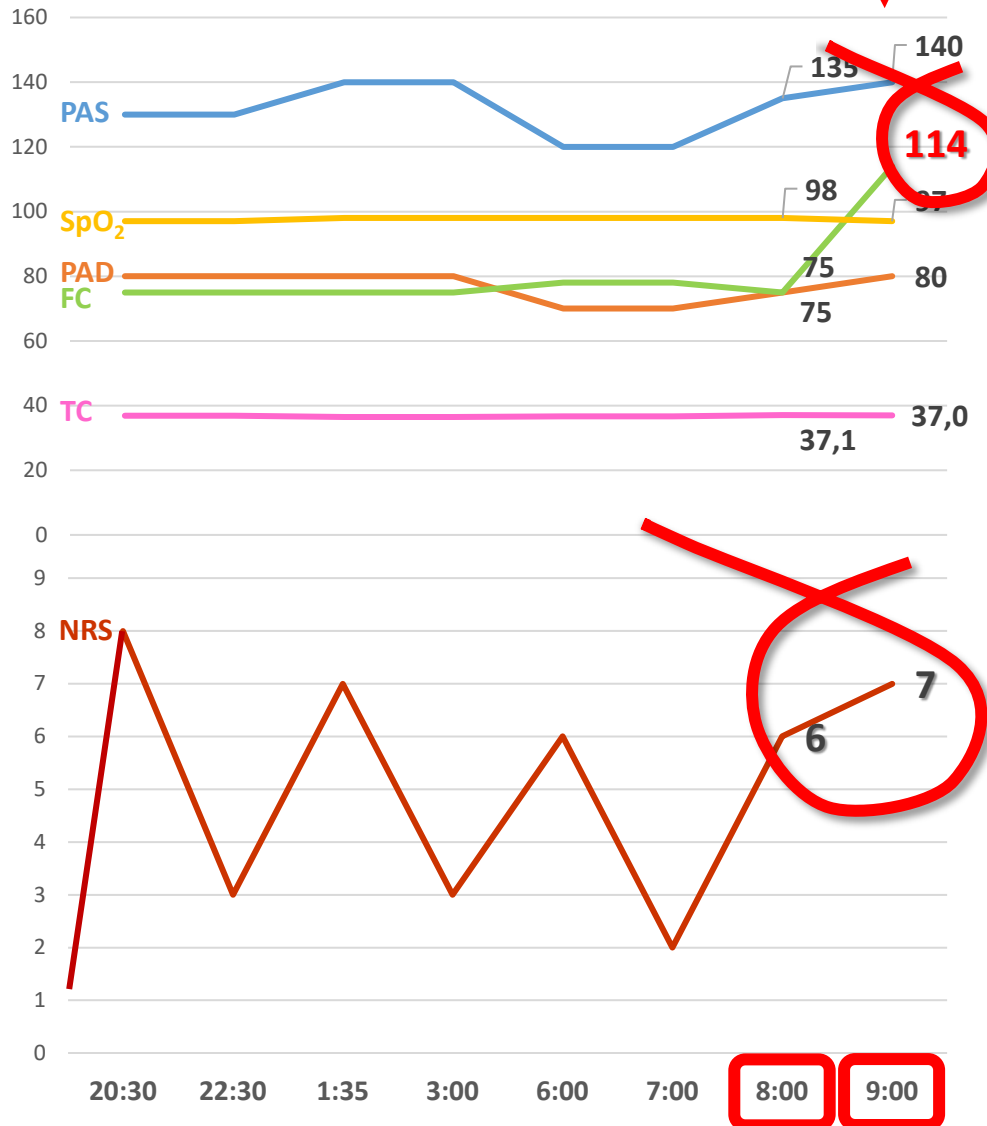
PROGRAMMA

Monitoraggio



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Post-operatorio - *REPARTO*



h 8.30 - 9

3° STOP

Dolore addominale (NRS 6 - 7)

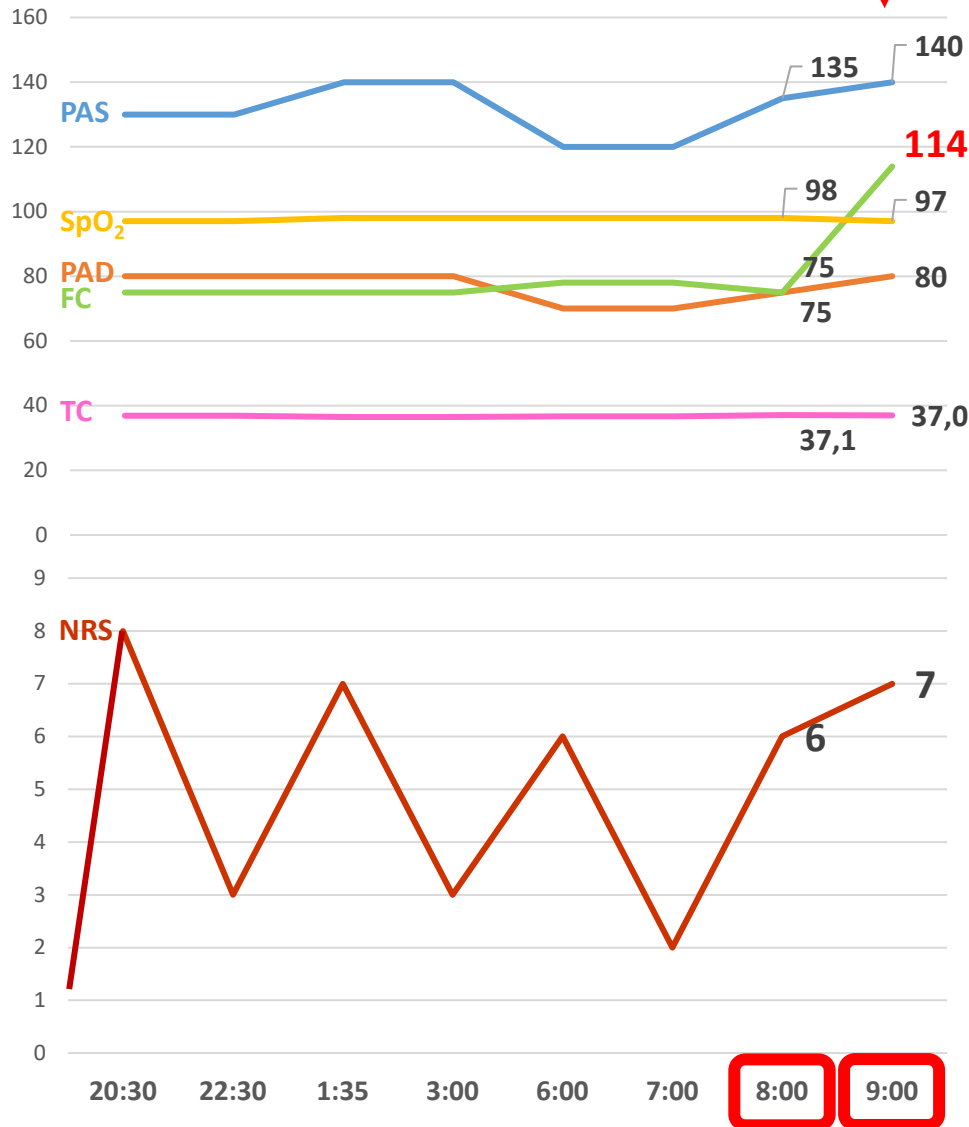
Tachicardia (FC 114 BPM)

CHE FARE ?

- Oppiacei ?
- Antibiotico ?
- Ripetere esami ?
- Rx transito ? (già programmato)
- TC addome ?
- Re - laparoscopia ?

OAGB Laparoscopico revisionale

Post-operatorio - *REPARTO*



h 8.30 - 9

3° STOP

Dolore addominale (NRS 6 - 7)
Tachicardia (FC 114 BPM)



AZIONI

- Oppiacei ?
- Antibiotico ?
- Ripetere esami ?
- Rx transito (già programmato)
- **TC addome**
- Re - laparoscopia ?

OAGB Laparoscopico revisionale

TC addome + mdc ev/os

"aspetto tumefatto di ansa ileale centro addominale bassa, non opacizzata dal mezzo di contrasto per os (la paziente è riuscita a bere poco), **associato ad edema mesenteriale e a modesta quantità di aria extraintestinale** che si dispone sul versante superiore dell'ansa tumefatta. L'opacizzazione dell'ansa non differisce da quelle apparentemente normali. Attualmente regolare opacizzazione dell'arteria e della vena mesenterica. Il mezzo di contrasto per os opacizza regolarmente la piccola cavità gastrica residua e l'anastomosi prossimale **senza evidenza di fistole** o di raccolte. **Pneumoperitoneo** si distribuisce nel versante anteriore della cavità addominale, all'ilo epatico, anteriormente al pancreas, che ha aspetto regolare (non evidenti segni TAC di pancreatite). **Modesto versamento liquido** si dispone anno al terzo inferiore della ghiandola epatica, tra i foglietti mesenteriali e in maniera più cospicua in scavo di Douglas. "

OAGB Laparoscopico revisionale

TC addome + mdc ev/os



h 9:00

4° STOP

- ✓ Liquido libero
- ✓ Aria libera
- ✓ Ansa ileale "tumefatta"



CHE FARE ?

- Oppiacei ?
- Antibiotico ?
- Ripete esami ?
- Re-laparoscopia ?

OAGB Laparoscopico revisionale

TC addome + mdc ev/os



h 9:00

4° STOP

- ✓ Liquido libero
- ✓ Aria libera
- ✓ Ansa ileale "tumefatta"



AZIONE

Oppiacei ?
Antibiotico ?
Ripete esami ?
Re-laparoscopia



LAPAROSCOPIA ESPLORATIVA (a 24 h dall'intervento)

Diagnosi

«Diffusi depositi di fibrina in particolare in fianco destro. Presenza di versamento libero diffuso tinto biliare. Tra annesso di sinistra e mesentere è presente briglia aderenziale con incarceramento di anse ileali, una delle quali è sede di soluzione di continuità a tutto spessore con evidenza di perforazione intestinale »

Intervento

*«**Adesiolisi** e sezione briglia aderenziale, **raffia** della soluzione di continuo in doppio strato, **lavaggi** ripetuti, posa di due **drenaggi**»*

TRASFERIMENTO IN TERAPIA INTENSIVA PER MONITORAGGIO

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Post-operatorio precoce- ICU

PV NEI LIMITI, RIENTRA IN REPARTO

Piperacillina/Tazobactam 18 g/die IC

Paracetamolo 1000 mg q8h

Petidina 460 mg IC elastomerica (48h)

RA 80 cc/h

PA **130/80** (max) - **90/60** (min)

FC **< 80** bpm

SpO₂ **99 %** AA

Temp **apiretica** (picco 37.5° ore 19)

Drenaggi **sierosi** (< 200 cc in 24 h)

Es.ematochimici **WBC 10.370**/mmc **PCR 290** mg/LFEU

Es.colturale **E.faecium mds** (liquido peritoneale)

Alvo **chiuso** (peristalsi torpida)

PV NEI LIMITI, RIENTRA IN REPARTO

Piperacillina/Tazobactam 4.5 g q6h, Paracetamolo 1000 mg q8h, Ketorolac 30 mg ab

PA **125/85 (max) - 100/65 (min)**

FC **< 80 bpm**

SpO₂ **96 % AA**

Temp **apiretica**

Dolore **0 - 0 - 2 - 0)**

Alvo **chiuso** (peristalsi torpida)

Dieta **idrica**

SNG / CV **rimossi**

Idratazione ev **sospesa**

Mobilizzazione **seduta**

REGOLARE POSTOPERATORIO

Piperacillina/Tazobactam 4.5 g q6h, Paracetamolo 1000 mg q8h, Ketorolac 30 mg ev ab

PA **140/80** (max) - **110/70** (min)

FC **< 80** bpm

SpO₂ **96 %** AA

Temp **apiretica**

Dolore **0 - 0 - 3 - 0 - 2 - 0**

Alvo **chiuso** (peristalsi torpida)

Dieta **idrica**

Drenaggi **rimosso 1**

Mobilizzazione **deambula**

Esami **WBC 9.000 - PCR 160**

5° STOP

CHE FARE ?

- Continua monitoraggio ?
- Esami ematochimici?
- Attesa ripresa canalizzazione feci ?
- Dimissibile ?

Dolore

0 - 2 - 0

Mobilizzazione

deambula

Alvo

pervio a gas

Drenaggio

rimosso 2/2

5° STOP AZIONI

- Continua monitoraggio ?
- Esami ematochimici?
- Attesa ripresa canalizzazione feci ?
- Dimessa (prosegue antibiotico per os 5 gg)

Dolore

0 - 2 - 0

Mobilizzazione

deambula

Alvo

pervio a gas

Drenaggio

rimosso 2/2

OAGB Laparoscopico revisionale (complicato)

QUESITI PER IL PANEL

- *Un **drenaggio** avrebbe cambiato l'outcome?*
- *La **rialimentazione precoce** ha peggiorato la prognosi?*
- *Un corso prolungato di **antibiotico** avrebbe giovato?*
- *La **TC** si poteva evitare in favore di **laparoscopia** immediata?*

Grazie !