

# Gestione e prevenzione del dolore acuto post-operatorio

01 Ottobre 2022



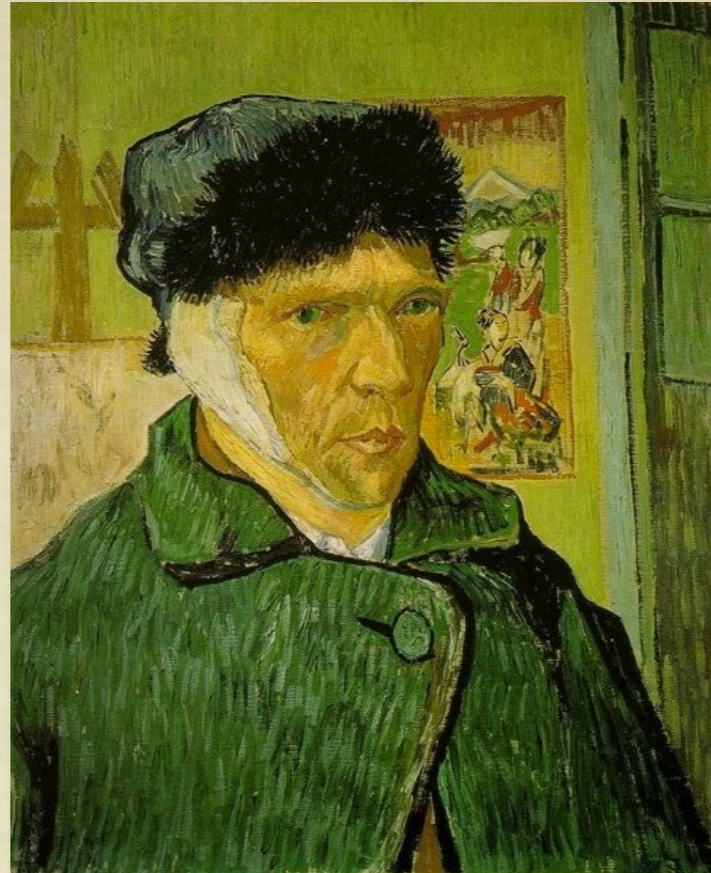
Azienda Ospedaliera  
Papa Giovanni XXIII  
Bergamo

Sistema Sanitario  Regione  
Lombardia

**Edoardo Flaviano**

*Dipartimento Emergenza Urgenza e Area Critica  
Anestesia e Rianimazione 2  
ASST Papa Giovanni XXIII°, Bergamo*

# post-operative pain (POP)



“E’ un dolore acuto che insorge nel periodo peri-operatorio in un paziente chirurgico a causa della patologia preesistente e/o dell’intervento chirurgico (es. ferita, trazione somato-viscerale, trauma diretto, tubi di drenaggio chirurgici, drenaggio toracico, sondino nasogastrico, catetere vescicale, complicazioni) ed abitualmente confinato in un periodo di sette giorni dopo l’operazione chirurgica”

# postoperative

# pain

- mixed in components: ***visceral vs somatic***
- mixed in components: ***nociceptive vs neuropathic***
- originally considered only as “***acute***”: it goes on as long as the stimulus goes on
- now: POP may become ***persistent*** (P/C-PSP)

# Dolore Viscerale



- ▶ Stimolazione nocicettori viscerali
- ▶ Stimolo principale: distensione
- ▶ DOLORE MAL LOCALIZZATO, CUPO E PROFONDO

# Dolore Somatico



- ▶ Stimolazione nocicettori di strutture somatiche (cutanei, muscoloscheletrici, tendinei, fasciali, periostei, etc)
- ▶ DOLORE VIVO E BEN LOCALIZZATO

# Dolore Neuropatico



- ▶ Sensibilizzazione midollare a qualsiasi evento lesivo
- ▶ Lesioni neurologiche
- ▶ Anestesia, iperalgesia, ALLODINIA

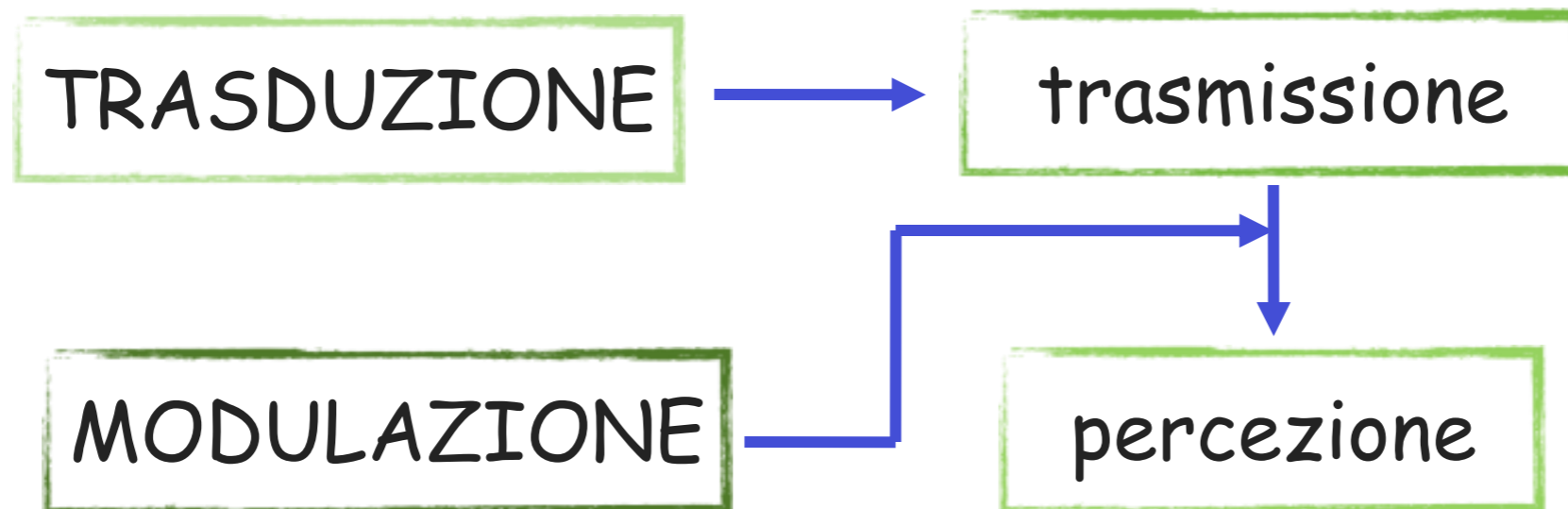
# COMPONENTI del dolore

- **NOCICEZIONE**
- SENSAZIONE
- SOFFERENZA
- COMPORTAMENTO

FORDYCE W.E. "Learning processes of pain" - In: Sternbach (Ed) : The psychology of pain. Raven Press, New York, 1978

Tra STIMOLO NOCIVO tessutale ed ESPERIENZA  
SOGGETTIVA sono interposti fenomeni chimici ed  
elettrici CLASSIFICABILI IN 4 DISTINTI

PROCESSI:

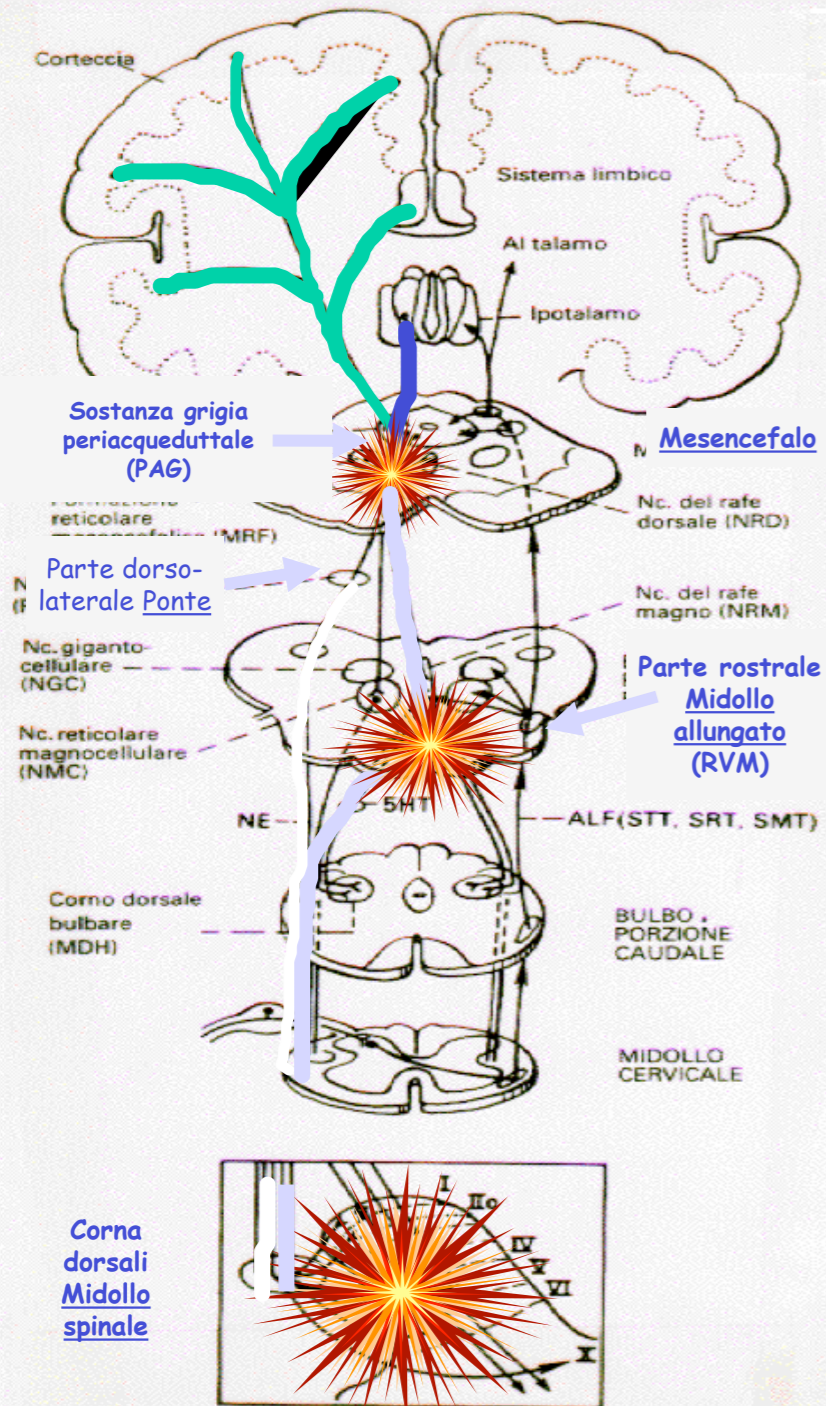


# SISTEMI MODULANTI DISCENDENTI

circuiti e neurochimica del sistema discendente di controllo del dolore

Vie **noradrenergiche**  
(recettori alfa)

Vie **serotoninerliche**  
(recettori 5HT<sub>3</sub>)



# percezione cosciente

- corteccia somato-estesica (sensazione)
- corteccia prefrontale (comportamentale)
- s. limbico (+ricordi = umore)

percezione cosciente = corteccia cerebrale

comp. emozionale = s.limbico



dolore = tristezza, ansia, irrequietezza

euforia, choc = meno dolore

stati ansioso-depressivi = più dolore



**Ní Gabhann**  
@magbri65



Replying to @jd poc

That is fantastic! Nobody could have imagined how big that photo would become.

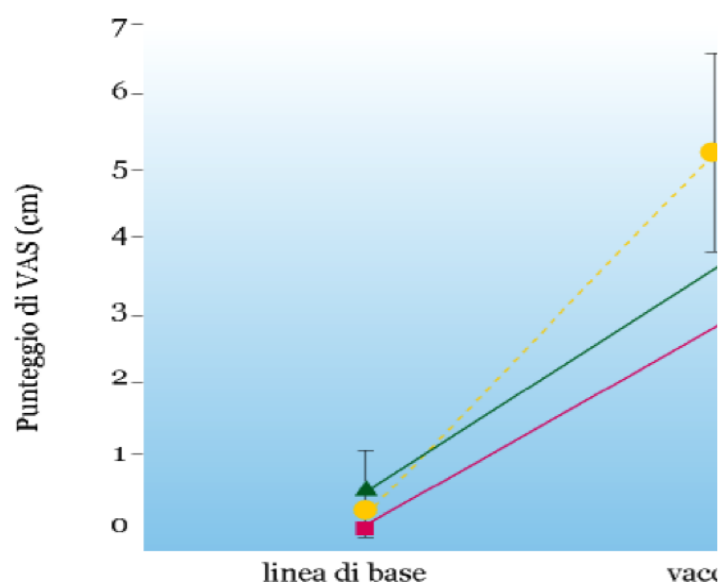
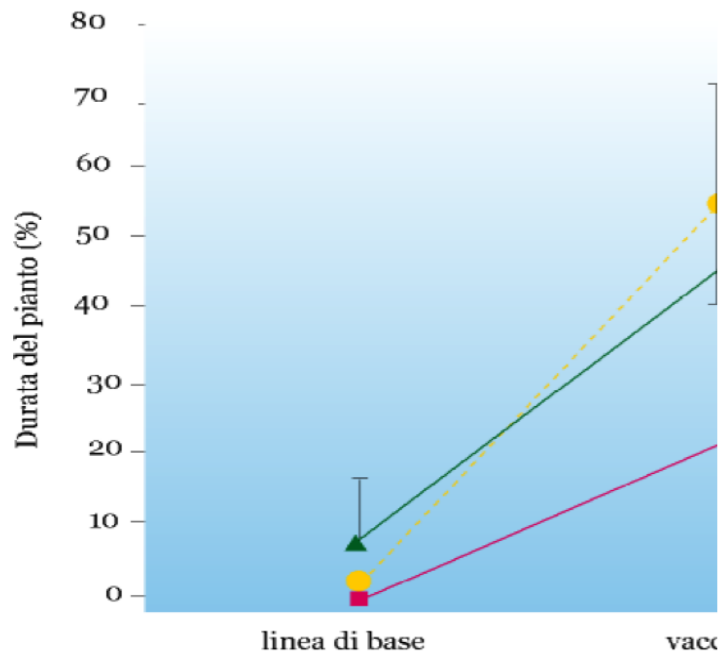
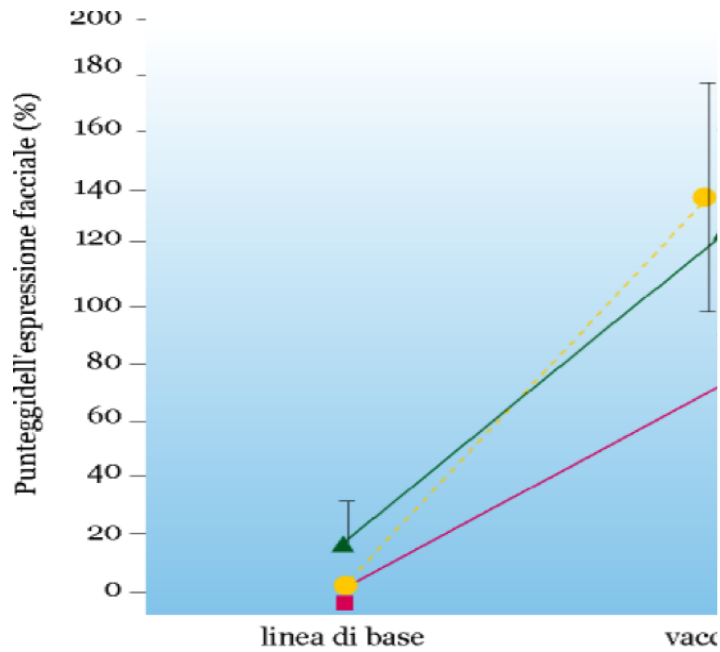
Always loved this one as well.



n pain  
9-603.

20:30 · 13/03/21 · Twitter Web App

**2.677** Retweets **39** Quote Tweets **36,2K** Likes



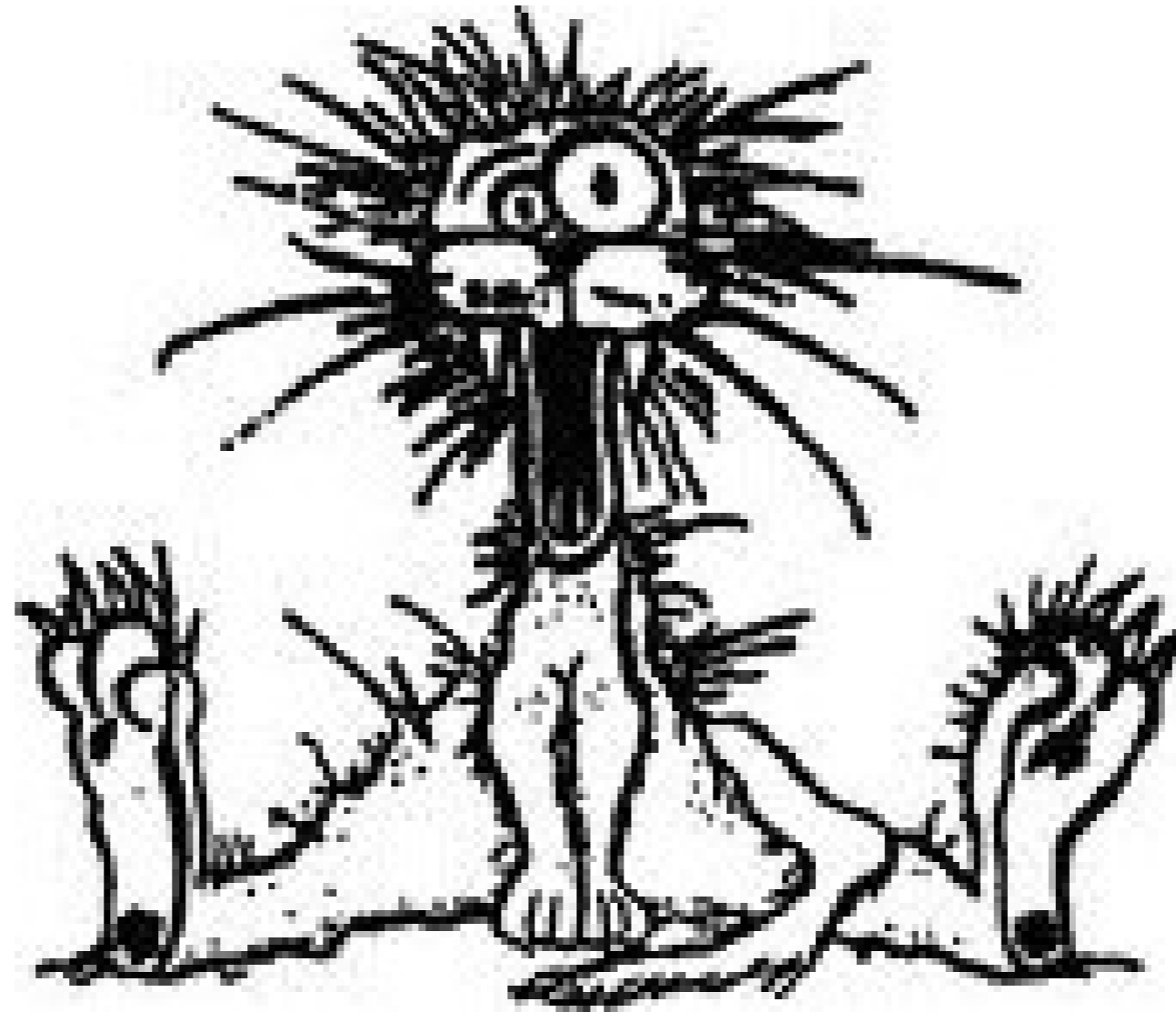
sistema nervoso autonomo



# **surgical STRESS**



# POP COME “MALATTIA”



conseguenze organiche riflesse di fenomeno fisiologico



DOLORE =  
SEGNALE DI  
ALLARME

FUNZIONE PROTETTIVA



**PHYSIOLOGY..**

**becomes..PATHOLOGY**

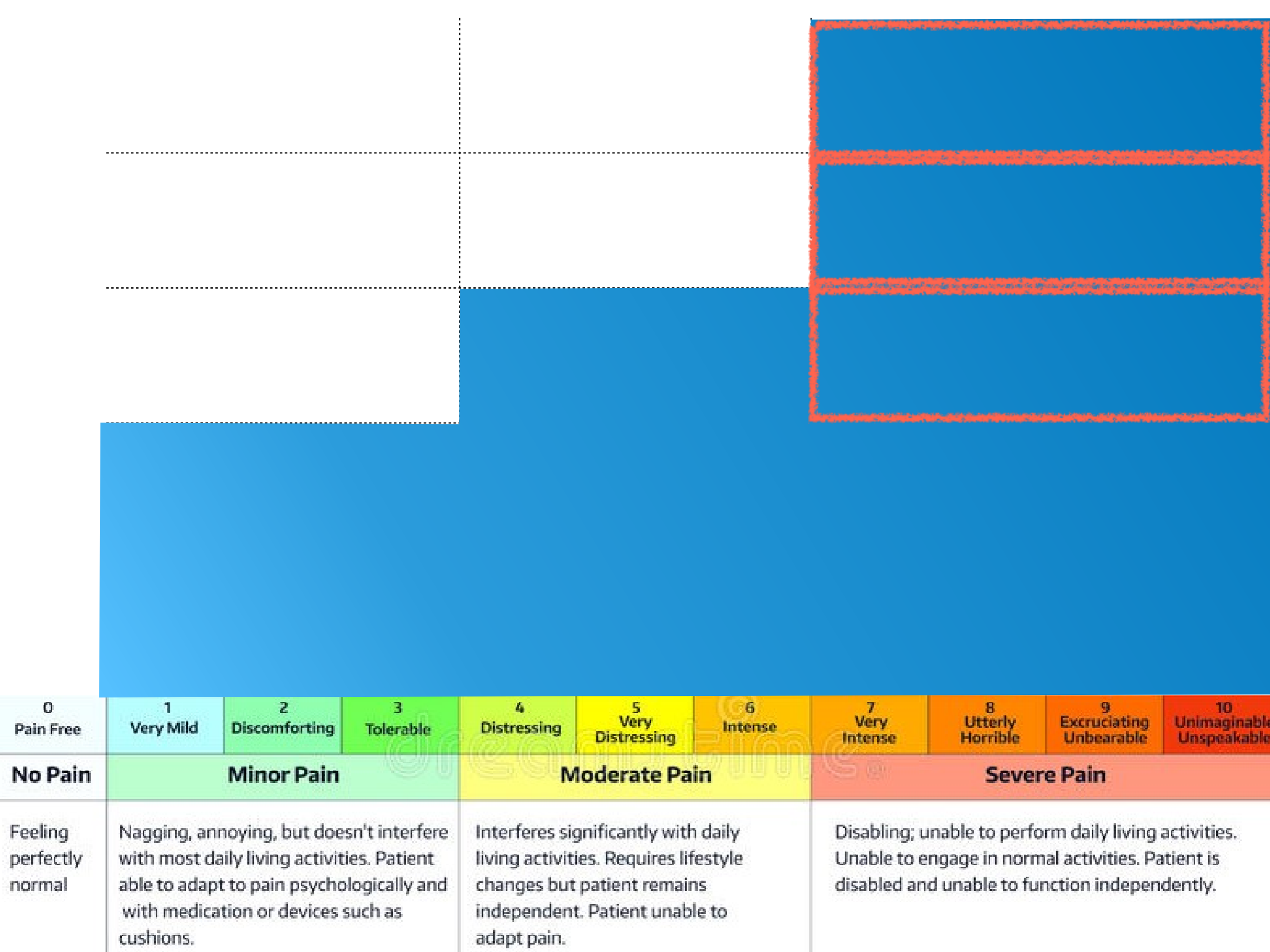
# Analgesia: **OBIETTIVI**

- ◆ RIDURRE L'INCIDENZA E LA GRAVITA' DEL DOLORE POSTOPERATORIO
- ◆ PREVENIRE LE COMPLICANZE POSTOPERATORIE LEGATE AL DOLORE
- ◆ RIDUZIONE DELLO STRESS CHIRURGICO
- ◆ PREVENIRE LA SENSIBILIZZAZIONE

POP

ERAS

PPSP



M u l t i



M o d a l e



**Cochrane  
Library**

Cochrane Database of Systematic Reviews

## Single dose intravenous paracetamol or intravenous propacetamol for postoperative pain (Review)

McNicol ED, Ferguson MC, Haroutounian S, Carr DB, Schumann R

Since the last version of this review, we have found 39 new studies providing additional information. Most included studies evaluated adults only. We reanalyzed the data but the results did not substantially alter any of our previously published conclusions. This review provides high quality evidence that a single dose of either IV paracetamol or IV propacetamol provides around four hours of effective analgesia for about 36% of patients with acute postoperative pain. Low to very low quality evidence demonstrates that both formulations are associated with few adverse events, although patients receiving IV propacetamol have a higher incidence of pain on infusion than both placebo and IV paracetamol.

*Review Article*

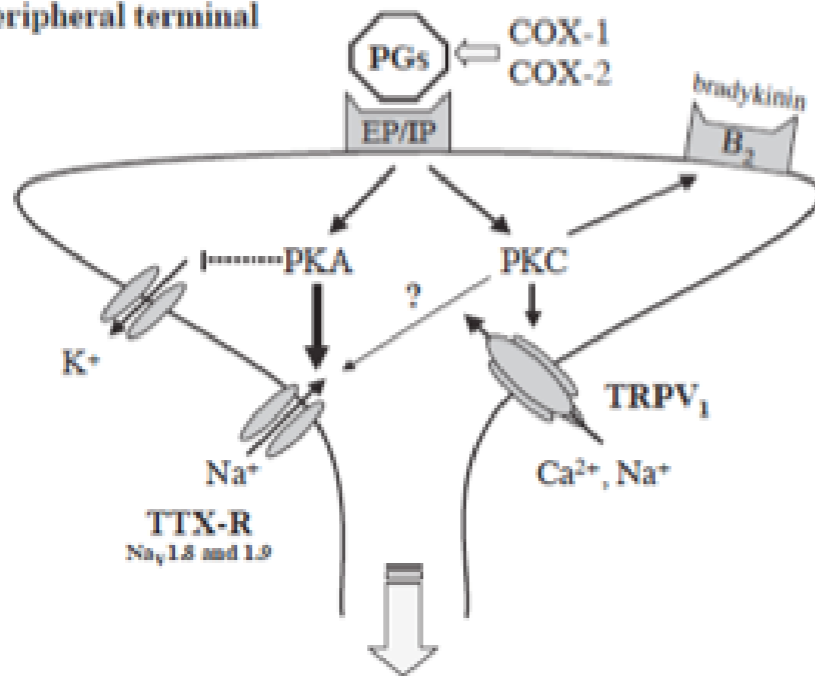
# Post-operative analgesic effects of paracetamol, NSAIDs, glucocorticoids, gabapentinoids and their combinations: a topical review

J. B. DAHL, R. V. NIELSEN, J. WETTERSLEV, L. NIKOLAJSSEN, K. HAMUNEN, V. K. KONTINEN, M. S. HANSEN, J. J. KJER and O. MATHIESEN; SCANDINAVIAN POSTOPERATIVE PAIN ALLIANCE (SCAPALLI)  
*Department of Anaesthesia 4231, Centre of Head and Orthopaedics, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark*

- ☑ paracetamol < FANS
- ☑ FANS = Coxib = opioid sparing (10/20 mg) and AEs
- ☑ paracetamol + FANS >> analgesia

## peripheral

Primary sensory neuron  
peripheral terminal

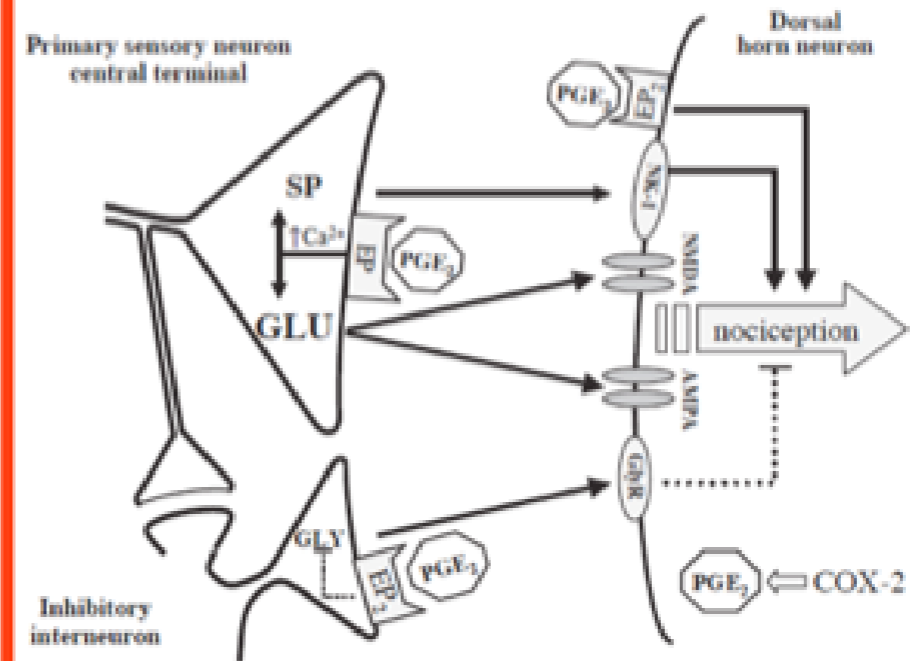


- TTX-r, TPRV, BK threshold reduction
- K<sup>+</sup> ch inhibition

increased transmission-trasduction

## central

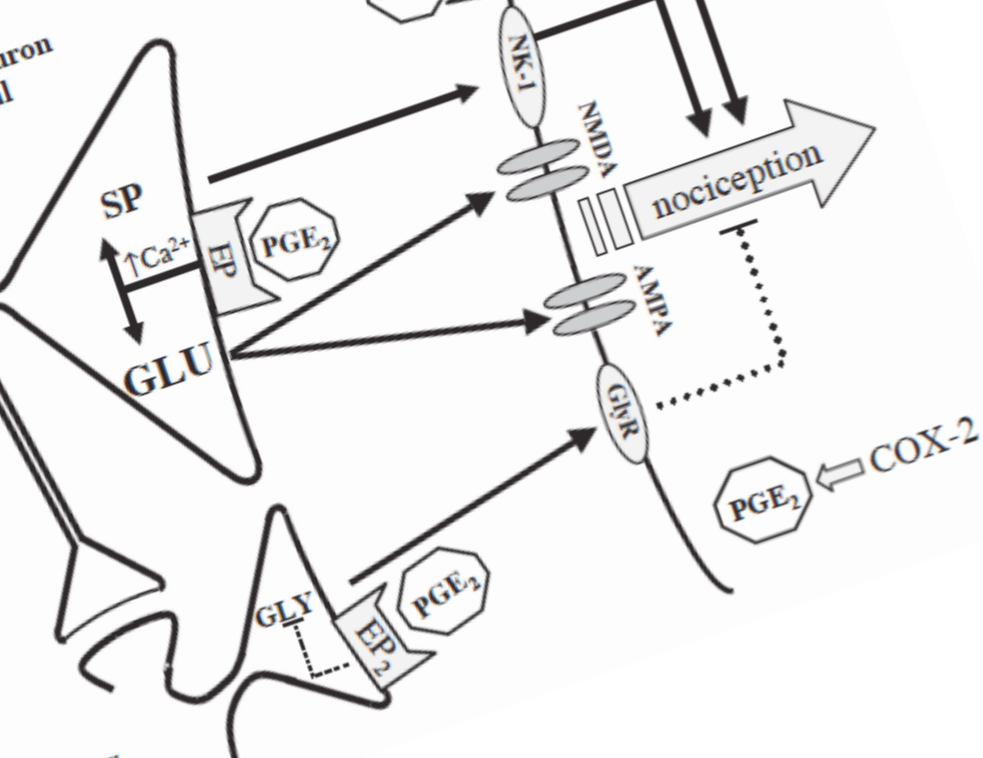
Primary sensory neuron  
central terminal



- pre-synaptic action (NMDA,AMPA..)
- post-synaptic action (dorsal horn)
- glycin inhibition

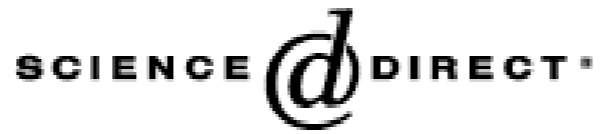
hyper reactivity of central neurons





central  
inflammation

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)



Pharmacology & Therapeutics 107 (2005) 139 – 154

Pharmacology  
&  
Therapeutics

[www.elsevier.com/locate/pharmthera](http://www.elsevier.com/locate/pharmthera)

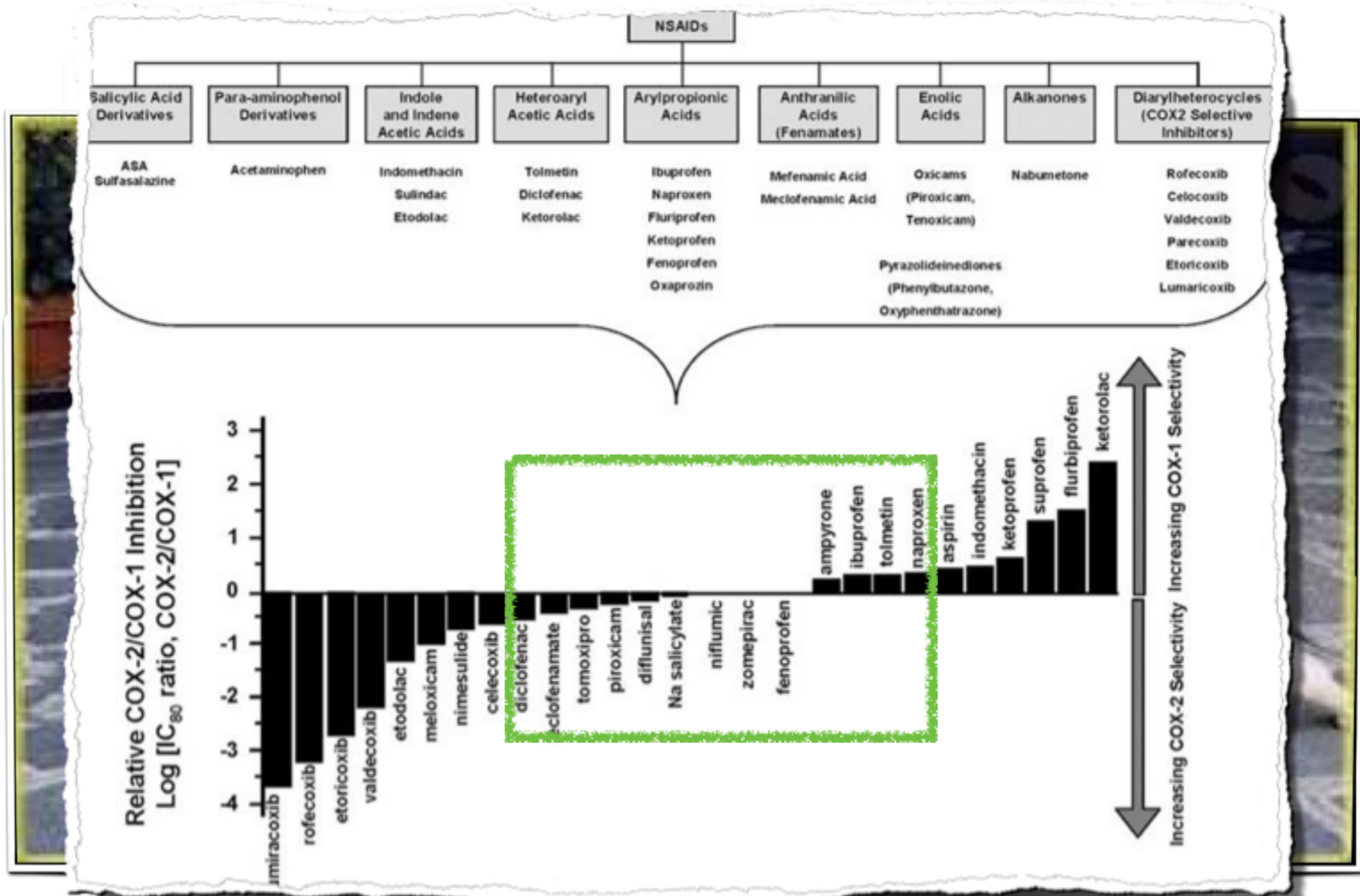
Associate editor: L. Ballou

# COX-dependent mechanisms involved in the antinociceptive action of NSAIDs at central and peripheral sites

Maria Burian, Gerd Geisslinger\*

*pharmazentrum frankfurt/ZAFES, Institut für Klinische Pharmakologie, Klinikum der Johann-Wolfgang-Goethe-Universität Frankfurt, Theodor-Stern-Kai 7, 60590 Frankfurt/Main, Germany*





NSAIDs are not the same !





# fibre nervose

	mielina si/ no	diametro	sensibilità	ordine blocco
<b>C</b>	amielinica	0,5-1	caldo/dolore spontaneo	1
<b>A delta</b>	mielinica	1-4	freddo/dolore incident	2
<b>A gamma</b>	mielinica	5-10	propiocezion e	3
<b>A beta</b>	mielinica	5-12	pressione/ sens. epicritica	4
<b>A alpha</b>	mielinica	12-30	motorie	5

# blocco differenziale







SPECIAL ARTICLE

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# Epidural Technique for Postoperative Pain *Gold Standard No More?*

*Narinder Rawal, MD, PhD*

Brendan T. Finucane  
Ban C.H. Tsui  
*Editors*

# Complications of Regional Anesthesia

Principles of Safe Practice in  
Local and Regional Anesthesia

Third Edition

 Springer

1. Ematoma spinale

2. Infettive

3. Puntura durale

4. Lesioni nervose

5. Complicanze minori

**EJA**

*Eur J Anaesthesiol* 2022; **39**:100–132

PODCAST

**GUIDELINES**

## **Regional anaesthesia in patients on antithrombotic drugs**

*Joint ESAIC/ESRA guidelines*

Sibylle Kietzibl, Raquel Ferrandis, Anne Godier, Juan Llau, Clara Lobo, Alan JR Macfarlane, Christoph J. Schlimp, Erik Vandermeulen, Thomas Volk, Christian von Heymann, Morné Wolmarans and Arash Afshari

---

# 1

## DEFINIZIONE ALTI/BASSI DOSAGGI

**Table 1** Categorisation of DOAC doses

	Rivaroxaban	Apixaban	Edoxaban	Dabigatran
Venous thromboembolism prophylaxis after major orthopaedic surgery (hip or knee replacement surgery) → <i>low doses</i>				
Dosage	10 mg daily	2.5 mg BID	NA	220 mg x1 daily
Dosage adjustments	No	No		150 mg x1 daily if: CrCl 30 to 50 ml min <sup>-1</sup> ; or age ≥ 75; or concomitant use of verapamil, amiodarone, or quinidine
Stroke prevention in nonvalvular atrial fibrillation → <i>high doses</i>				
Dosage	20 mg daily	5 mg BID	60 mg daily	150 mg BID
Dosage adjustments	15 mg daily if CrCl 15 to 50 ml min <sup>-1</sup>	2.5 mg BID if two of three criteria met: age ≥ 80; body weight ≤ 60 kg; Creatinine ≥ 133 micromol l <sup>-1</sup> If CrCl 15 to 29 ml min <sup>-1</sup> : 2.5 mg BID	30 mg daily if: CrCl 15 to 50 ml min <sup>-1</sup> ; or body weight ≤ 60 kg; or concomitant use of ciclosporin, dronedarone, erythromycin or ketoconazole	110 mg BID if age ≥ 80 or concomitant use of verapamil 110 or 150 BID if CrCl 30 to 50 ml min <sup>-1</sup> or age 75 to 80
Acute venous thromboembolism treatment → <i>high doses</i>				
Dosage	15 mg BID x 21 days, then 20 mg once daily	10 mg BID x 7 days, then 5 mg BID	60 mg daily	150 mg BID
Dosage adjustments	15 mg BID x 21 days, then 15 mg once daily if CrCl 15 to 50 ml min <sup>-1</sup>	No dose adjustment	30 mg daily if: CrCl 15 to 50 ml min <sup>-1</sup> ; or body weight ≤ 60 kg; or concomitant use of ciclosporin, dronedarone, erythromycin, or ketoconazole	110 mg BID if age ≥ 80 or concomitant use of verapamil 110 or 150 BID if CrCl 30 to 50 ml min <sup>-1</sup> or age 75 to 80
Extended prevention of recurrent DVT and PE → <i>low doses</i>				
Dosage	10 mg once daily or 20 mg once daily	2.5 mg BID		
Dosage adjustments	If CrCl 15 to 50 ml min <sup>-1</sup> : for 10 mg, no adjustment; but consider 15 mg once daily instead of 20 mg once daily	No		
Acute coronary syndrome → <i>low doses</i>				
Dosage	2.5 mg BID	NA	NA	NA
Prevention of atherothrombotic events in symptomatic peripheral artery disease → <i>low doses</i>				
Dosage	2.5 mg BID	NA	NA	NA

Data for DOAC indications from the respective Summary of Product Characteristics (SmPC). BID, twice a day; CrCl, creatinine clearance; DOAC, direct oral anticoagulant; NA, not applicable.

# 2

## DEFINIZIONE BLOCCHI SUPERFICIALI/PROFONDI

**Table 2** Categorisation of nerve blocks

	Deep nerve blocks / neuraxial blocks	Superficial nerve blocks
General considerations	Consequence of block-induced bleeding is clinically significant, and may be catastrophic. Management of bleeding complications is difficult because site may be deep and/or noncompressible. Invasive intervention (surgical control) may be required. Clinical consequence: Withdrawal of antithrombotic drugs for block-dependent bleeding risk reduction is recommended (Table 3).	Consequence of block-induced bleeding with superficial haematoma is of less clinical significance. Management of bleeding complications is easy, at compressible location, less likely to require invasive intervention to correct. Clinical consequence: Withdrawal of antithrombotic drugs for block-dependent bleeding risk reduction is not compulsory (Table 4).
Examples for blocks		
Head, neck	Stellate ganglion Deep cervical plexus Cervical paravertebral	Occipital Peribulbar Sub-Tenon's Superficial cervical plexus
Upper limb	Infraclavicular	Interscalene Supraclavicular Axillary Suprascapular Ulnar, radial, medial (forearm or wrist level)
Thorax	Epidural Thoracic paravertebral	Parasternal intercostal plane (deep, superficial) Serratus anterior (deep, superficial) Erector spinae plane Intercostal Interpectoral plane and pecto-serratus plane
Abdomen, pelvic		Ilioinguinal Iliohypogastric Transversus abdominis plane (TAP) Rectus sheath Genital branch of genitofemoral nerve Pudendal nerve
Lower limb, back	Lumbar plexus Psoas compartment Lumbar sympathectomy Lumbar paravertebral Quadratus lumborum Fascia transversalis Sacral plexus Pericapsular nerve group (PENG) Sciatic (proximal approaches) Spinal Epidural Lumbar paravertebral	Femoral Femoral triangle Adductor canal Sciatic (subgluteal, popliteal level) Fascia iliaca Lateral cutaneous nerve of the thigh Femoral branch of genitofemoral nerve Sural, saphenous, tibial, peroneal (deep, superficial)

# 3

## DEFINIZIONE TEMPI SOSPENSIONE E MONITORAGGIO ATTIVITA' RESIDUA

**Table 3** Management in high bleeding risk blocks (neuraxial and deep nerve blocks)

Drug and dose	High risk of bleeding block (neuraxial and deep nerve blocks) <sup>a</sup>		
	Time from last drug intake to intervention <sup>c</sup>	Target laboratory value at intervention	Time from intervention to next drug dose
VKA	Until target lab value: (about 3 days acenocoumarol; 5 days warfarin, fluindione; 7 days phenprocoumon)	INR normal	
DXA low <sup>b</sup>	24 h rivaroxaban, edoxaban (30 h if CrCl <30 ml min <sup>-1</sup> ), 36 h apixaban	No testing	
DXA high	72 h or until target laboratory value (until target laboratory value if CrCl <30 ml min <sup>-1</sup> )	DXA level <30 ng ml <sup>-1</sup> (alternative: anti-Xa ≤ 0.1 IU ml <sup>-1</sup> )	Low doses: according to guidelines on postOP VTE prophylaxis <sup>d</sup> (about 8 h – t <sub>max</sub> = 6 h postop). Consider prolonged time interval after bloody tap <sup>e</sup>
Dabigatran low <sup>b</sup>	48 h	No testing	
Dabigatran high	72 h or until target laboratory value (until target laboratory value if CrCl <50 ml min <sup>-1</sup> )	DTI level < 30 ng ml <sup>-1</sup> (alternative: thrombin time in normal range of local laboratory)	High doses: according to guidelines on therapeutic anticoagulation <sup>f</sup> (about 24 h postop)
LMWH low ≤50 IU anti-Xa kg <sup>-1</sup> day <sup>-1</sup> enoxaparin ≤40 mg day <sup>-1</sup>	12 h (24 h if CrCl <30 ml min <sup>-1</sup> )	No testing	
LMWH high	24 h (48 h if CrCl <30 ml min <sup>-1</sup> ) or until target lab value (especially if CrCl <30 ml min <sup>-1</sup> )	anti-Xa ≤ 0.1 IU ml <sup>-1</sup>	VKA, DOAC, LMWH high, UFH high; should not be administered with a catheter in situ
UFH low ≤200 IU kg <sup>-1</sup> day <sup>-1</sup> SC ≤100 IU kg <sup>-1</sup> day <sup>-1</sup> i.v.	4 h	No testing	UFH low: 1 h for i.v. in cardiovascular surgery
UFH high	Until target lab value (about 6 h if i.v., 12 h if SC)	aPTT or anti-Xa or ACT in normal range of local laboratory	
Fondaparinux low ≤2.5 mg day <sup>-1</sup>	36 h (72 h if CrCl <50 ml min <sup>-1</sup> )	No testing	
Fondaparinux high	until target lab value (about 4 days)	Calibrated anti-Xa ≤ 0.1 IU ml <sup>-1</sup>	
Aspirin low ≤ 200 mg day <sup>-1</sup>	0	No testing	Routinely prescribed next time point
Aspirin high	3 days (in normal platelet counts) to 7 days	(consider specific platelet function tests in normal range of local laboratory)	6 h
P2Y <sub>12</sub> inhibitor	5 days ticagrelor 5 to 7 days clopidogrel 7 days prasugrel or until target laboratory value		0-h clopidogrel 75 mg 24 h prasugrel, ticagrelor 2 days clopidogrel 300 mg
Aspirin low + anticoagulant	Aspirin: 0 + time interval of specific anticoagulant	specific laboratory test for combined anticoagulant	Aspirin low: routinely prescribed next time point Combined anticoagulant, antiplatelet drug: according to guidelines on therapeutic anticoagulation, platelet inhibition <sup>f</sup> (about 24 h postOP)
Aspirin low and antiplatelet drug	Aspirin: 0 and time interval of specific antiplatelet drug	(consider specific laboratory test for combined antiplatelet drug)	



Rich, sensual, intense, unique ...

The hero,  
of course is ...

*Epidural.*

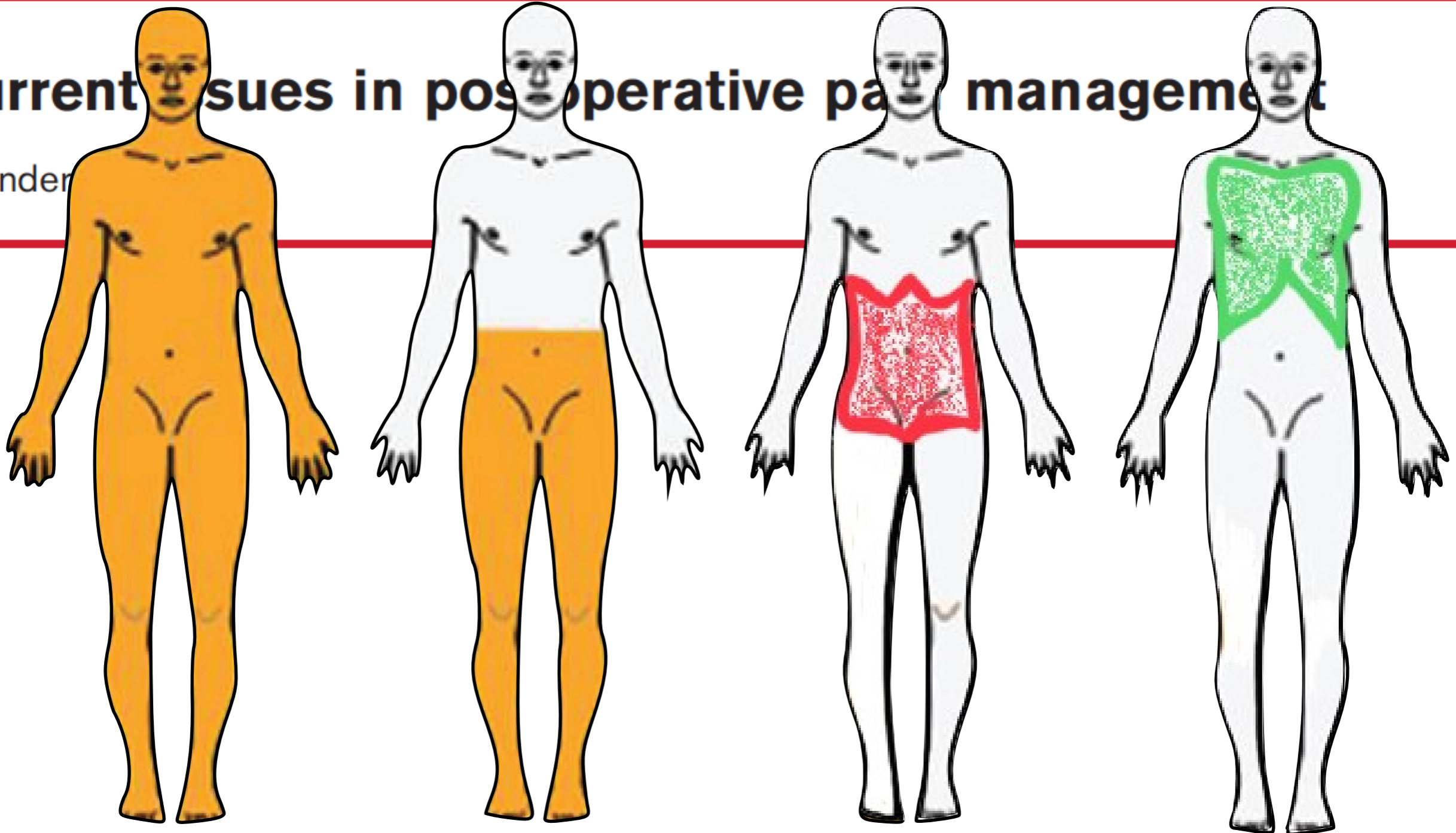
*What else*



## REVIEW

### Current issues in postoperative pain management

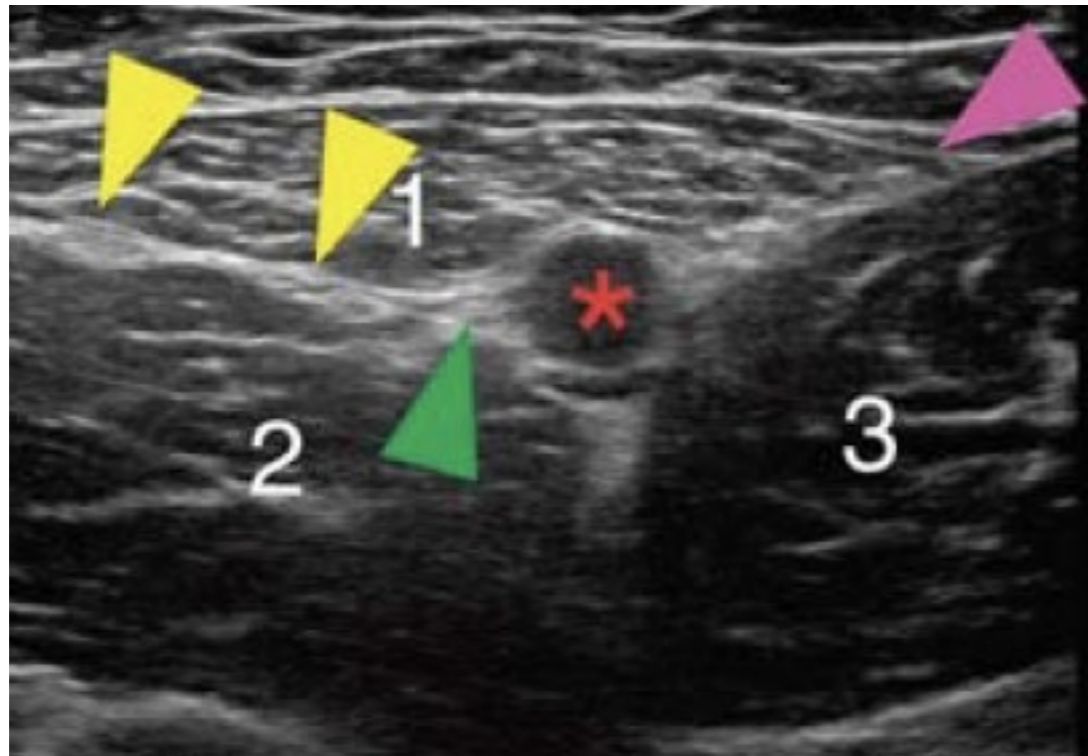
Narinder



# The Optimal Analgesic Block for Total Knee Arthroplasty

*Thomas Fichtner Bendtsen, MD, PhD,\* Bernhard Moriggl, MD, PhD,†  
Vincent Chan, MD,‡ and Jens Børglum, MD, PhD§*

1



SENSITIVO

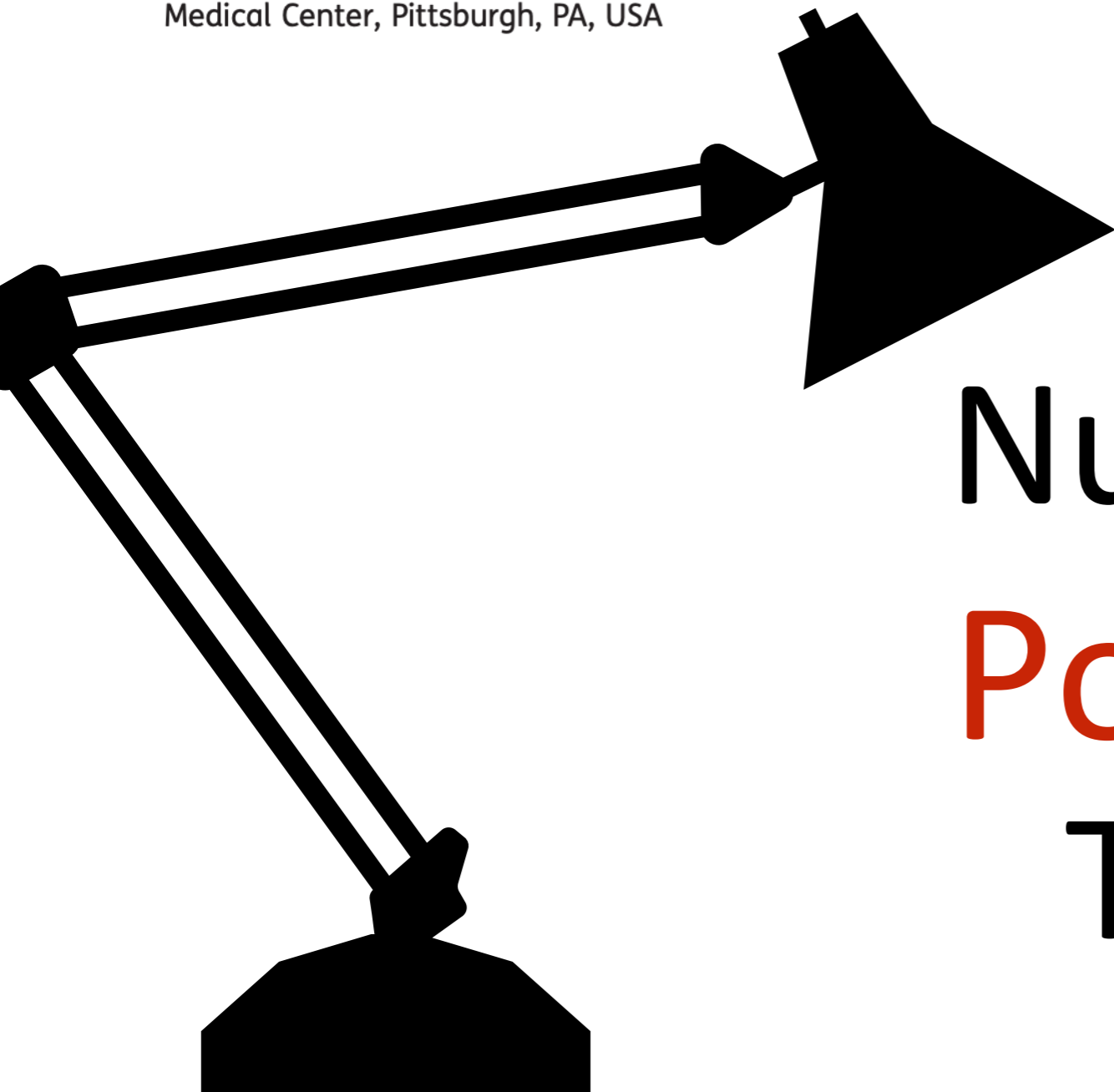
~~MOTORIO~~

*British Journal of Anaesthesia* 105 (S1): i86–i96 (2010)  
doi:10.1093/bja/aeq322

## Continuous peripheral nerve blocks in acute pain management

J. E. Chelly\*, D. Ghisi and A. Fanelli

Division of Regional Anesthesia and Acute Interventional Perioperative Pain Service, Department of Anesthesiology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA



Nuove  
Possibilità  
Terapeutiche

# Continuous regional anesthesia: a review of perioperative outcome benefits

Dario BUGADA<sup>1,2</sup>, Daniela GHISI<sup>3</sup>, Edward R. MARIANO<sup>4,5\*</sup>



Continua = analgesia prolungata e titolata ai bisogni del paziente

local anesthetics, blocking neural afferents, and blunting sympathetic activation. Moreover, continuous techniques (e.g., epidural and perineural catheters) that provide longer duration and titratable pain relief in the perioperative period may be protective against the development of persistent post-surgical pain by providing effective acute pain management and decreasing exposure to opioids. To maximize the potential for long-term outcome benefits to surgical patients, continuous regional anesthesia techniques are preferred over single injection techniques. Although the data are not yet definitive, some studies have demonstrated better functional recovery after joint replacement and lower rates of cancer recurrence in patients treated with continuous regional anesthesia. Future research studies in regional anesthesia will have to focus on these long-term patient-centered outcomes and may need to incorporate novel study designs and analyses of big data.

Section Editor: Richard Brull

■ NARRATIVE REVIEW ARTICLE

# Continuous Peripheral Nerve Blocks: An Update of the Published Evidence and Comparison With Novel, Alternative Analgesic Modalities

Brian M. Ilfeld, MD, MS

Quale

Tipologia

di infusione?

# Patient - Controlled Analgesia



# regional anesthesia

SPECIAL ARTICLE

## Evidence Basis for Regional Anesthesia in Multidisciplinary Fast-Track Surgical Care Pathways

*Francesco Carli, MD, MPhil, FRCA, FRCPC,\* Henrik Kehlet, MD, PhD,† Gabriele Baldini, MD,\* Andrew Steel, MD, MBBS, MRCP, FRCA, EDIC,‡ Karen McRae, MD,‡ Peter Slinger, MD,‡ Thomas Hemmerling, MD, MSc, DEAA,\* Francis Salinas, MD,§ and Joseph M. Neal, MD§*

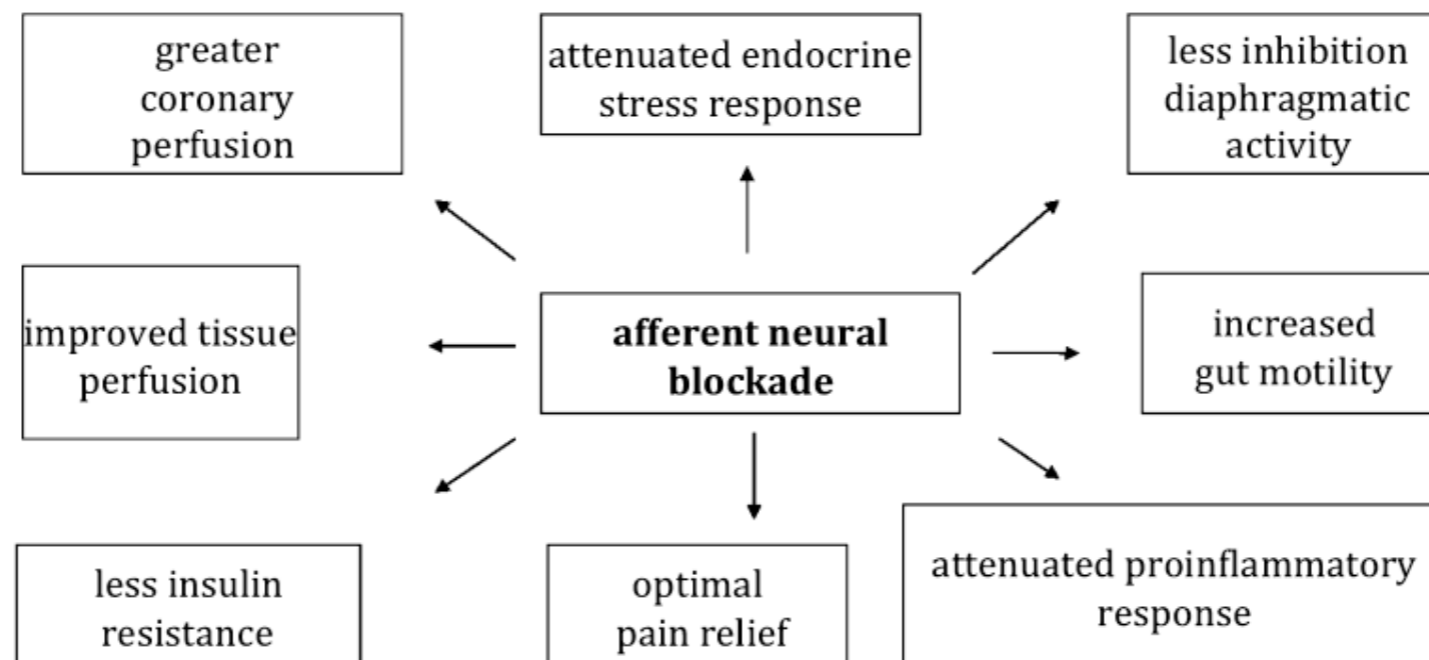
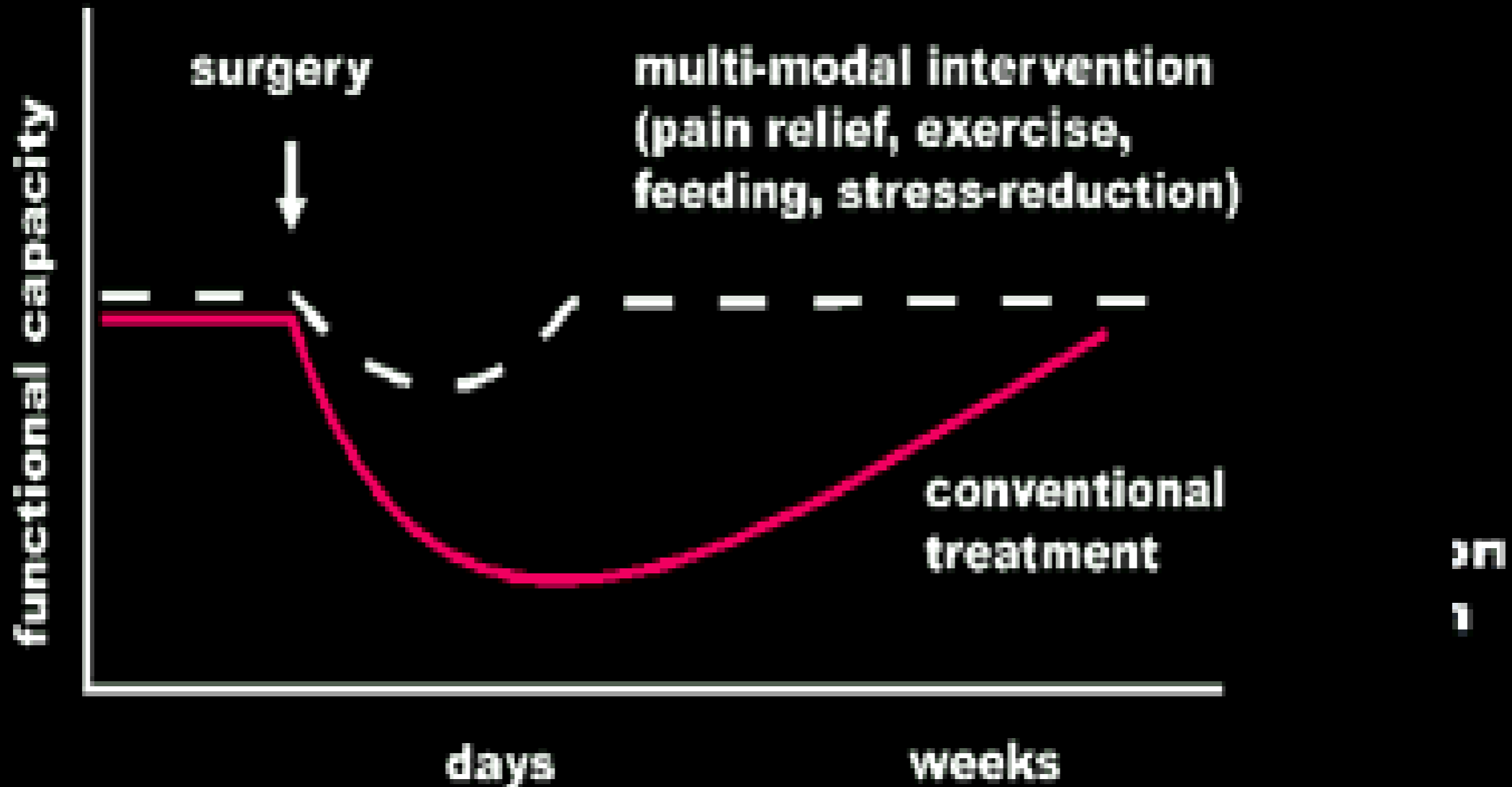


FIGURE 1. Physiological advantages of afferent neural blockade.

# Obiettivo ERAS program

## perioperative changes in functional capacity



# regional anesthesia

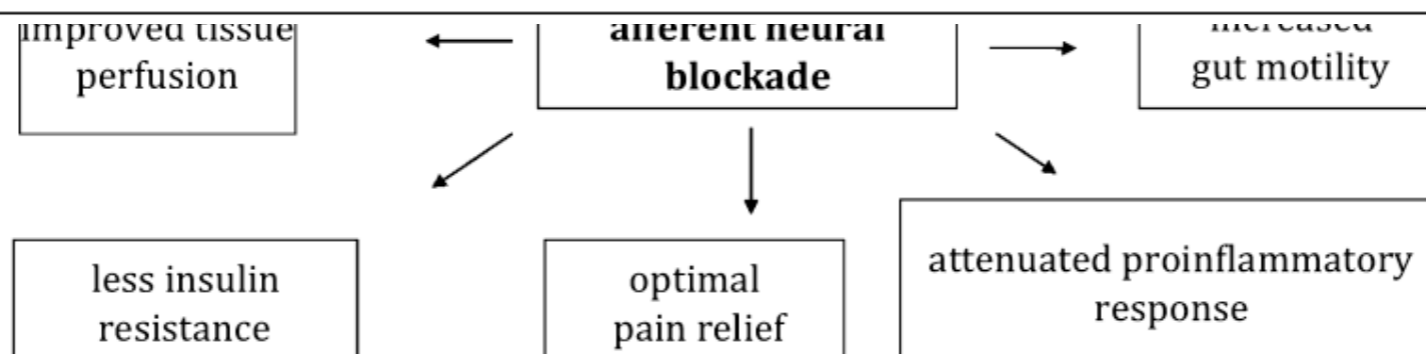
## SPECIAL ARTICLE

### Evidence Base for Regional Anesthesia in Multidisciplinary

**TABLE 3. Published Fast-track Surgical Programs That Include Regional Anesthesia Techniques**

Type of Surgery	Access	Regional Anesthesia Techniques Used	LOS	References
Colorectal resection	Laparotomy, laparoscopy	TEA Wound infusion of local anesthetic IV lidocaine TAP block	2–4 d	33–45
Hernia repair	Open	Local infiltration, INB	2–4 hrs	46,47
Thoracic surgery	Thoracotomy	TEA	1–4 d	48–50
Esophageal surgery	Laparotomy	TEA	3–5 d	51–54
Open aortic surgery	Laparotomy	TEA	3–5 d	55–57
Nephrectomy	Laparotomy, laparoscopy	TEA	2–4 d	58
Hip and knee arthroplasty	Surgical incision	CPNB (femoral and sciatic), periarticular infiltration	1–3 d	59–63

IV indicates intravenous; INB, ilioinguinal nerve block.



**FIGURE 1.** Physiological advantages of afferent neural blockade.

# OPIOIDS





Nausea e vomito

Stipsi

Sedazione

Turbe cognitive

Prurito

Sudorazione

tolleranza - iperalgesia

# TABELLA OPPIOIDI



**Table 2: Pharmacological and equianalgesic characteristics of some common opioids.**

Opioids	Relative potency to morphine P.O.	Main Receptor activity	Routes of administration	O: P ratio	Onset (min)	Peak (min)	T 1/2 (h)	Duration of pain relief (h)
Fentanyl	150	$\mu$ agonist	IV, ED. Transmucosal, Transdermal	-	5 IV/TM	-	2 IV	0.4- 0.5 IV 72 h TD
Phenazocine	5.0	$\mu$ agonist	PO, PR	1:0.4	20	45-60	?	6
Methadone	1.0 single 3-4 repeated	$\mu$ agonist	PO, SC, IV, IM, SL, PR	1:2	30-60	30-120	15 8-80	6-8
Morphine	1.0	$\mu$ agonist	PO, PR, IV, IM, SC, ID, ED, Topical	1:3 IV 1-2 IM	30-60	60-90	3	4-6
Nalbuphine	1.0	Mixed agonist/antagonist	SC, IV, IM	1:4- 1:5	15-30	45-60	5	5-6
Tramadol	0.25	$\mu$ , $\kappa$ , $\delta$ agonist + non-opioids	PO, PR, IV, IM, SC	1:4	20-60	30-60	4-6	6
Pethidine	0.125	$\mu$ , $\kappa$ , $\delta$ agonist	PO, SC, IV, IM	1:3	30-60	60-120	2.5	2-4
Codeine	0.1	Prodrug	PO, IM	1:1.5	30	45-60	3	4
Pentazocine	0.06	Mixed agonist/antagonist	PO, SC, IV, IM	1:4	40-60	60-180	2	2-4

Reproduced from Stannard CF, Booth S. Churchill's Pocketbook of Pain, 2e (Oct 21, 2004) Elsevier Churchill Livingstone, New York, 2004. with permission.



P C A

- Facile da usare
- BOLO - LOCK-OUT - MAX DOSE
- SI ADATTA AL BISOGNO DEL PAZIENTE
- Efficacia ottimale (anche senza ic)

M o R f i n A

# nuovi oppioidi in Post-OP pain



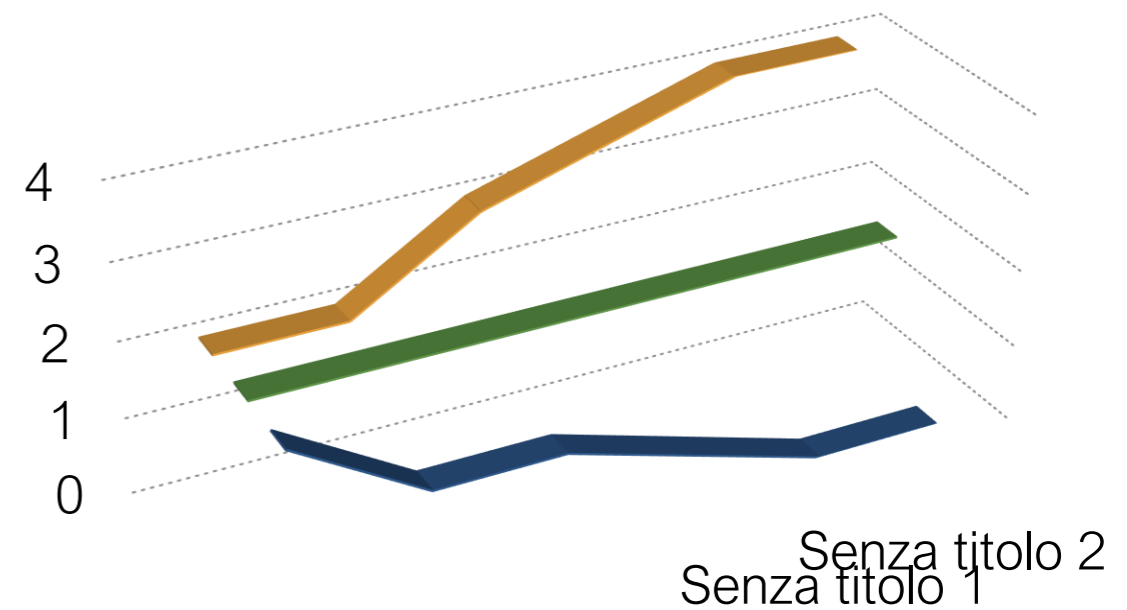
sufentanil sublinguale

# Improving Individual Measurement of Postoperative Pain: The Pain Trajectory

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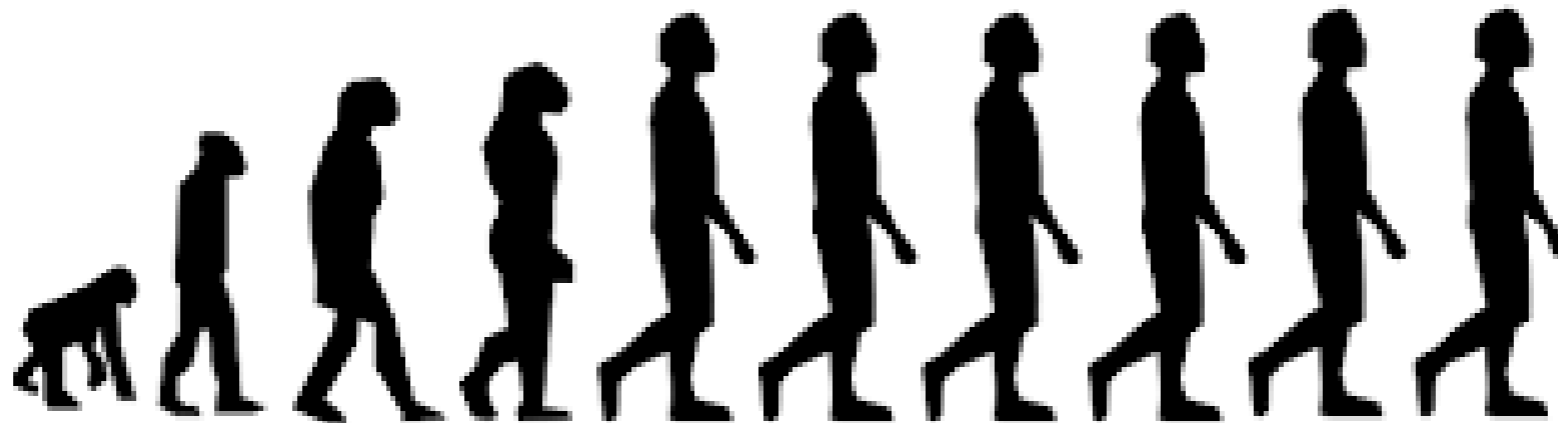
**Table 2. Mean Pain Trajectories With Standard Deviations**

GROUP	N	SAMPLE PERCENTAGE	MEAN INTERCEPT	SD INTERCEPT	MEAN SLOPE	SD SLOPE
Whole sample	502	100%	5.59	2.20	-.31	.45
Negative slope	314	63%	6.05	2.11	-.58	.32
Flat slope	127	25%	5.20	2.06	-.04	.14
Positive slope	61	12%	4.02	2.07	.41	.24



## *Expanding our Horizons*

*Transition of Acute Postoperative Pain to Persistent Pain and  
Establishment of Chronic Postsurgical Pain Services*



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DINAMICA

"Il tempo che hai perduto per la tua rosa  
rende la tua rosa così importante.."



## LE DIECI RACCOMANDAZIONI

1. Ogni Comitato Ospedale Senza Dolore (COSD) deve approvare e diffondere Protocolli specifici per il trattamento del dolore acuto e cronico, in applicazione di Linee guida e di quanto validato dalla letteratura scientifica di settore e deve prevedere modalità di monitoraggio di consumo, di efficacia, degli effetti collaterali e degli eventi avversi dei trattamenti antalgici erogati. In particolare deve essere tenuto presente quanto indicato all'art. 4.4 dell'Accordo del 24/5/2001 (GU 29/06/2001), inerente il Progetto Ospedale Senza Dolore.
2. Ogni Struttura Sanitaria presso la quale è attivato un COSD deve dotarsi di un Prontuario Farmaceutico nel quale siano inseriti i farmaci ritenuti fondamentali per il trattamento del dolore acuto e cronico, in base ai dati di evidenza scientifica. In particolare devono essere messi a disposizione dei curanti tutte le molecole e le preparazioni di oppioidi previste nell'allegato 3 bis alla Legge 12 dell'8 Febbraio 2001.
3. Ogni Struttura Sanitaria deve disporre di un numero adeguato di sistemi per la somministrazione e autosomministrazione continua e controllata di farmaci analgesici.
4. Ogni Struttura Sanitaria deve poter applicare tecniche di neuromodulazione farmacologia continua per il controllo di alcune forme del dolore acuto, in particolare per quello post-operatorio e da parto.
5. Ogni Struttura Sanitaria deve poter applicare tecniche di neuromodulazione farmacologia o fisica per il controllo del dolore persistente. L'esecuzione delle tecniche neuromodulative, qualora indicate, può essere effettuata direttamente sia presso la Struttura Sanitaria, da parte di personale esperto, sia attraverso l'invio del malato presso Centri Algologici Specializzati, stipulando specifici accordi o convenzioni (sistema a rete).
6. Ogni Struttura Sanitaria deve poter applicare, in casi selezionati, tecniche di neurolesione antalgica. L'esecuzione delle tecniche neurolesive, qualora indicate, può essere effettuata sia direttamente presso la Struttura Sanitaria, da parte di personale esperto, sia attraverso l'invio del malato presso Centri algologici specializzati., stipulando specifici accordi o convenzioni (sistema a rete).
7. Ogni Struttura Sanitaria deve poter disporre di un Servizio di supporto psicologico per malati affetti da forme dolorose persistenti, sia esso erogato direttamente oppure indirettamente, attraverso accordi a rete che garantiscano la continuità del percorso assistenziale del malato.
8. Gli interventi antalgici rivolti a malati affetti da malattie inguaribili in fase avanzata e terminale devono essere inseriti in un programma assistenziale di cure palliative che tenga conto delle potenzialità organizzative del contesto assistenziale e dello sviluppo della rete di cure palliative.
9. Gli interventi terapeutici antalgici impostati presso le Strutture Sanitarie, sia durante il ricovero sia presso le strutture ambulatoriali, devono tenere conto della reale possibilità di una loro continuazione al domicilio, qualora ciò si rendesse necessario (continuità del percorso assistenziale indipendentemente dal set assistenziale), anche utilizzando proprie équipe attive sul territorio. Ciò deve attuarsi attraverso la preventiva definizione di aspetti procedurali concordati con i Medici di medicina generale ed i Servizi assistenziali territoriali. In particolare, all'atto della dimissione del malato, deve essere prevista da parte della Struttura Sanitaria la continuità terapeutica attraverso la fornitura diretta di farmaci antalgici sufficiente per concludere un ciclo terapeutico o per garantire una autonomia terapeutica di almeno 3 giorni.
10. Tra Strutture Sanitarie di ricovero e cura e Aziende Sanitarie Locali devono essere previsti accordi interaziendali volti a garantire consulenze specialistiche algologiche domiciliari inserite nei programmi assistenziali di Assistenza Domiciliare Integrata o di Ospedalizzazione Domiciliare.

**DECRETO DIREZ**

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**SIAARTI GUIDELINES**

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Postoperative pain treatment  
SIAARTI Recommendations 2010  
Short version\*

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## ABSTRACT

The aim of these recommendations is the revision of data published in 2002 in the “SIAARTI Recommendations for acute postoperative pain treatment”. In this version, the SIAARTI Study Group for acute and chronic pain decided to grade evidence based on the “modified Delphi” method with 5 levels of recommendation strength.

Analgesia is a fundamental right of the patient. The appropriate management of postoperative pain (POP) is known to significantly reduce perioperative morbidity, including the incidence of postoperative complications, hospital stay and costs, especially in high-risk patients (ASA III-V), those undergoing major surgery and those hospitalized in a critical unit (Level A).

Therefore, the treatment of POP represents a high-priority institutional objective, as well as an integral part of the treatment plan for «perioperative disease», which includes analgesia, early mobilization, early enteral nutrition and active physiotherapeutic therapy (Level A).

In order to improve an ACUTE PAIN SERVICE organization, we recommend:

— a plan for pain management that includes adequate preoperative evaluation, pain measurement, organization of existing resources, identification and training of involved personnel in order to assure multimodal analgesia, early mobilization, early enteral nutrition and active physiotherapeutic therapy (Level A);

— the implementation of an Acute Pain Service, a multidisciplinary structure which includes an anesthetist (team coordinator), surgeons, nurses, physiotherapists and eventually other specialists;

— referring to high-quality indicators in establishing an APS and considering the following key points in its organization (Level C):

- service adoption;
- identifying a referring anesthetist who is on call 24 hours a day;
- patient care during the night and weekend;
- sharing, drafting and updating written therapeutic protocols;
- continuous medical education;
- systematic pain assessment;
- data collection regarding the efficacy and safety of the implemented protocols;
- at least one audit per year.





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**..... *un Acute Pain Service***  
***dovrebbe essere inserito in tutti i***  
***maggiori ospedali dove vengano***  
***effettuati interventi chirurgici***

**.....**

Royal College of Surgeons and College of Anaesthetists Working Party on Pain After Surgery.  
Pain after Surgery. London: Royal College of Surgeons, 1990



# Grazie



Azienda Ospedaliera  
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Bergamo

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Lombardia