

GRG Brescia 15-9-2017

Il dolore nel paziente ortopedico anziano

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 FONDAZIONE
POLIAMBULANZA
Istituto Ospedaliero



TOPICS

Approccio ortopedico

- al dolore
- al dolore nell'anziano
- al dolore nell'anziano “non chirurgico”
- al dolore nell'anziano “chirurgico”



Information Statement

Opioid Use, Misuse, and Abuse in Orthopaedic Practice

©October 2015 American Academy of Orthopaedic Surgeons®.

Standardized Opioid Prescription Protocols/Policies

Practice-based Opioid Use Consensus

Strict Limit on Opioid Prescription Size

Limit Extended-Release Opioids

Restriction of Opioid Use for Preoperative and Nonsurgical Patients

Predictive Opioid Use/Misuse/Abuse Tools

Communication Strategies

Professional, Interpersonal, and Organizational Collaborations

Improved Care Coordination and Opioid Use Tracking

Continuing Medical Education (CME) for Physicians

Quality Improvement

Maintenance of Proper Opioid Access

Opioid Culture Change

INTRA-ARTICULAR TREATMENT FOR OSTEOARTHRITIS

- **Local anesthetics** have potential side effects and may only be effective for 4h.
- **Morphine and ketorolac** may provide significant pain relief for 24h.
- **Corticosteroids** may give patients weeks to 1 months of effective analgesia, but complications may occur, such as systemic hyperglycemia, septic arthritis, and joint degradation.
- **Hyaluronic acid** is a natural component of synovial fluid, but efficacy with respect to analgesia is controversial.
- **Platelet-rich plasma formulations, autologous conditioned serum, autologous protein solution, and mesenchymal stem cell injections** contain antiinflammatory molecules and have been proposed to attenuate joint destruction or potentially remodel the joint.

RESEARCH ARTICLE

Open Access

The temporal effect of platelet-rich plasma on pain and physical function in the treatment of knee osteoarthritis: systematic review and meta-analysis of randomized controlled trials



Longxiang Shen^{1†}, Ting Yuan^{1†}, Shengbao Chen², Xuetao Xie^{1*} and Changqing Zhang¹

N.14 RCTs comprising 1423 participants were included.

The control included saline placebo, hyaluronic acid, ozone, and corticosteroids.

Compared with control (at 3, 6, and 12mo follow-up), PRP injections significantly

- reduced WOMAC pain subscores ($p=.02, .004, <.001$) and
- improved WOMAC physical function subscores ($p=.002, .01, <.001$).

Intra-articular Corticosteroids and Knee Osteoarthritis

Interpreting Different Meta-analyses

David T. Felson, MD, MPH

Large-scale randomized trials testing the efficacy of different doses of intraarticular steroids combined or uncombined with other treatments would eliminate remaining uncertainty regarding the effectiveness and duration of benefit of intra-articular steroids for patients with knee osteoarthritis.

DEFINIZIONE DOLORE ACUTO POSTOPERATORIO

Dolore acuto nel paziente chirurgico per

- malattia preesistente,
- intervento chirurgico, o
- combinazione tra malattia preesistente e procedura chirurgica utilizzata.

ASA 1995

CARATTERISTICHE DOLORE ACUTO POSTOPERATORIO

- Sintomo atteso (*Prevedibile, Prevenibile, Nocivo*)
- Trattamento adeguato migliora outcome e riduce costi
- Attualmente trattamento in generale è ancora subottimale

DETERMINANTI DEL DOLORE POSTOPERATORIO

- Intervento
- Paziente
- Ambiente

INTERVENTO

- Sede dell'intervento e natura della lesione condizionante l'intervento
- Caratteristiche del trauma intraoperatorio e il tipo di anestesia, la premedicazione
- Condizioni postoperatorie: drenaggi, sondini e cateteri, autonomia alimentare, canalizzazione

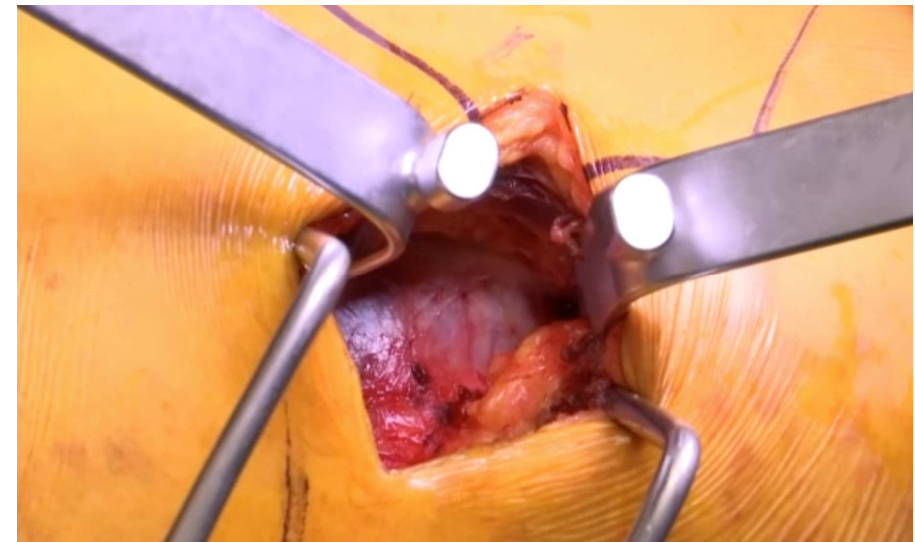
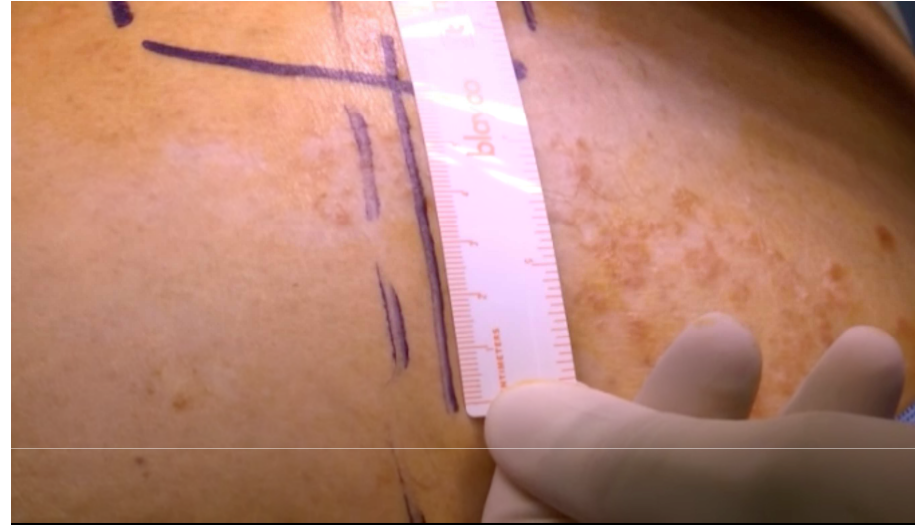
CHIRURGIA MINI-INVASIVA

- Riduzione trauma chirurgico si traduce in riduzione dolore postoperatorio.
- Tecnica chirurgica per quanto raffinata non porta direttamente alla rapid recovery se non è accompagnata da adeguata gestione analgesia.

Lloyd JM, Wainwright T, Middleton RG.

What is the role of minimally invasive surgery in a fast track hip and knee replacement pathway?

Ann R Coll Surg Engl 2012; 94: 148–151.



TIPO DI INTERVENTO - GRADO DI DOLORE

LIEVE

(artroscopia ginocchio, cisti Backer, rimozione mezzi di sintesi, isteroscopia, asportazione cisti Bartolini, chiusura tube per via laparoscopica, RCU per aborti interni, appendicite, ernie, noduli mammari)

MODERATO

(artroscopia spalla, alluce valgo, osteotomia, laminectomia, tendine Achille, LCA, taglio cesareo, laparoscopia, colpoisterectomia semplice, mastectomie semplici)

SEVERO

(protesi anca – ginocchio - spalla, chirurgia della colonna, chirurgia complessa del piede, fratture, colpoisterectomia con plastica vaginale)

PAZIENTE

- Et , sesso, soglia individuale del dolore
- Fattori socioculturali, credenze religiose, personalit , ansia/depressione, esperienze precedenti

AMBIENTE

- Informazione pre-operatoria e preparazione
- Staff medico-infermieristico e rapporto con il paziente
- Riabilitazione e mobilizzazione precoce
- Presenza di elementi di sostegno autonomia del paziente

OBIETTIVI DELLA TERAPIA DEL DOLORE POSTOPERATORIO

Ridurre l'intensità del dolore associato alla manovra chirurgica

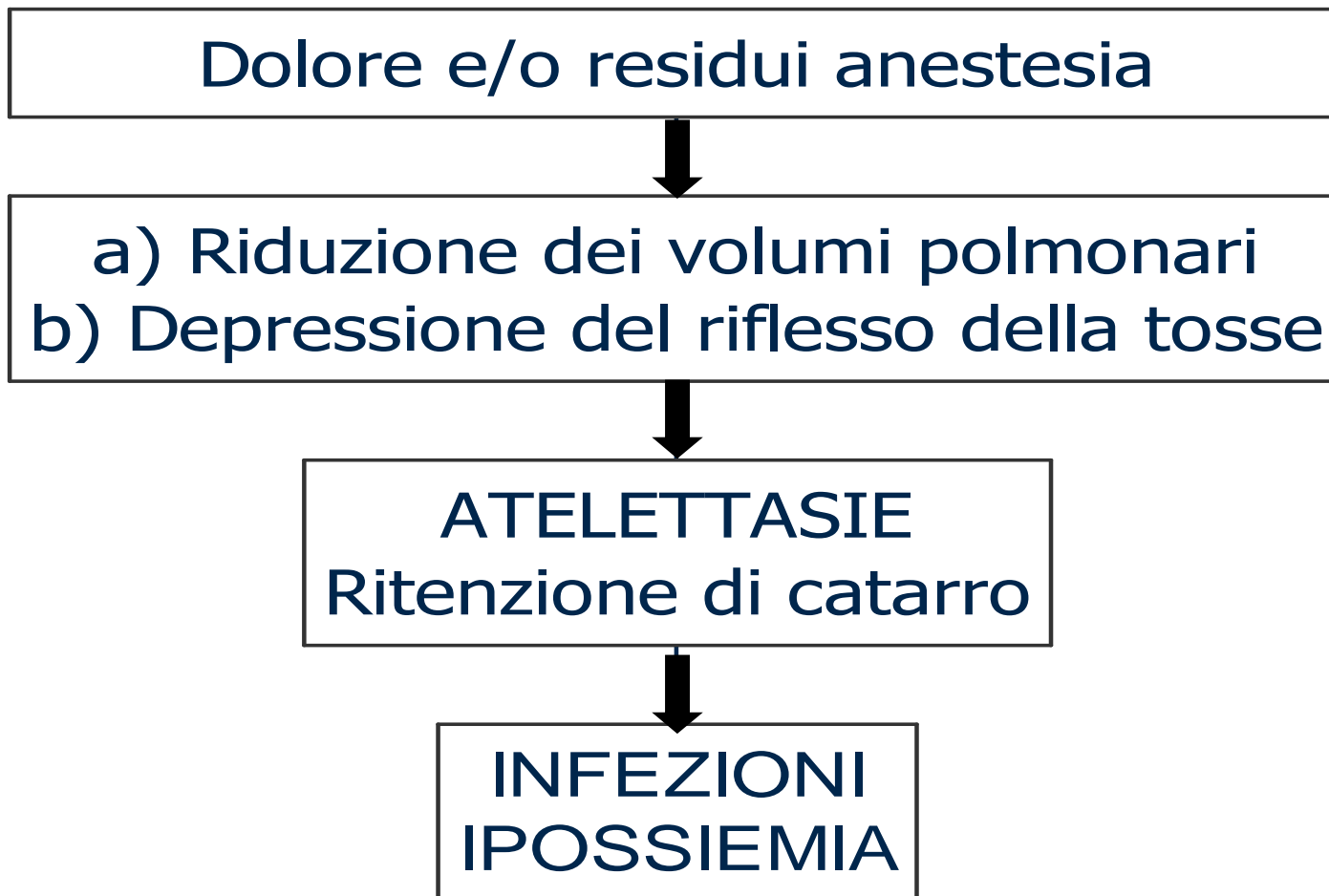
Evitare complicanze del dolore (emodinamiche, respiratorie, gastrointestinali, genitourinari, sistema neuroendocrino e metabolismo)

Evitare (per quanto possibile) effetti collaterali dei farmaci analgesici

Adeguate rapporto costo/beneficio

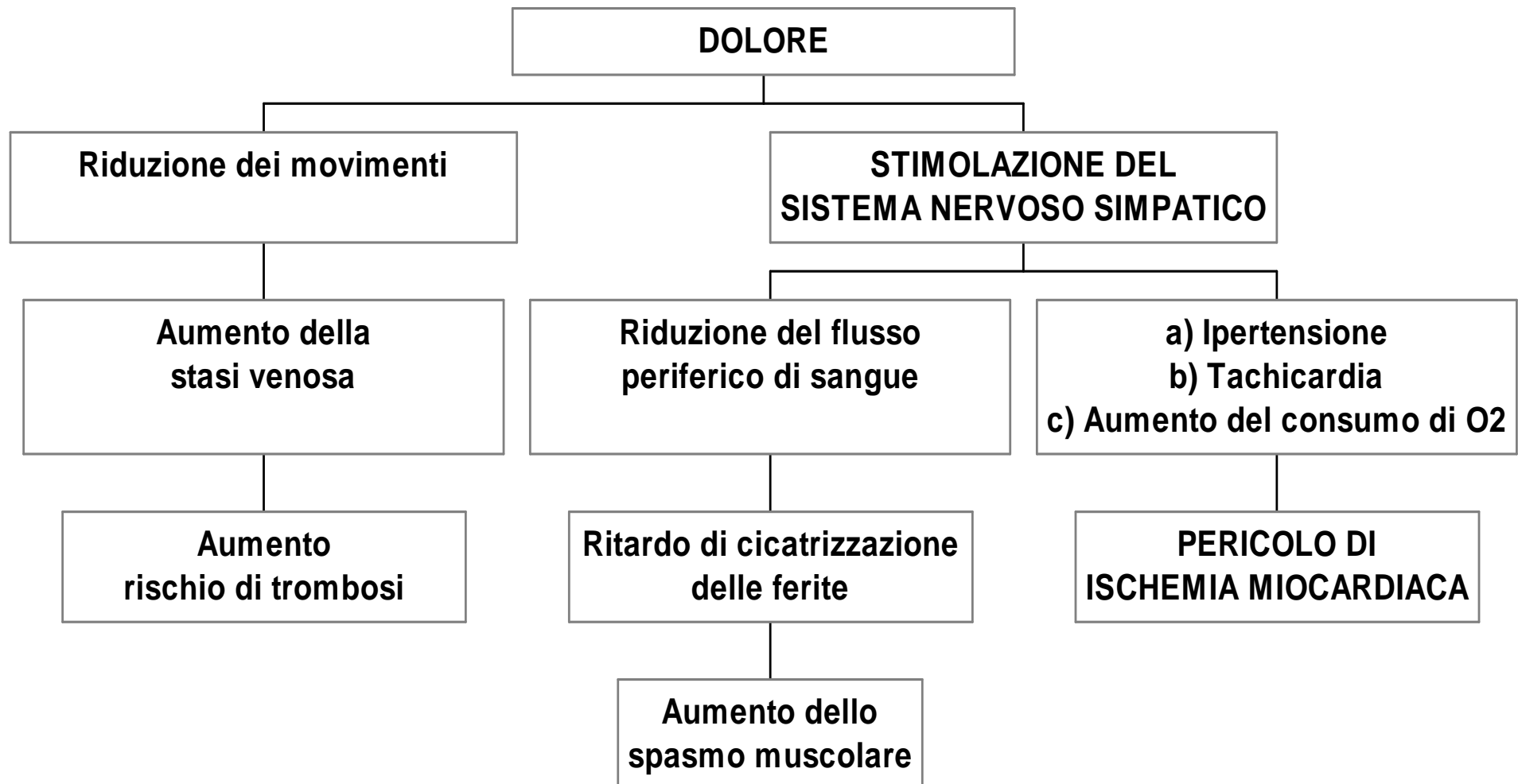
COMPLICANZE DA INADEGUATO TRATTAMENTO DEL DOLORE POST-OPERATORIO

1. Respiratorie



COMPLICANZE DA INADEGUATO TRATTAMENTO DEL DOLORE POST-OPERATORIO

2. Cardiovascolari






COMPLICANZE DA INADEGUATO TRATTAMENTO DEL DOLORE POST-OPERATORIO

3. Riduzione della motilità gastrica e intestinale

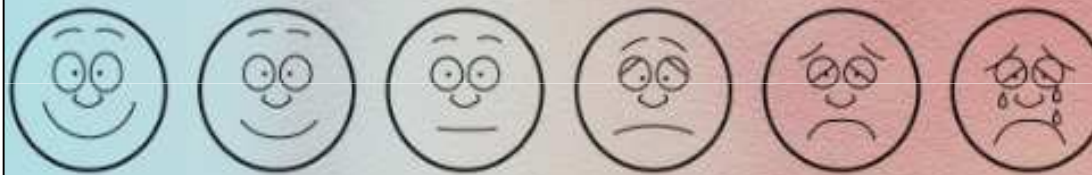
4. Ritenzione urinaria

COMPLICANZE DA INADEGUATO TRATTAMENTO DEL DOLORE POST-OPERATORIO

5. Neuroendocrine e metaboliche

- Iperglicemia
-  fibrinogeno e  attivazione piastrinica
-  catabolismo proteico negativo

Postoperative Pain Management – Good Clinical Practice



General recommendations
and principles for
successful pain management



Produced in consultation with the
European Society of Regional Anaesthesia
and Pain Therapy

GOALS OF PERIOPERATIVE PAIN MANAGEMENT

The goals of perioperative pain management are to

- relieve suffering,
- achieve early mobilization after surgery,
- reduce length of hospital stay,
- achieve patient satisfaction.

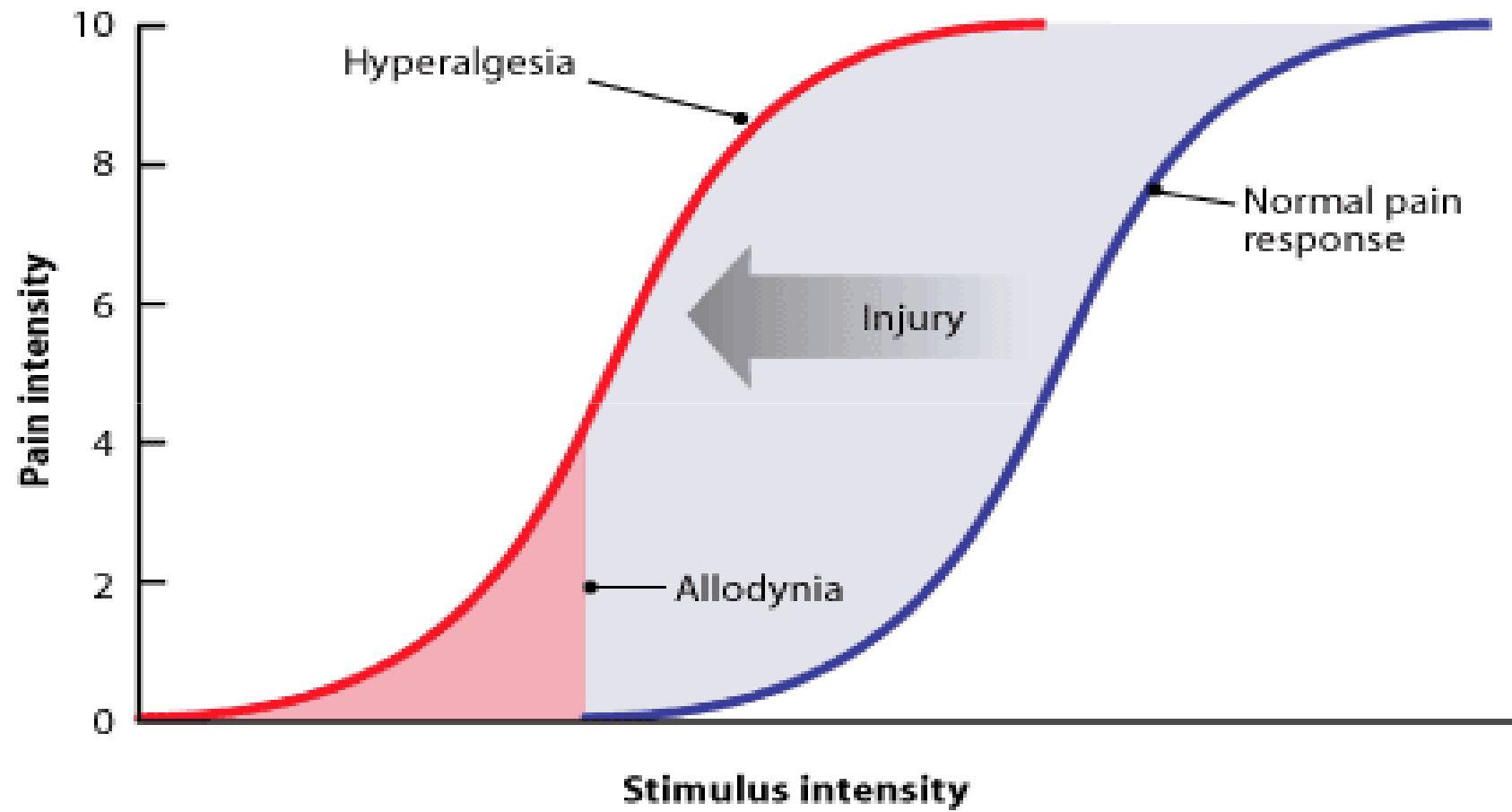
Pain control regimens must take into account medical, psychological, and physical condition; age; level of fear or anxiety; surgical procedure; personal preference; and response to agents given.

MECHANISM OF PERIOPERATIVE PAIN

- Perioperative pain **results from inflammation** caused by tissue trauma (ie, surgical incision, dissection, burns) or **direct nerve injury** (ie, nerve transection, stretching, or compression).

MECHANISM OF PERIOPERATIVE PAIN

- Tissue trauma releases **local inflammatory mediators** that can produce augmented sensitivity to stimuli in the area surrounding an injury (hyperalgesia) or misperception of pain to non-noxious stimuli (allodynia).
- Other mechanisms contributing to hyperalgesia and allodynia include sensitization of the peripheral pain receptors (**primary hyperalgesia**) and increased excitability of central nervous system neurons (**secondary hyperalgesia**).



© 2001 David Keim

MECHANISM OF PERIOPERATIVE PAIN

- **Traditionally**, acute perioperative pain management has relied **solely on opioid** medications to target central mechanisms involved in the perception of pain.
- A better approach uses several agents, each acting at different sites of the pain pathway, and is known as **multimodal analgesia**. This approach lessens the dependence on a single medication and mechanism.
- **Synergy between opioid and nonopioid medications** reduces both the overall opioid dose and unwanted opioid side effects.

Cura del dolore postoperatorio

- Preanestesia
- Anestesia
- LIA
- Blocchi
- Crioterapia
- Farmaci

Analgesia multimodale

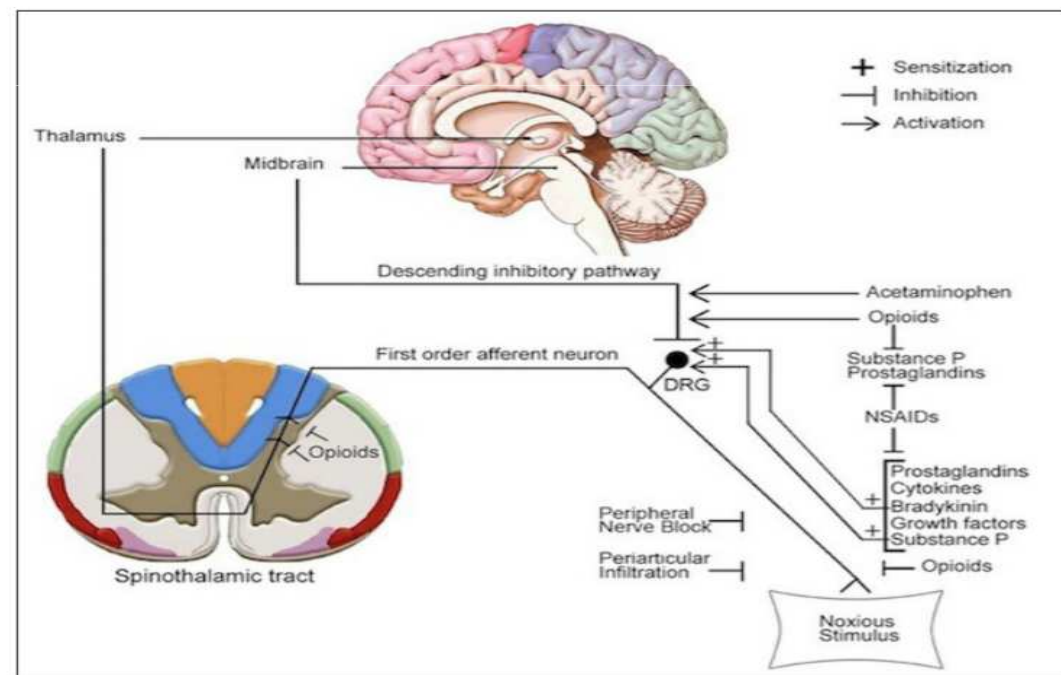


Figure: Key elements of the pain pathway highlighting the pharmacological rationale of the multimodal approach. Note the different but complementary sites of action, producing the desired synergistic analgesic effects. Abbreviations: DRG, dorsal root ganglion; NSAIDs, nonsteroidal anti-inflammatory drugs.

Table 2

Mechanisms of Action of Commonly Used Agents in Multimodal Analgesia

Location	Mediators	Inhibitors
Local tissues	Prostaglandins; bradykinin; substance P	NSAID/COX-2 inhibitors; local anesthetics
Peripheral nerves	Unmyelinated C fibers; myelinated A fibers	Local anesthetics
Spinal cord	Dorsal root ganglion; dorsal horn	Opioids, gabapentinoids; α -agonists; NMDA antagonists
Brain	Spinothalamic tracts; cortex	Opioids, acetaminophen; NSAIDs; α -agonists; NMDA antagonists

Abbreviations: NMDA, N-methyl-D-aspartate; NSAID, nonsteroidal anti-inflammatory drug.

MECHANISM OF PERIOPERATIVE PAIN

- Pain receptor activity can be directly blocked (lidocaine), or antiinflammatory agents (aspirin, NSAID) can be used to diminish the local hormonal response to injury, thus indirectly decreasing pain receptor activation.
- Some analgesic agents target the activity of neurotransmitters by inhibiting or augmenting their activity (opioid, ketamine, clonidine, acetaminophen, gabapentin, pregabalin).
Neurotransmitters are responsible for carrying electrical signals across the gap junctions between neurons. To produce analgesia, the activity of several neurotransmitters can be targeted, including substance P, calcitonin gene-related peptide, aspartate, glutamate, and gamma-aminobutyric acid (GABA).

PREVENTIVE ANALGESIA

The aim of preventive analgesia is to **reduce sensitization** by preoperative, intraoperative, and postoperative noxious stimuli, by treatments administered at **any time** in the perioperative period.

A preventive analgesic is **effective** when postoperative pain or analgesic consumption is reduced beyond the duration of action of the treatment drug or technique.

PREVENTIVE ANALGESIA

There are many effective preventive analgesic techniques using various pharmacological agents and interventions. They reduce nociceptor (pain receptor) activation by blocking or decreasing receptor activation and inhibiting the production or activity of pain neurotransmitters.

The end result is a reduction in postoperative opioid use and opioid-related side effects.

Table 3

Dosing Recommendation of Nonopioid Medications Commonly Used in a Multimodal Pain Management Strategy

Drug	Route of Administration	Preoperative Dosing ¹	Postoperative Dosing	Common Contraindications
NSAID				
Ketorolac	Intravenous	15-30 mg	15-30 mg every 6 h for 7 doses	Renal insufficiency
Ibuprofen	Oral	800 mg	800 mg every 6 h	Gastric ulcers
COX-2 inhibitor				
Celecoxib	Oral	400 mg	200 mg every 12 h	Sulfa allergy
Anti-neuropathic				
Gabapentin	Oral	300 mg	300 mg every 12 h	Renal insufficiency
Pregabalin	Oral	75 mg	75 mg every 12 h	
Acetaminophen	Oral/ intravenous	1000 mg	650 mg every 6 h	Liver disease

Abbreviation: NSAID, nonsteroidal anti-inflammatory drug.

¹Preoperative doses of all medications should be given as 1 administration within 2 hours of the start of surgery.

PREVENTIVE ANALGESIA

Desametasone 8mg e.v. preoperatorio

- Effetto analgesico efficace nel ridurre il consumo di oppioidi
- Effetto antiemetico

Kardash KJ, Sarrazin F, Tessler MJ, Velly AM.

Single-dose dexamethasone reduces dynamic pain after total hip arthroplasty. *Anesth Analg* 2008;106:1253–7.

Rasmussen ML, Mathiesen O, Dierking G, Christensen BV, Hilsted KL, Larsen TK, et al.

Multimodal analgesia with gabapentin, ketamine and dexamethasone in combination with paracetamol and ketorolac after hip arthroplasty: a preliminary study. *Eur J Anaesthesiol* 2010;27:324–30.

LOCAL ANESTHETIC

- Local anesthetic can be **injected in proximity to the surgical incision** and will provide preventive analgesia.
- **Significant decreases in analgesic consumption and increased time to first rescue analgesic request** but no difference in postoperative pain scores in patients who had preincisional local anesthetic wound infiltration.

LOCAL INFILTRATION ANALGESIA (L.I.A.)

- Elemento fondamentale dell'analgia multimodale del dolore dopo protesi ginocchio
- Procedura semplice, pratica ed efficace
- Efficacia analgesica della LIA è provata da numerosi studi

British Journal of Anaesthesia **113** (3): 360–74 (2014)
Advance Access publication 17 June 2014 · doi:10.1093/bja/aeu155

BJA

Analgesic efficacy of local infiltration analgesia in hip and knee arthroplasty: a systematic review

L. Ø. Andersen^{1,2*} and H. Kehlet^{1,3}

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² Department of Anesthesiology and Intensive Care, Bispebjerg Hospital, Copenhagen, Denmark

³ Section for Surgical Pathophysiology, Rigshospitalet, Copenhagen University, Copenhagen, Denmark

* Corresponding author. E-mail: lasseandersen@email.dk

L.I.A. GINOCCHIO

- Ropivacaina 0.2% 150 ml. + Ketorolac 30 mg.
- 100 ml + 0.5 mg adrenalina per capsula e tessuti periarticolari
- 50 ml senza adrenalina sottocute

Local infiltration analgesia for total knee arthroplasty: should ketorolac be added? 

K. V. Andersen; L. Nikolajsen ✉; V. Haraldsted; A. Odgaard; K. Søballe

Br J Anaesth (2013) 111 (2): 242-248.

L.I.A. ANCA ?



The Journal of Pain

Volume 15, Issue 8, August 2014, Pages 781–799



Critical Review

Local Infiltration Analgesia for Postoperative Pain After Hip Arthroplasty: A Systematic Review and Meta-Analysis

Jun-Bin Yin*, Guang-Bin Cui*, †, Ming-Shan Mi*, ‡, Yu-Xia Du*, §, Sheng-Xi Wu*, Yun-Qing Li*, Wen Wang*, , 

Perioperative local infiltration anesthesia with ropivacaine has no effect on postoperative pain after total hip arthroplasty

Janne Kristin Hofstad, Siri B Winther, Torbjørn Rian, Olav A Foss, Otto S Husby & Tina S Wik

To cite this article: Janne Kristin Hofstad, Siri B Winther, Torbjørn Rian, Olav A Foss, Otto S Husby & Tina S Wik (2015) Perioperative local infiltration anesthesia with ropivacaine has no effect on postoperative pain after total hip arthroplasty, *Acta Orthopaedica*, 86:6, 654-658, DOI: [10.3109/17453674.2015.1053775](https://doi.org/10.3109/17453674.2015.1053775)

To link to this article: <http://dx.doi.org/10.3109/17453674.2015.1053775>



META-ANALYSIS

Is Local Infiltration Analgesia Superior to Peripheral Nerve Blockade for Pain Management After THA: A Network Meta-analysis

José H. Jiménez-Almonte MD, Cody C. Wyles BS, Saranya P. Wyles BS,
German A. Norambuena-Morales MD, Pedro J. Báez BS,
Mohammad H. Murad MD, MPH, Rafael J. Sierra MD

Received: 2 March 2015 / Accepted: 29 October 2015 / Published online: 16 November 2015
© The Association of Bone and Joint Surgeons® 2015

L.I.A.
VS
BLOCK



ORIGINAL PAPER

Effects of multi-site infiltration analgesia on pain management and early rehabilitation compared with femoral nerve or adductor canal block for patients undergoing total knee arthroplasty: a prospective randomized controlled trial

Donghai Li¹ · Zhen Tan¹ · Pengde Kang¹ · Bin Shen¹ · Fuxing Pei¹

Received: 7 June 2016 / Revised: 29 July 2016 / Accepted: 3 August 2016 / Published online: 25 August 2016
© SICOT aisbl 2016

CATETERE EPIDURALE (ANESTESIA SPINALE)

- Fornisce una buona analgesia
- Difficile gestione catetere con NAO (rischio ematoma epidurale)
- Produce paresi bilaterale arti inferiori (ostacolo riabilitazione precoce)

Cochrane Database of Systematic Reviews

Epidural analgesia for pain relief following hip or knee replacement

Review Intervention

Peter Choi, Mohit Bhandari, Julia Scott, James D Douketis

First published: 21 July 2003

BLOCCHI PERIFERICI

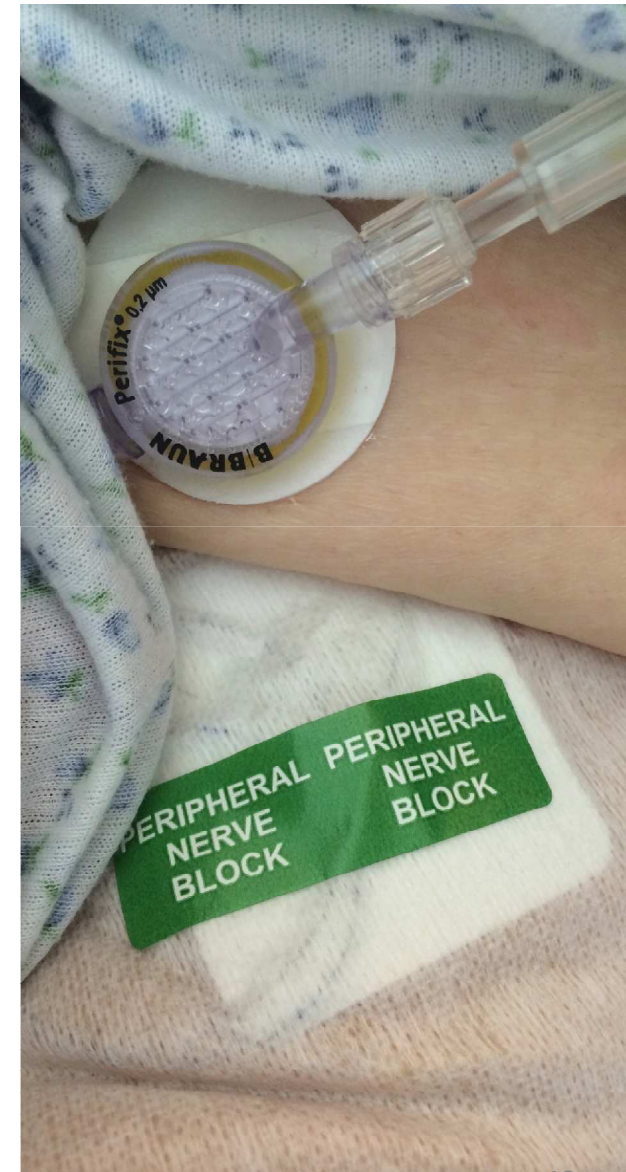
Blocco continuo del nervo femorale
è il gold standard per il ginocchio

A procedure-specific systematic review and consensus recommendations for postoperative analgesia following total knee arthroplasty

H. B. J. Fischer, C. J. P. Simanski, C. Sharp, F. Bonnet, F. Camu,
E. A. M. Neugebauer, N. Rawal, G. P. Joshi, S. A. Schug, H. Kehlet

First published: 10 July 2008 [Full publication history](#)

DOI: [10.1111/j.1365-2044.2008.05565.x](https://doi.org/10.1111/j.1365-2044.2008.05565.x) [View/save citation](#)



Purtroppo il blocco del nervo femorale
si accompagna sempre a blocco motorio del quadricipite
aumentando il rischio di cadute accidentali

Clin Orthop Relat Res (2010) 468:135–140
DOI 10.1007/s11999-009-1025-1

SYMPOSIUM: PAPERS PRESENTED AT THE ANNUAL MEETINGS OF THE KNEE SOCIETY

Complications of Femoral Nerve Block for Total Knee Arthroplasty

**Sanjeev Sharma MD, FRCSC, Richard Iorio MD,
Lawrence M. Specht MD, Sara Davies-Lepie MD,
William L. Healy MD**

Klatt BA, Pigott M, Farber N, et al. Use of nerve blocks after total joint arthroplasty leads to increased rate of falls. Presented at the Annual Meeting of the American Academy of Orthopaedic Surgeons, Chicago, March 2013.

Blocco del Canale degli Adduttori

(nervo safeno, ramo posteriore del nervo otturatorio, nervo femoro cutaneo mediale)

(20 ml Ropivacaina 0.75%; single shot dopo l'intervento)

Permette deambulazione e riabilitazione precoci

Minore rischio caduta rispetto al blocco femorale

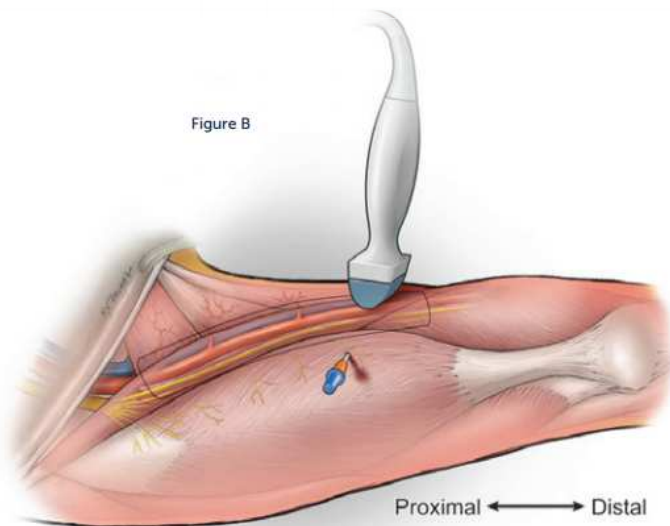
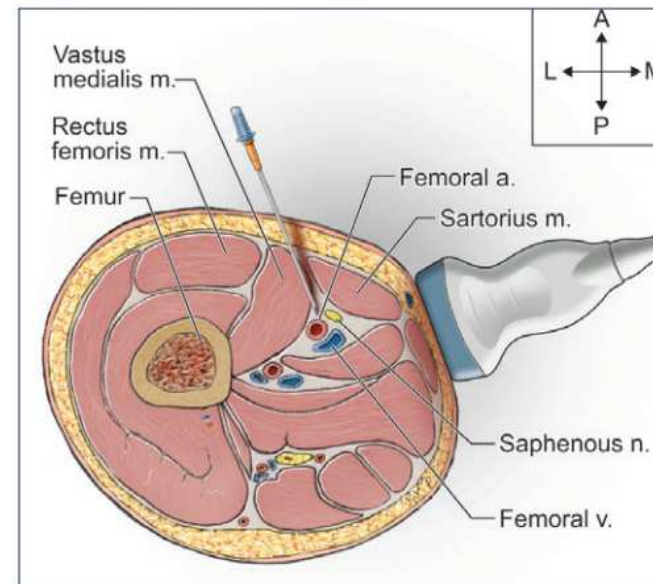


Figure C



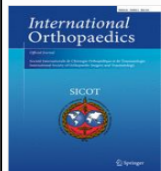
Blocco Canale Adduttori

Probabile nuovo gold standard dei blocchi nervosi per chirurgia protesica ginocchio

[Int J Surg.](#) 2016 Jul;31:17-24. doi: 10.1016/j.ijso.2016.05.036. Epub 2016 May 19.

Adductor canal block versus continuous femoral nerve block in primary total knee arthroplasty: A meta-analysis.

[Kuang MJ](#)¹, [Xu LY](#)², [Ma JX](#)³, [Wang Y](#)⁴, [Zhao J](#)⁵, [Lu B](#)⁶, [Ma XL](#)⁷.




[International Orthopaedics](#)

May 2016, Volume 40, [Issue 5](#), pp 925–933

Adductor canal block provides better performance after total knee arthroplasty compared with femoral nerve block: a systematic review and meta-analysis

Authors

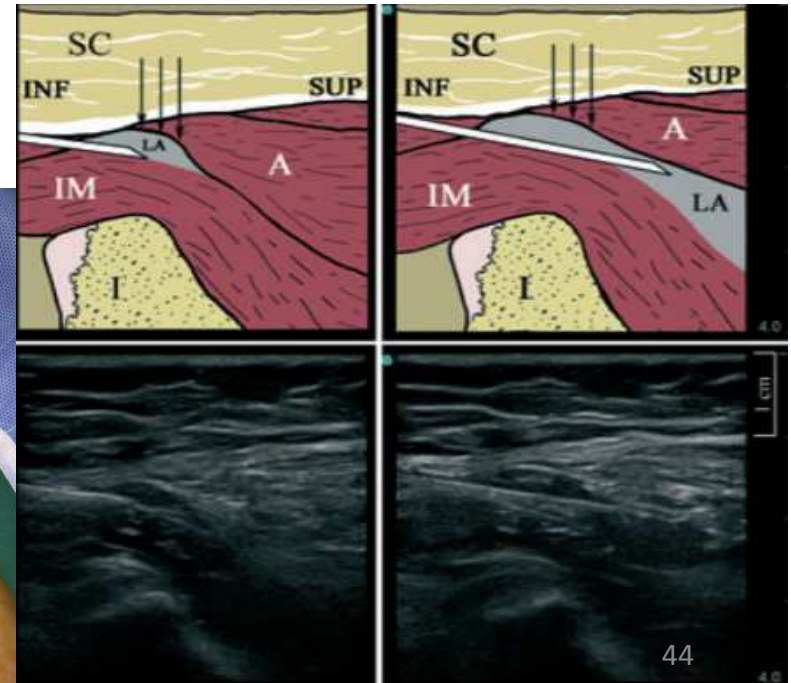
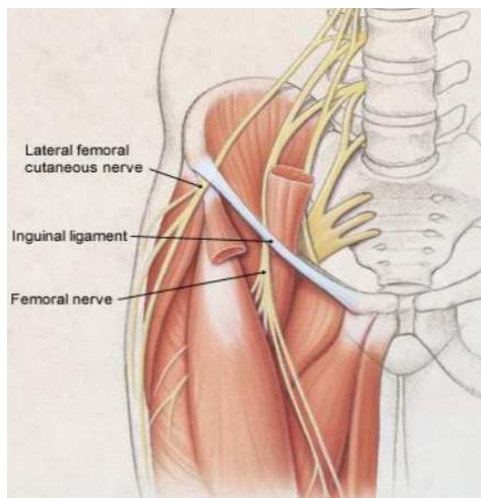
[Authors and affiliations](#)

Donghai Li, Zhouyuan Yang, Xiaowei Xie, Jinhai Zhao, Pengde Kang 

Blocco della fascia iliaca

30 ml. di Ropivacaina 0.15% (1,5 mg/ml)

Al di sotto della fascia iliaca superiormente al legamento inguinale:
deposito di anestetico locale che mantiene analgesia nervi femorale e cutaneo laterale del femore



Blocco della fascia iliaca

Triage – Ambulanza ?

Personale infermieristico ?

Ripetibile nel periodo postoperatorio

Reg Anesth Pain Med. 2017 Jan 3. doi: 10.1097/AAP.0000000000000543. [Epub ahead of print]

A Longitudinal Supra-Inguinal Fascia Iliaca Compartment Block Reduces Morphine Consumption After Total Hip Arthroplasty.


Desmet M¹, Vermeulen K, Van Herreweghe I, Carlier L, Soetens F, Lambrecht S, Croes K, Pottel H, Van de Velde M.

Korean J Anesthesiol. 2016 Aug;69(4):368-375. English.

Published online Jul 01, 2016. <https://doi.org/10.4097/kjae.2016.69.4.368>

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An ultrasound-guided fascia iliaca catheter technique does not impair ambulatory ability within a clinical pathway for total hip arthroplasty

Seshadri C. Mudumbai,^{1,3} T. Edward Kim,^{1,3} Steven K. Howard,^{1,3} Nicholas J. Giori,^{2,3} Steven Woolson,^{2,3} Toni Ganaway,¹ Alex Kou,¹ Robert King,³ and Edward R. Mariano ^{1,3}

FARMACI ANTIDOLORIFICI SISTEMICI

Utilizzo di **alte dosi di morfiniti** ev, molto efficaci, ma con molti effetti collaterali:

- ✓ sedazione - confusione,
- ✓ nausea - vomito
- ✓ prurito
- ✓ ritenzione urinaria – stipsi
- ✓ **Incompatibili con il recupero veloce**

Oderda GM, Evans RS, Lloyd J, et al.

Cost of opioid-related adverse drug events in surgical patients.


J Pain Symptom Manage 2003; 25: 276-83.

An enhanced recovery after surgery program for hip and knee arthroplasty

Nicholas Christelis, Sophie Wallace, Claire E Sage, Uate Babitu, Susan Liew, James Dugal, Ibolya Nyulasi, Nora Mutalima, Ton Tran and Paul S Myles

Med J Aust 2015; 202 (7): 363-368.

doi: 10.5694/mja14.00601

 Download PDF

PARACETAMOLO 1 g per os / e.v x 3-4 die

- Riduce 30% fabbisogno di oppioidi
- Preemptive
- Riduce anche nausea e vomito

McNicol ED, Tzortzopoulou A, Cepeda MS, Francia MB, Farhat T, Schumann R.
Single-dose intravenous paracetamol or propacetamol for prevention or treatment of postoperative pain: a systematic review and meta-analysis. Br J Anaesth 2011; 106: 764-75.

Apfel CC, Turan A, Souza K, Pergolizzi J, Hornuss C.
Intravenous acetaminophen reduces postoperative nausea and vomiting: a systematic review and meta-analysis. Pain 2013; 154: 677-89.

FANS

Ketorolac 30 mg ev x 3 die

Ibuprofene 400 mg per os x 3 die

Cepeda MS, Carr DB, Miranda N, Diaz A, Silva C, Morales O.
Comparison of morphine, ketorolac, and their combination for
postoperative pain: results from a large, randomized, doubleblind
trial.

Anesthesiology 2005; 103: 1225-32

OPPIODI MAGGIORI A BASSO DOSAGGIO

Ossicodone/naloxone 5-10 mg x 2 die per os

Kuusniemi K, Zollner J, Sjovald S, et al.

Prolonged-release oxycodone/naloxone in postoperative pain management: from a randomized clinical trial to usual clinical practice.

J Int Med Res 2012;40:1775-93

Tapentadolo 50 mg x 2 die per os (no tramadolo)

Curr Med Res Opin. 2014 Dec;30(12):2561-70. doi: 10.1185/03007995.2014.954665. Epub 2014 Aug 27.

Acute postoperative pain relief with immediate-release tapentadol: randomized, double-blind, placebo-controlled study conducted in South Korea.

Lee YK¹, Ko JS, Rhim HY, Lee EJ, Karcher K, Li H, Shapiro D, Lee HS.

GABAPENTINOIDI

Gabapentin 600mg per os 2 ore prima dell'intervento efficace nel ridurre il consumo di oppioidi nel post op.

Indicato soprattutto nei pazienti con elevato stato ansia.

[Medicine \(Baltimore\)](#). 2016 Jun; 95(23): e3883.

PMCID: PMC4907681

Published online 2016 Jun 10. doi: [10.1097/MD.0000000000003883](https://doi.org/10.1097/MD.0000000000003883)

The use of gabapentin in the management of postoperative pain after total knee arthroplasty

A PRISMA-compliant meta-analysis of randomized controlled trials

[Chao Han](#), MD,^a [Xiao-dan Li](#), MD,^b [Hong-qiang Jiang](#), MD,^a [Jian-xiong Ma](#), PhD,^a and [Xin-long Ma](#), MD^{a,*}

FARMACI ADIUVANTI

Benzodiazepine, antidepressivi, anticonvulsivanti

- per diminuire l'ansia,
- produrre lieve sedazione
- potenziare l'azione analgesica

Antiemetici, lassativi, gastroprotettivi

(metoclopramide, ondansetron, ranitidina)

per ridurre gli effetti collaterali degli analgesici



Guidelines on the Management of Postoperative Pain

Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council

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Recommendation 1

The panel recommends that clinicians provide patient and family-centered, individually **tailored education** to the patient (and/or responsible caregiver), including information on treatment options for management of postoperative pain, and document the plan and goals for postoperative pain management.

(strong recommendation, low-quality evidence)

Recommendation 3

The panel recommends that clinicians conduct a **pre-operative evaluation including assessment** of medical and psychiatric comorbidities, concomitant medications, history of chronic pain, substance abuse, and previous postoperative treatment regimens and responses, to guide the perioperative pain management plan.

(strong recommendation, low-quality evidence)

Recommendation 4

The panel recommends that clinicians **adjust the pain management plan** on the basis of adequacy of pain relief and presence of adverse events.

(strong recommendation, low-quality evidence)

Recommendation 5

The panel recommends that clinicians use a **validated pain assessment tool** to track responses to postoperative pain treatments and adjust treatment plans accordingly.

(strong recommendation, low- quality evidence)

Recommendation 6

The panel recommends that clinicians offer **multimodal analgesia**, or the use of a variety of analgesic medications and techniques combined with **non- pharmacological interventions**, for the treatment of postoperative pain in children and adults.

(strong recommendation, high-quality evidence)

Recommendation 7-8

The panel recommends that clinicians consider transcutaneous electrical nerve stimulation (**TENS**) as an adjunct to other postoperative pain treatments.

(weak recommendation, moderate-quality evidence)

The panel can neither recommend nor discourage **acupuncture, massage, or cold therapy** as adjuncts to other postoperative pain treatments.

(insufficient evidence)

Recommendation 9

The panel recommends that clinicians consider the use of **cognitive-behavioral modalities** in adults as part of a multimodal approach.

(weak recommendation, moderate-quality evidence)

Recommendation 10

The panel recommends **oral over intravenous (i.v.) administration of opioids** for postoperative analgesia in patients who can use the oral route.

(strong recommendation, moderate quality evidence)

Recommendation 11

The panel recommends that clinicians **avoid using the intramuscular route** for the administration of analgesics for management of postoperative pain.

(strong recommendation, moderate-quality evidence)

Recommendation 12-13

The panel recommends that i.v. patient-controlled analgesia (PCA) be used for postoperative systemic analgesia when the parenteral route is needed.

(strong recommendation, moderate-quality evidence)

The panel recommends against routine basal infusion of opioids with i.v. PCA in opioid-naive adults.

(strong recommendation, moderate-quality evidence)

Recommendation 14

The panel recommends that clinicians provide appropriate **monitoring of sedation, respiratory** status, and other adverse events in patients who receive systemic opioids for postoperative analgesia.

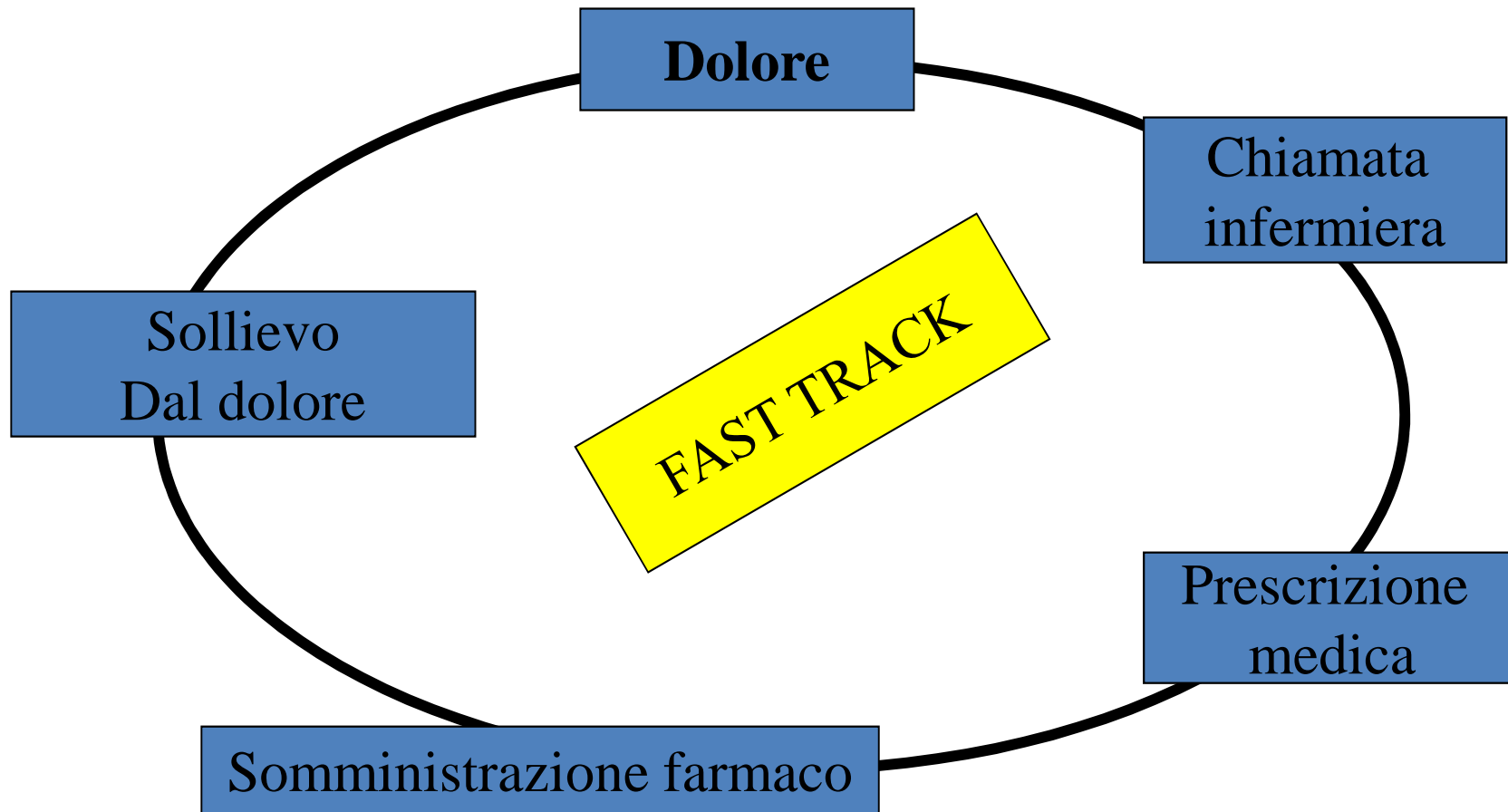
(strong recommendation, low-quality evidence)

Recommendation 14

The panel recommends that clinicians provide adults and children with **acetaminophen and/or NSAIDs** as part of multimodal analgesia for management of postoperative pain in patients without contraindications.

(strong recommendation, high-quality evidence)

ANALGESIA TRADIZIONALE



PRE-POST FT – MONITORAGGIO DEL DOLORE

	PRE-FT	POST-FT
DIRETTO	<ul style="list-style-type: none"> -Infermiere ortopedia (valutazione NRS 3 volte/die e richiesta intervento Nursing anestesia e/o medico ortopedico / internista) -Nursing anestesia (regolazione 2 volte/die: pompe morfina ev / peridurali) 	<ul style="list-style-type: none"> -Infermiere ortopedia (+ autonomia gestione rescue-dose; allestimento e regolazione pompe morfina / Ketorolac ev) -Nursing anestesia (solo su richiesta del medico ortopedico / internista)
INDIRETTO (su chiamata da parte dell'infermiere)	<ul style="list-style-type: none"> -Medico ortopedico di reparto -Anestesista 	<ul style="list-style-type: none"> -Medico ortopedico / internista di reparto -Anestesista (evento eccezionale)

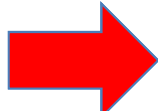
PRE-POST FT – TERAPIA ANTALGICA

	PRE-FT	POST-FT
Pre-emptive analgesia	NO	Etoricoxib 90mg + Paracetamolo 1g per os
Local Infiltration Anesthesia	NO	Adrenalina 1mg (1/3 di fiala) Ropivacaina 0.2% (1/2 sacca/100mL) Ropivacaina 0.75% (3 fiale/10 mL) Acido Tranexamico 500mg (2 fiale/5 mL)
Morfina (ev) / Anestesia Peridurale	SI	NO
Ossicodone+Naloxone	NO / rescue-dose	10/5mg per os x 2 volte/die: dalla mattina del 1° giorno per 1° e 2° giorno
Paracetamolo	1g ev x 3 volte/die: dalla mattina del 1° giorno per 1° e 2° giorno	1g ev x 3 volte/die: dalla mattina del 1° giorno per 1° e 2° giorno
Ketorolac / altro FANS	Rescue-dose	(ev in pompa) pomeriggio giorno 0: 45mg, 1° giorno: 90mg, 2° giorno: 60mg
Crioterapia	Semplice	Avanzata con compressione (cicli 30 min. a 9° C, intervallati a pause 30 min. x 3 -4 volt/die) dal pomeriggio del giorno 0 e per 1° e 2° giorno

Outcome clinici con il metodo FAST TRACK.

	ANCA (n.600)	GINOCCHIO (n.632)
	(%)	
Dolore non controllato (almeno 1 episodio NRS \geq 5)		
Giorno 0	(8,2)	(8,4)
1°	(6,7)	(11,2)
2°	(2,8)	(10,8)
3°	(3,7)	(9,8)

Comparazione protocolli operativi

	FT Protesi		FT Frattura femore
Dolore	Analgesia preventiva FANS Paracetamolo Pregabalin Risparmio oppiacei LIA		- OK OK OK OK In fieri
Delirium	Aloperidolo + caregivering		OK
Dispepsia	Desametasone		In fieri
Febbre	Paracetamolo		OK
Ipoalbuminemia <3g/dl	Albumina ev se sierorragia		OK
Malnutrizione	Obesità ?		M.calorico/proteica ?



Accreditamento JCI Certificazione Top Employers Riconoscimento ESMO Riconoscimento ABTO Premio Innovazione Digitale in Sanità Premio Sostenibilità Economica Premio HIMSS

PROTOCOLLO PER LA CURA DEL DOLORE POSTCHIRURGICO NEI PAZIENTI RICOVERATI IN ORTOPEDIA / TRAUMATOLOGIA

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08/06/2017



Metodo di valutazione del dolore

**PAZIENTE «NORMALE»
CON DEMENZA AVANZATA
“OSSERVATO SPECIALE”**

**SINDROME COMPARTIMENTALE
TRAZIONE
APPARECCHIO GESSATO**

Metodo di valutazione del dolore

PAZIENTE NORMALE: VAS: (SCALA VISIVA ANALOGICA)

Misura l'intensità del dolore.

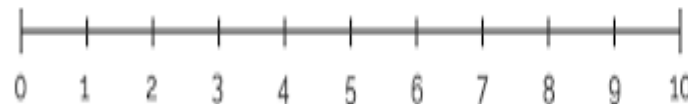
**E' una retta di 10 cm con 2 estremità che
corrispondono a "nessun dolore" e "massimo dolore".**

SCALA ANALOGICA VISIVA (VAS) DEL DOLORE

Indicare con una crocetta su questa scala quanto è forte il dolore.

ASSENTE

IL PIÙ FORTE
DOLORE



Metodo di valutazione del dolore

PAZIENTE CON DEMENZA AVANZATA

PAINAD: PAIN assessment in Advanced Dementia

Questa scala è adatta all'anziano con gravi deficit cognitivi (ma non solo).
Valuta: respiro, vocalizzazione, espressione facciale, linguaggio corpo e consolabilità.

	0	1	2
RESPIRO (Indipendente dalla vocalizzazione)	Normale	Respiro a tratti alterato. Brevi periodi di iperventilazione	Respiro alterato Iperventilazione Cheyne-Stokes
VOCALIZZAZIONE	Nessuna	Occasionali lamenti Saltuarie espressioni negative	Ripetuti richiami Lamenti. Pianto
ESPRESSIONE FACCIALE	Sorridente o inespressiva	Triste, ansiosa, contratta	Smorfie.
LINGUAGGIO DEL CORPO	Rilassato	Teso Movimenti nervosi Irrequietezza	Rigidità. Agitazione Ginocchia piegate Movimento afinalistico, a scatti
CONSOLABILITA'	Non necessita di consolazione	Distratto o rassicurato da voce o tocco	Inconsolabile; non si distrae né si rassicura

Punteggio:
0 = nessun dolore
10 = massimo dolore



Metodo di valutazione del dolore

PAZIENTE “OSSERVATO SPECIALE”

Sono pazienti che per vari comportamenti o terapie che assumono a domicilio (antidepressivi) richiedono un'attenzione particolare da parte dell'operatore per poter definire l'effettiva soglia di dolore e la conseguente terapia antalgica.

Per fare questo possiamo fare riferimento alla NOPPAIN (NON-communicative Patient's PAIN assessment instrument) strumento di valutazione del dolore per pazienti non comunicanti.

PAZIENTE "OSSERVATO SPECIALE"

Queste rilevazioni non sono semplici, richiedono almeno 5 min. assistenza quotidiana e lavoro d'équipe (Inf., OSS, FKT, Stud.).

L'interpretazione del punteggio VAS in questi pazienti permette di (eventualmente) integrare la terapia antalgica con farmaci ansiolitici ed antidepressivi.

II. Comportamento da dolore	
Che cosa hai visto o sentito durante l'assistenza?	
Parole di dolore? • "Mi fa male!" • "Ahi!" • "Basta!" Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO 	Mimica facciale di dolore? • Smorfie • Traslamenti • Sopracciglia aggrottate Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO
Che intensità hanno avuto le parole di dolore? 	Che intensità ha avuto la mimica di dolore?
Vocalizzi di dolore? • Gemiti Lamenti • Grugniti Pianti • Rantoli Sospiri Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO 	Si immobilizza? • Rigidità • Sostenere una parte del corpo • Proteggersi Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO
Che intensità hanno avuto i vocalizzi di dolore? 	Che intensità ha avuto l'immobilizzazione?
Si massaggia? • Frizionare la zona dolorante Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO 	Irrequietezza? • Frequente cambio di posizione • Dondolio • Incapacità di stare seduto fermo Hai notato questo? <input type="checkbox"/> SI <input type="checkbox"/> NO
Che intensità ha avuto il massaggio? 	Che intensità ha avuto l'irrequietezza?
PUNTEGGIO a. Somma il numero di caselle "SI" che hai segnato <input type="text"/>	TOTALE 2a <input type="text"/>
b. Somma i numeri che hai segnato sulle scale di intensità <input type="text"/>	TOTALE 2b <input type="text"/>

LETTO	ORE-14.00					ORE-18.00	ORE-20.00				
	PA	VAS	DIURESIS	TC	HGT		PA	VAS	DIURESIS	TC	ALVO
2-A	x	x	x	x	x	x	x	x	x	x	x
2-B	x	x	x	x	x	x	x	x	x	x	x
3-A	x	x	x	x	x	x	x	x	x	x	x
3-B	x	x	x	x	x	x	x	x	x	x	x
4-A	x	x	x	x	x	x	x	x	x	x	x
4-B	x	x	x	x	x	x	x	x	x	x	x
5-A	x	x	x	x	x	x	x	x	x	x	x
5-B	x	x	x	x	x	x	x	x	x	x	x
6-A	x	x	x	x	x	x	x	x	x	x	x
6-B	x	x	x	x	x	x	x	x	x	x	x
7-A	x	x	x	x	x	x	x	x	x	x	x
7-B	x	x	x	x	x	x	x	x	x	x	x
8-A	x	x	x	x	x	x	x	x	x	x	x
8-B	x	x	x	x	x	x	x	x	x	x	x
9-A	x	x	x	x	x	x	x	x	x	x	x
9-B	x	x	x	x	x	x	x	x	x	x	x
10-A	x	x	x	x	x	x	x	x	x	x	x
10-B	x	x	x	x	x	x	x	x	x	x	x
11-A	x	x	x	x	x	x	x	x	x	x	x
11-B	x	x	x	x	x	x	x	x	x	x	x

Aggiungere **D** se paziente demente avanzato

Aggiungere **OS se paziente "osservato speciale"

Data la

1) specificità della rilevazione del dolore (n.3 categorie)

2) necessità di ricontrollare il dolore dopo 1h dalla somministrazione del farmaco antidolorifico per verificare la **RIDUZIONE DEL DOLORE**

si è modificata la scheda di rilevazione dei parametri giornalieri .

SINDROME COMPARTIMENTALE

Complicanza a più alto rischio di perdita dell'arto.

La tumefazione del muscolo lesa all'interno di un involucro costringente (stecca, gesso, fasciatura) aumenta la pressione tissutale e diminuisce la perfusione sanguigna, tutti i tessuti entrano in sofferenza per lo scarso apporto di O₂, nutrienti e riciclo di CO₂, ne risulta una ischemia dell'arto e dopo poche ore si può sviluppare una necrosi.

TRAZIONE

CUTANEA: utilizzata prevalentemente per immobilizzare in maniera temporanea un arto o per stabilizzare una frattura, consiste in un insieme di presidi (nastri, fasce per trazione, bendaggi, carrucole di scorrimento, pesi, ecc.) che forniscono un sostegno non invasivo.

TRANSCHELETRICA : consiste nell'inserimento chirurgico di fili metallici (Wilson o Kirschner) nelle ossa i quali, unitamente ad un sistema sinergico composto da staffa di trazione, pesi, doccia portante con pulegge (Zuppinger) e fili di nylon, esercitano una trazione che solitamente si impiega nelle fratture di femore e di tibia.

APPARECCHIO GESSATO

A volte il dolore è causato dalla compressione dei tessuti che senza causare una sindrome compartimentale genera un importante stato di sofferenza del paziente a cui si può ovviare tramite il rimodellamento dell'apparecchio gessato.

INDICATORI DI RISULTATO

Dal 1 Luglio 2017 al 31 Dicembre 2017
raccolta dei seguenti dati:

- Verifica riduzione dolore con VAS (scheda parametri)
- Incidenza utilizzo scala PAINAD
- Verifica riduzione dolore negli «Osservati Speciali»

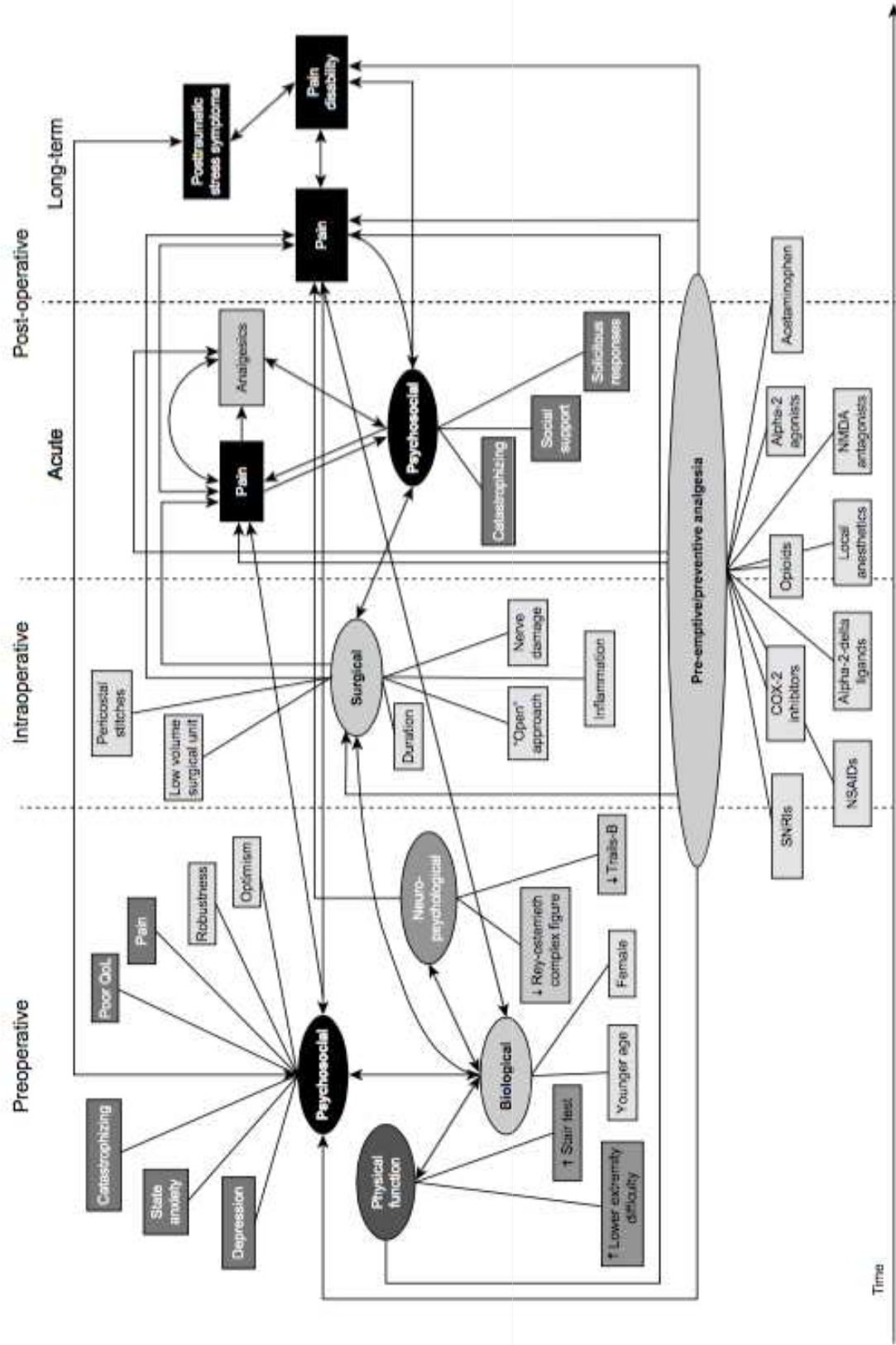


Figure 1 Schematic illustration of the processes involved in the development of chronic postsurgical pain and pain disability showing relationships among preoperative, intraoperative, and postoperative risk/protective factors. Copyright © 2009 Katz and Seltzer. Adapted with permission from Katz J, Seltzer Z. Transition from acute to chronic postsurgical pain: risk factors and protective factors. *Expert Rev Neurother.* 2009;9(5): 723-744.³

Conclusioni

- ✓ Nursing (+team)
- ✓ Around-the-clock concept (no pro re nata)

- ✓ Pre-emptive pain management
- ✓ Analgesia Multimodale (LIA)
- ✓ Tailored therapy (range of standard)

- ✓ Monitoring and measuring pain reduction