Sessione 3 : il ginocchio prima durante e dopo

Il dolore cronico post- chirurgia: come prevenirlo?

Dott. Cristiano D'Errico- A.O.R.N. « A. Cardarelli»

Federazione Medico Sportiva Italiana

Cardiologia dello Sport

Protesi di ginocchio (PKA) :quali strategie?→ protocolli ERAS

- Rimuovere dolore
- Garantire mobilità e stabilità articolazione
- Correggere deviazioni assiale
- Migliorare standard di vita

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> Mod Rheumatol. 2021 Sep;31(5):1038-1044. doi: 10.1080/14397595.2020.1859709. Epub 2021 Jan 10.

Chronic postsurgical pain after total knee arthroplasty: A prospective cohort study in Japanese population

Koji Aso [1], Masahiko Ikeuchi [1], Shogo Takaya [1], Natsuki Sugimura [1], Masashi Izumi [1], Hiroyuki Wada [1], Yusuke Okanoue [1], Jyunpei Dan [1]

Affiliations + expand

PMID: 33274662 DOI: 10.1080/14397595.2020.1859709

Objectives: To elucidate the prevalence and risk factors of chronic postsurgical pain (CPSP) after primary total knee arthroplasty (TKA) in Japanese population.

Methods: Consecutive patients undergoing primary TKA in a Japanese tertiary hospital (211 knees) were assessed. CPSP after TKA was defined as moderate to severe pain (VAS >30 mm), either at rest or during walking, one year after surgery. Clinical and radiographic data were compared between CPSP and non-CPSP groups and multivariate logistic regression was used to identify predictors of CPSP.

Results: The prevalence of CPSP was 8.8%. CPSP group showed significantly higher preoperative WOMAC subscales (pain, function and stiffness), higher rate of postoperative coronal malalignment (femorotibial angle >178° or <170°) and larger varus angle of tibial component compared with non-CPSP group. Logistic regression analysis revealed that preoperative higher WOMAC pain and postoperative coronal malalignment were independent risk factors of CPSP. In a subgroup analysis of patients with well-aligned TKA, preoperative pain VAS at rest was the only risk factor of CPSP.

Conclusion: Preoperative severe pain and postoperative coronal malalignment were independent risk factors of CPSP after TKA. Preoperative pain management in patients with severe pain and good coronal alignment after TKA possibly minimize the development of CPSP.

Observational Study > J Arthroplasty. 2023 Sep;38(9):1693-1699. doi: 10.1016/j.arth.2023.04.055. Epub 2023 May 2.

Predictors of Chronic Pain in Elderly Patients Undergoing Total Knee and Hip Arthroplasty: A Prospective Observational Study

Suhong Tang [1], Yinan Jin [1], Yunfan Hou [1], Wenwen Wang [1], Jinwei Zhang [1], Wei Zhu [1], Wei Zhang [1], Xiaoping Gu [1], Zhengliang Ma [1]

Abstract

Background: Chronic postsurgical pain (CPSP) after total knee arthroplasty and total hip arthroplasty (TKA and THA) is an important clinical problem in which many factors play a role. The risk factors for CPSP in elderly individuals are currently unknown. Therefore, our aim was to predict the risk factors for CPSP after TKA and THA and to provide help regarding early screening and interventions for elderly individuals at risk.

Methods: In this prospective observational study, we collected and analyzed 177 TKA patients and 80 THA patients. Based on pain results at the 3-month follow-up, they were divided into the no chronic postsurgical pain and CPSP groups, respectively. The preoperative baseline conditions, including pain intensity (Numerical Rating Scale) and sleep quality (Pittsburgh Sleep Quality Index), as well as intraoperative and postoperative factors, were compared. Factors with $P < .05$ were included in binary regression analyses to establish prediction models for CPSP after TKA and THA.

Results: The prevalence of CPSP was 20.9% after TKA and 7.5% after THA. The preoperative sleep disorders were an independent risk factor of CPSP after TKA, but no risk factors of CPSP after THA were identified.

Conclusion: This study indicated that the prevalence of CPSP after TKA was significantly higher than after THA, and that preoperative sleep disorders were an independent risk factor for CPSP after TKA, which may aid clinicians in screening people at risk for CPSP for primary prevention.

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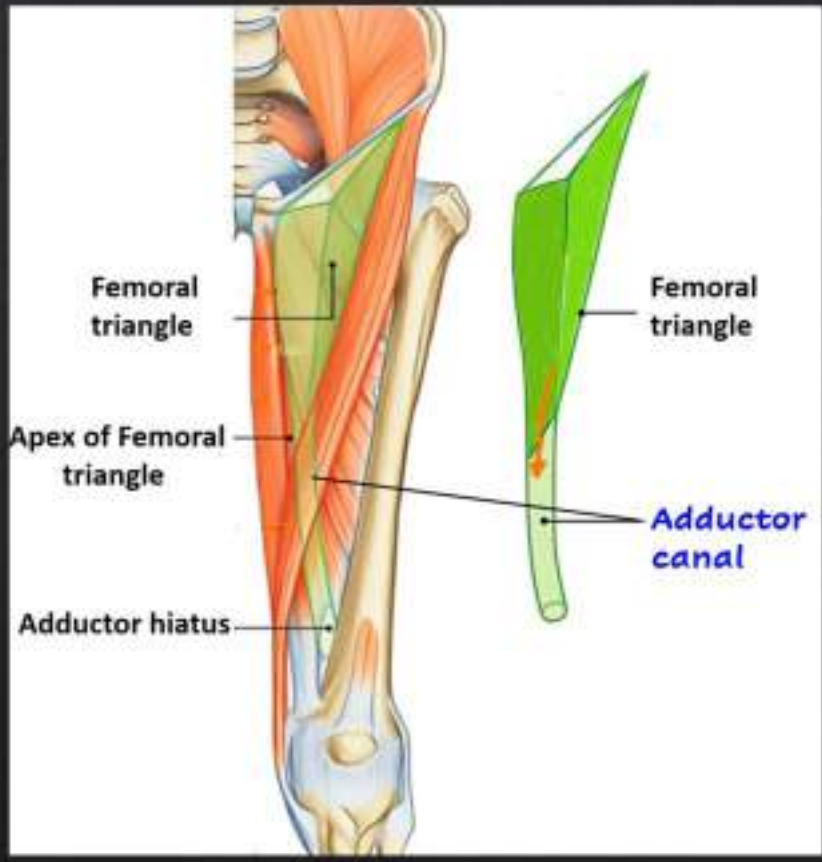
CANALE DEGLI ADDUTTORI (HUNTER)

Struttura aponeurotica situata nella parte mediale della coscia (membrana vasto – adduttoria, m. sartorio, m. vasto- mediale, m. adduttori lungo e magno)

Si estende dall'apice del triangolo femorale di scarpa allo iato adduttorio

Permette il passaggio di strutture nervose e vascolari dal triangolo femorale alla fossa poplitea



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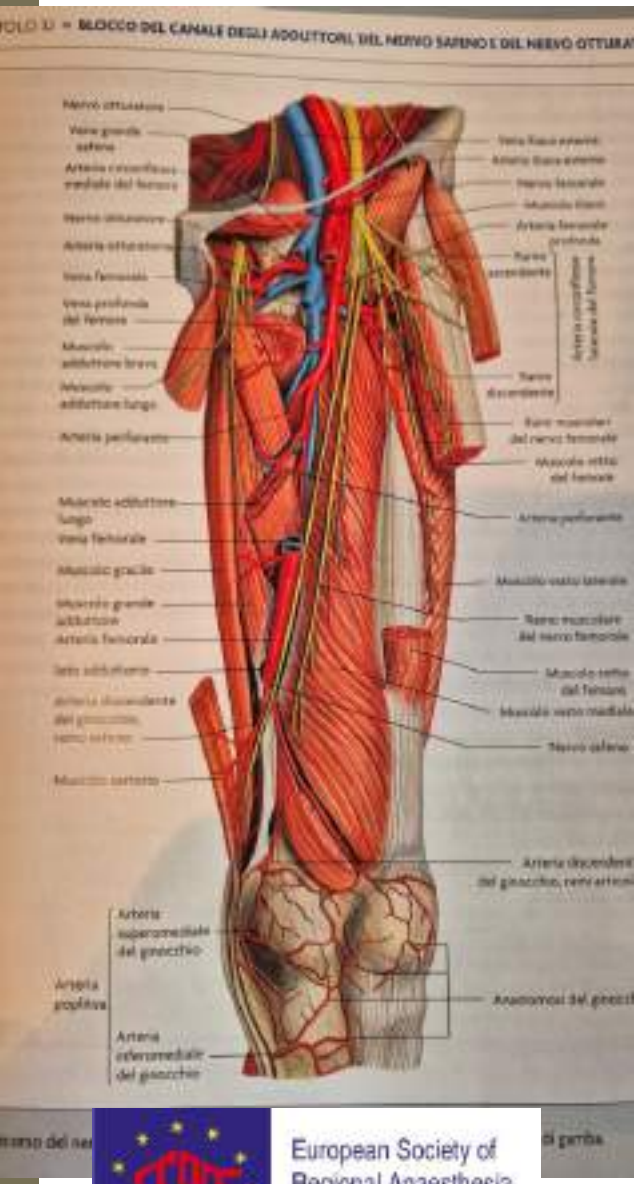

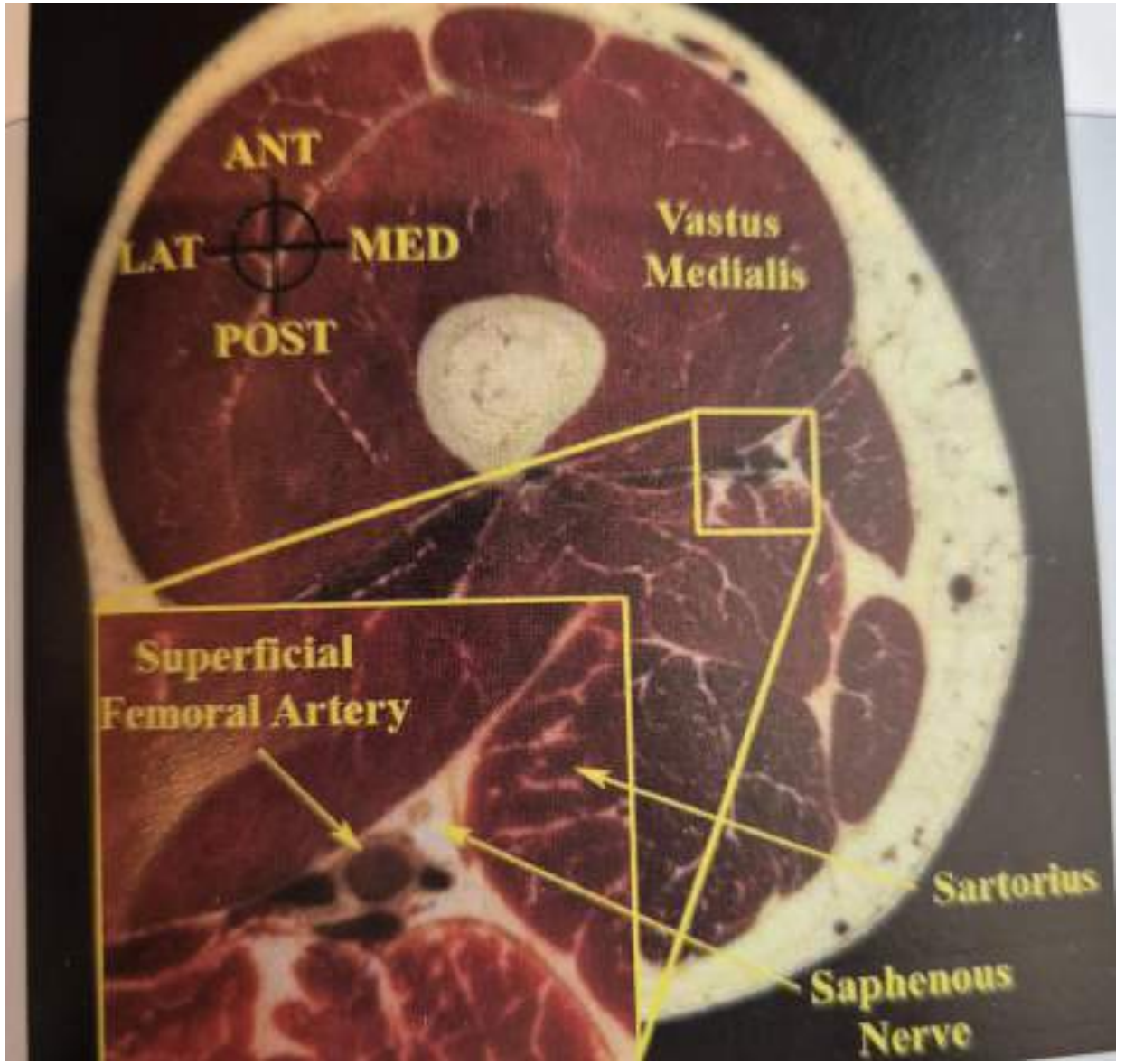

Figura 32.2 Esposizione del canale degli adduttori a l
terzo mediale di coscia. Da notare la presenza della m
vasto-adduttoria.

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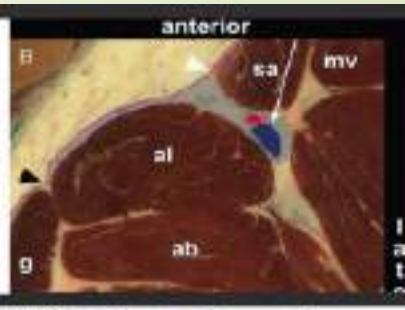
REGIONAL ANESTHESIA AND ACUTE PAIN

BRIEF TECHNICAL REPORT

OPEN

Defining the Location of the Adductor Canal Using Ultrasound

Wan Yi Wong, MMed, MBBS, Siska Bjørn, MS,† Jennie Maria Christin Strid, MD,† Jens Børglum, MD, PhD,‡ and Thomas Fichtner Bendtsen, MD, PhD†*



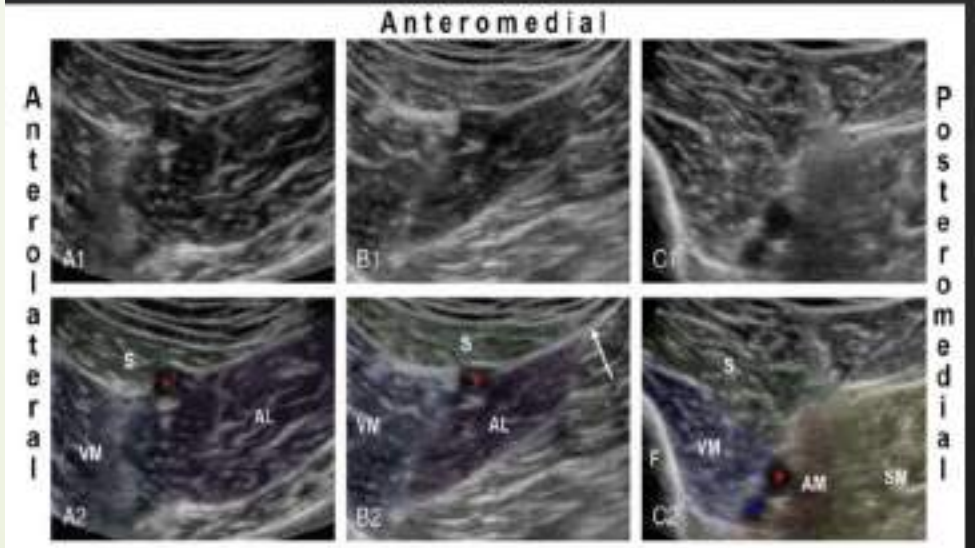


FIGURE 1. The first row shows three ultrasound images at different levels. The second row shows the identical ultrasound images with color markings. A1 and A2 are at the level of the femoral triangle (FT) corresponding to the red arrows in Figure 2. B1 and B2 depict the beginning of the AC defined as the apex of the FT, where the medial border of the sartorius muscle intersects the medial border of the adductor longus muscle (white arrow in B2). This level corresponds to the blue arrows in Figure 2. C1 and C2 depict the distal end of the AC corresponding to the green arrows in Figure 2. AL (purple), adductor longus muscle; AM (orange), adductor magnus muscle; asterisk (blue), femoral vein; asterisk (red), femoral artery; F, femur; S (green), sartorius muscle; SM (yellow), semimembranosus muscle; VM (blue), vastus medialis muscle.

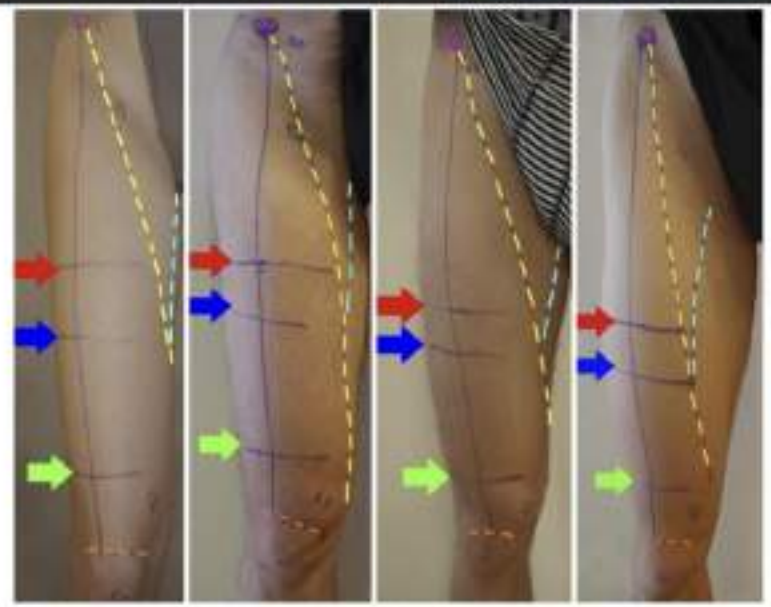
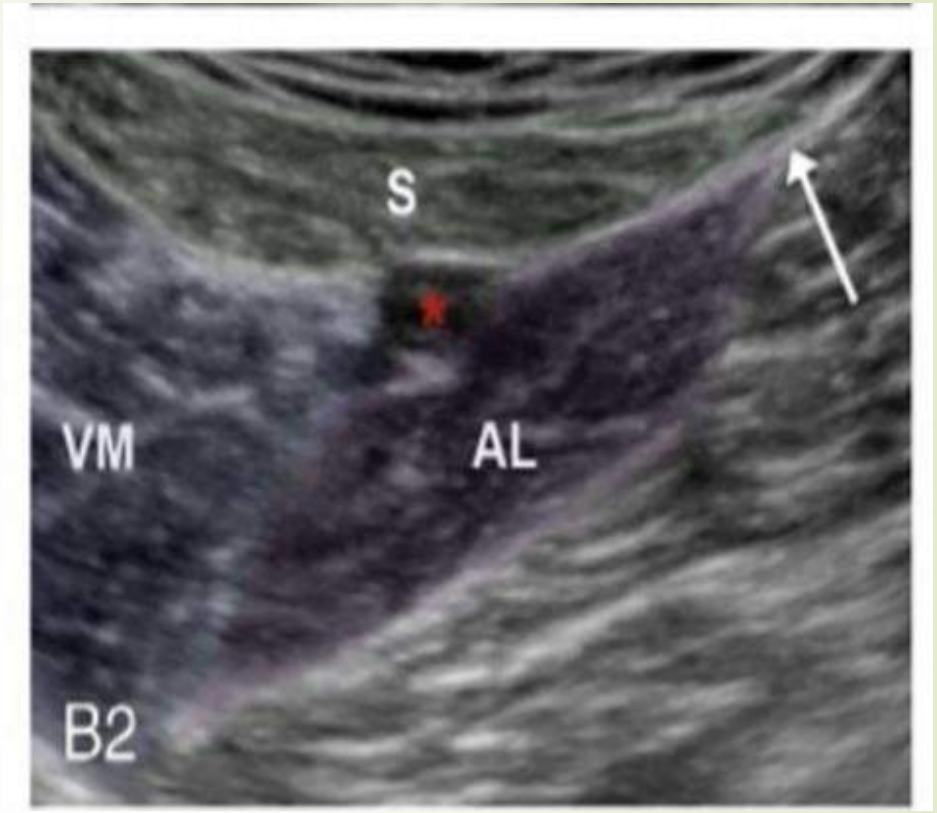


FIGURE 2. The figure shows the thighs of 4 volunteers. The midpoint of the thigh (red arrow) is defined as half the distance between the ASIS (pink asterisk) and the base of patella (orange stippled line) corresponding to the ultrasound images in Figure 1A. The proximal end of the AC (blue arrow) is defined by the intersection of the medial border of the sartorius muscle (yellow stippled line) and the medial border of the adductor longus muscle (cyan stippled line) corresponding to the ultrasound images in Figure 1B. The distal end of the AC is defined as the adductor hiatus (green arrow) corresponding to the ultrasound images in Figure 1C.



Asse corto- ago in plane
Sonda lineare alta risoluzione 10-12 Mhz
Arteria femorale e membrana vasto adduttoria
Ago 80 mm fra m. sartorio e m. vasto mediale
Idrolocalizzazione 0.5- 1 ml : passaggio punta fra muscolo sartorio e membrana vasto- adduttoria-→ canale adduttori

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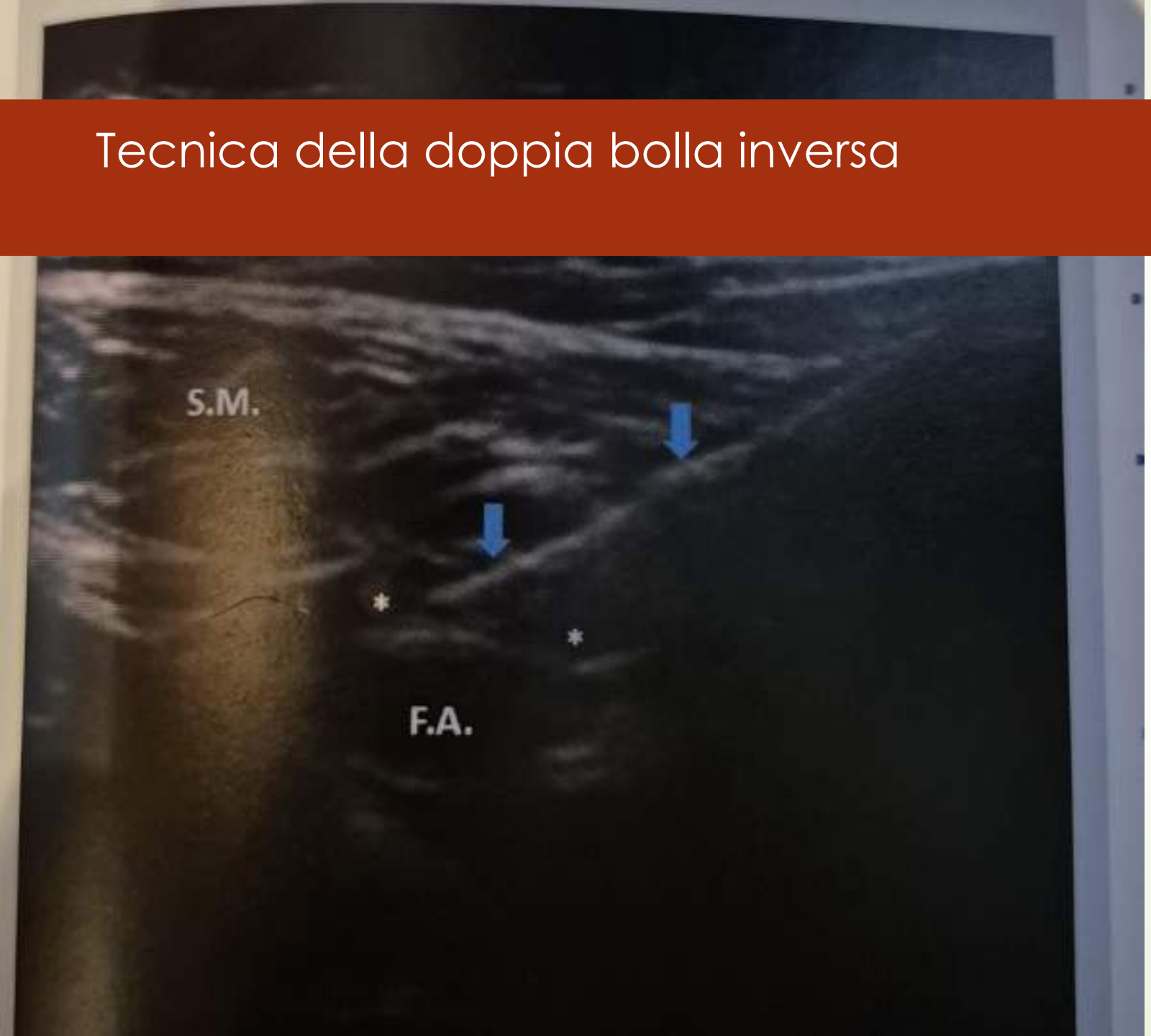
Tecnica della doppia bolla inversa



- Sonda lineare 12-15 MhZ
- A metà coscia tra piega inguinale e condilo mediale femore: arteria femorale superficiale
- Ago Thuohy 18 G
- Idrolocalizzazione 3-4 ml a ore 12 rispetto all'a. femorale e scollamento della membrana sub- sartoriale
- Possibilità di posizionamento cateterino in continuo

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healthcare MDPI

Article

Motor-Sparing Effect of Adductor Canal Block for Knee Analgesia: An Updated Review and a Subgroup Analysis of Randomized Controlled Trials Based on a Corrected Classification System

Yu-Hsuan Fan Chiang [1], Ming-Tse Wang [1], Shun-Ming Chan [2], Se-Yi Chen [3,4], Man-Ling Wang [5], Jin-De Hou [6,7], Hsiao-Chien Tsai [8,*] and Jui-An Lin [7,9,10,11,12,*]

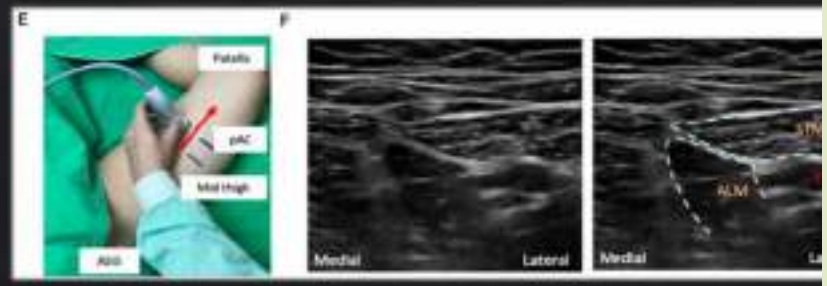
Nomenclatura unificata per classificare anatomicamente i vari approcci ACB esistenti:

- **Blocco del triangolo femorale (FTB):** diffusione su SN e sul NVM, migliore effetto analgesico, minima diffusione in fossa poplitea.
- **ACB prossimale (p-ACB):** effetto analgesico paragonabile a quello del FNB o del FTB senza aumentare la debolezza del muscolo quadricipite dopo un intervento al ginocchio.
- **ACB distale (d-ACB):** fornisce migliore analgesia al compartimento posteriore del ginocchio

Conclusioni

p-ACB è una scelta migliore perché :

- non determina aumento della debolezza del muscolo quadricipite
- il nervo safeno si trova costantemente solo nel canale adduttore prossimale infatti il SN perfora la VAM a metà del CA.



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Raccomandazioni PROSPECT: analgesia multimodale dopo intervento di TKA

RESULTS A total of 151 systematic reviews were analysed, 106 RCTs met PROSPECT criteria. Paracetamol and non-steroidal anti-inflammatory or cyclo-oxygenase-2-specific inhibitors are recommended. This should be combined with a single shot adductor canal block and peri-articular local infiltration analgesia together with a single intra-operative dose of intravenous dexamethasone. Intrathecal morphine (100 μg) may be considered in hospitalised patients only in situations when both adductor canal block and local infiltration analgesia are not possible. Opioids should be reserved as rescue analgesics in the postoperative period. Analgesic interventions that could not be recommended were also identified.

Pain management after total knee arthroplasty

PROcedure SPEcific Postoperative Pain ManagemenT recommendations

Patricia M. Lavandhomme, Henrik Kehlet, Narinder Rawal and Girish P. Joshi, on behalf of the PROSPECT Working Group of the European Society of Regional Anaesthesia and Pain Therapy (ESRA)

Eur J Anaesthesiol 2022; **39**:743–757

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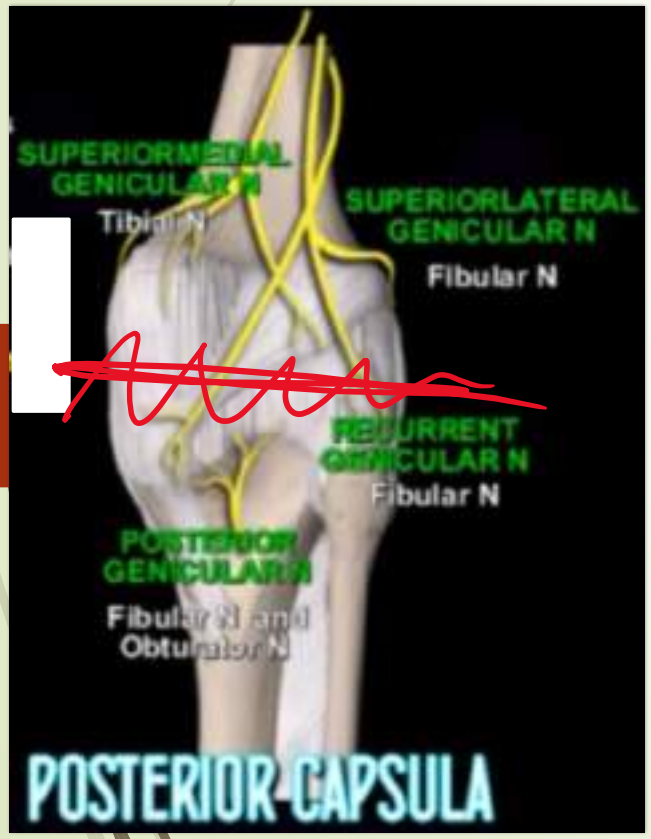
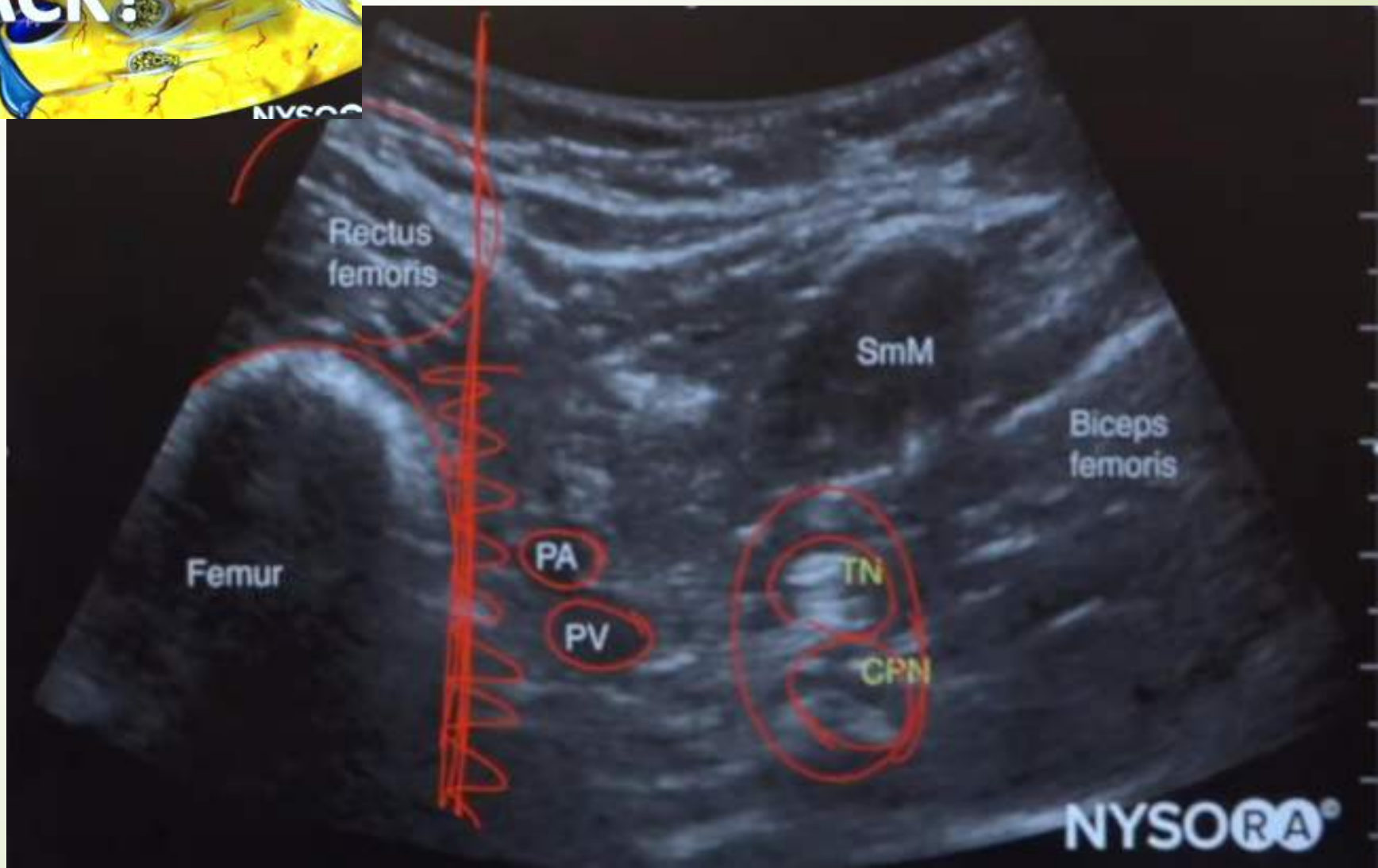
WHAT IS iPACK?
Rectus femoris
Sartorius
SmM
StM
Biceps femoris


SUPERIORMEDIAL GENICULAR N
Tibial N
SUPERIORLATERAL GENICULAR N
Fibular N
RECURRENT GENICULAR N
Fibular N
POSTERIOR GENICULAR N
Fibular N and Obturator N
POSTERIOR CAPSULA


Rectus femoris
SmM
Biceps femoris
Femur
PA
PV
TN
CPN
NYSORA

ORIGINAL RESEARCH

Ochsner Journal 17:233–238, 2017
© Academic Division of Ochsner Clinic Foundation

Novel Regional Techniques for Total Knee Arthroplasty Promote Reduced Hospital Length of Stay: An Analysis of 106 Patients

Salman Thobhani, MD,[1] Lauren Scalercio, MD,[1] Clint E. Elliott, MD,[1,2] Bobby D. Nossaman, MD,[1,2] Leslie C. Thomas, MD,[1] Dane Yuratich, MD,[1] Kim Bland, MD,[1] Kristie Osteen, MD,[1,2] Matthew E. Patterson, MD[1,2]

[1]Department of Anesthesiology, Ochsner Clinic Foundation, New Orleans, LA [2]The University of Queensland School of Medicine, Ochsner Clinical School, New Orleans, LA

Figure 1. Infiltration between the popliteal artery (PA) and the capsule of the knee block image shows the orientation and anatomy of the popliteal fossa. The PA and the femoral condyles (white arrows) are visible.

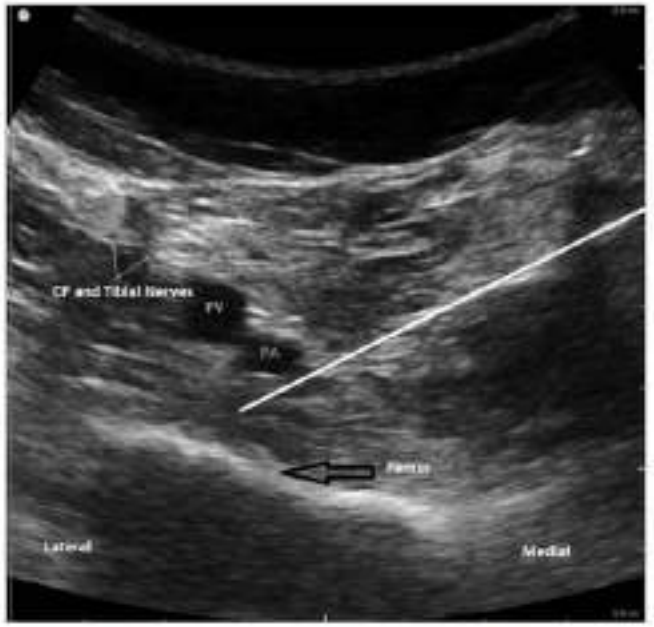
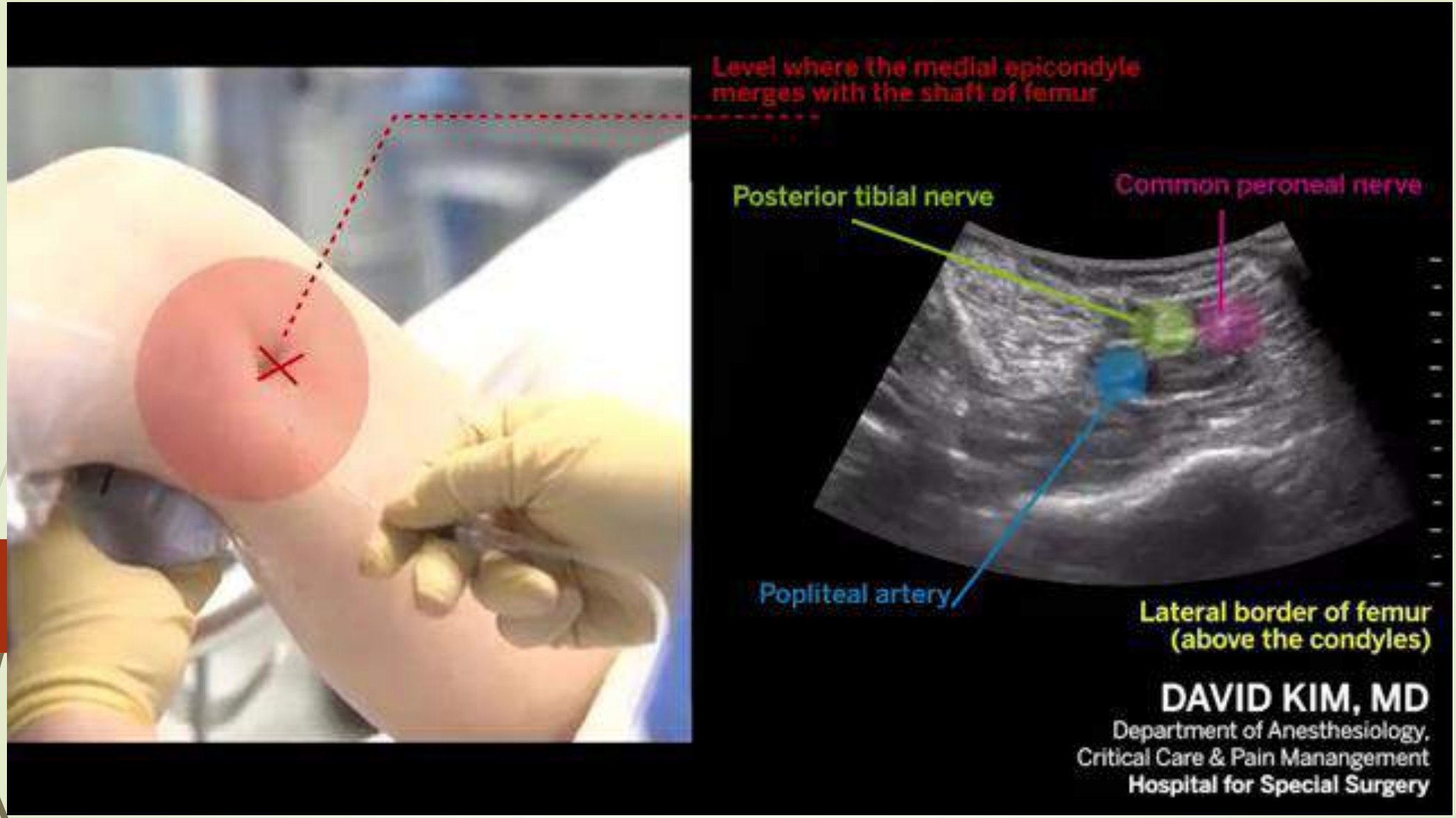


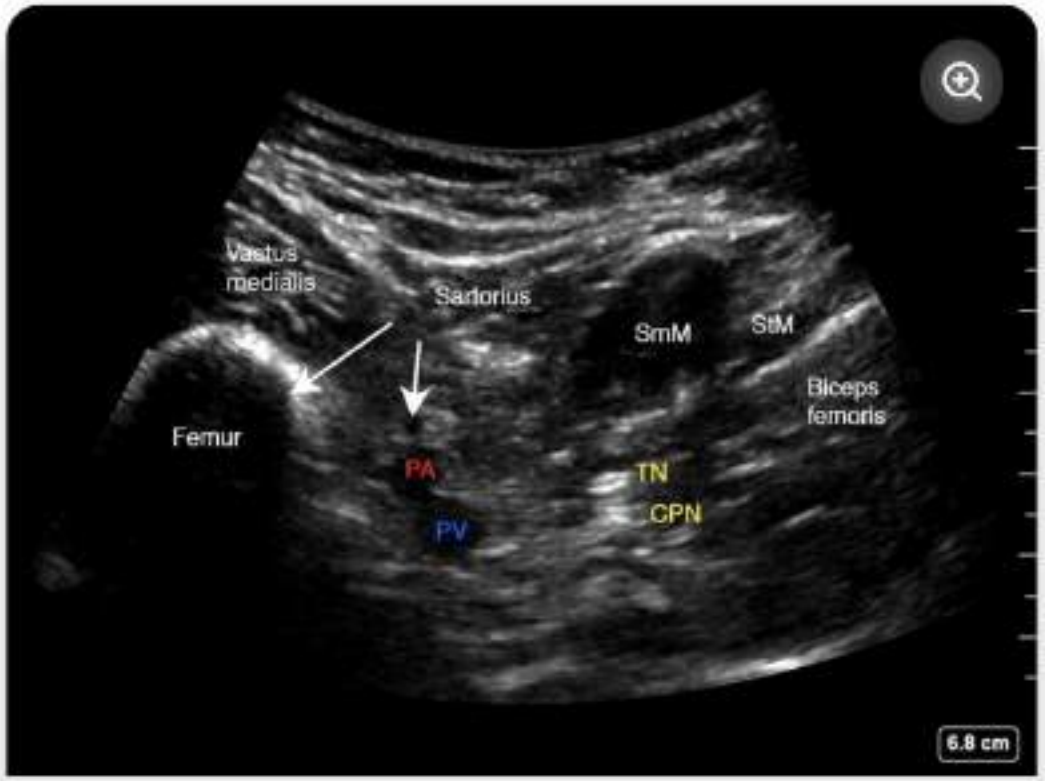
Figure 2. Infiltration between the popliteal artery (PA) and the capsule of the knee block image proximally aligned to visualize the shaft of the femur (black arrow) with the common peroneal (CP) and tibial nerves. The popliteal vein (PV) and PA are both visible, and the stylized needle (white line) identifies the site for local anesthetic deposition.

iPACK Block

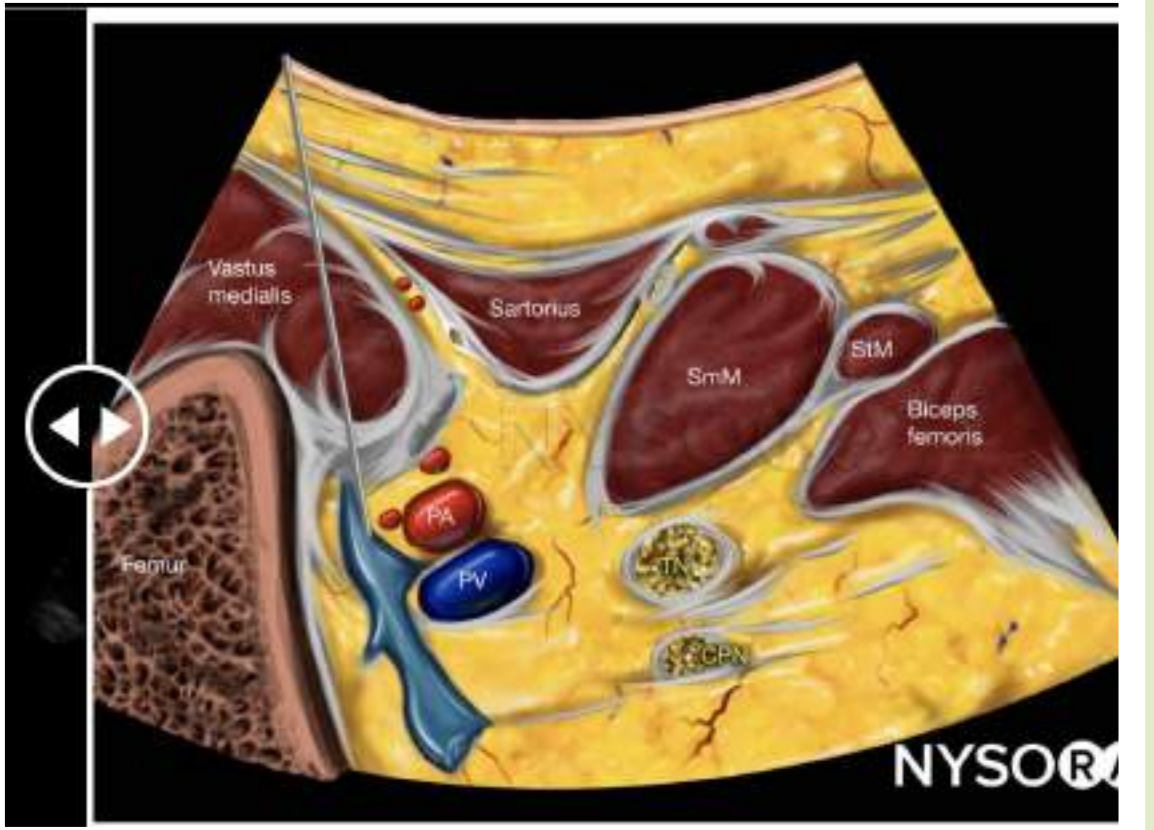
CONCLUSION

This study demonstrates that a single-shot IPACK block reduces opioid consumption by providing effective supplemental analgesia for TKA. Furthermore, the ACB with IPACK block improves physical therapy performance and allows earlier hospital discharge than an FNC block alone or an FNC block with IPACK block.


Level where the medial epicondyle merges with the shaft of femur
Posterior tibial nerve
Common peroneal nerve
Popliteal artery
Lateral border of femur (above the condyles)
DAVID KIM, MD
Department of Anesthesiology, Critical Care & Pain Manangement
Hospital for Special Surgery



SmM, semimembranosus muscle; PA, popliteal artery; PV, popliteal vein; TN, tibial nerve; CPN, common peroneal nerve.

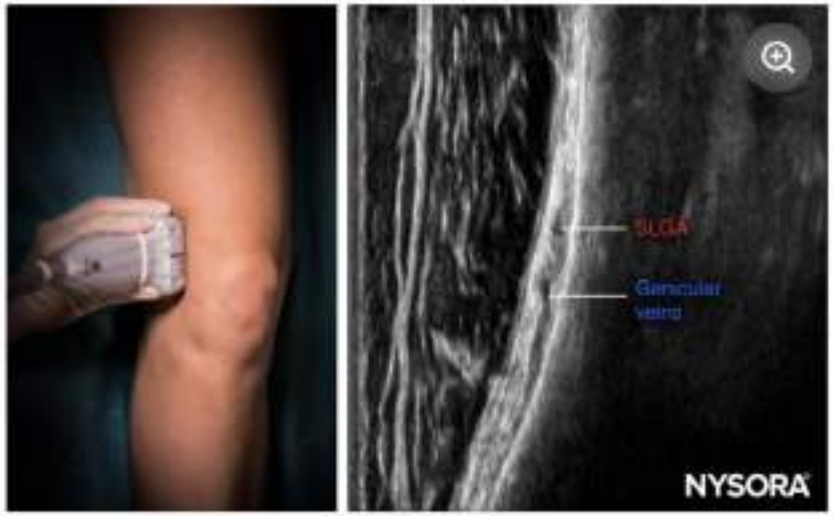


IPACK - Anestetici

- 15- 30 ml (non superare 0.4-0.5 ml/kg)
- Levobupivacaine 0.2%-0.5%
- Ropivacaina 0.2 %- 0.5%
- Desametasone

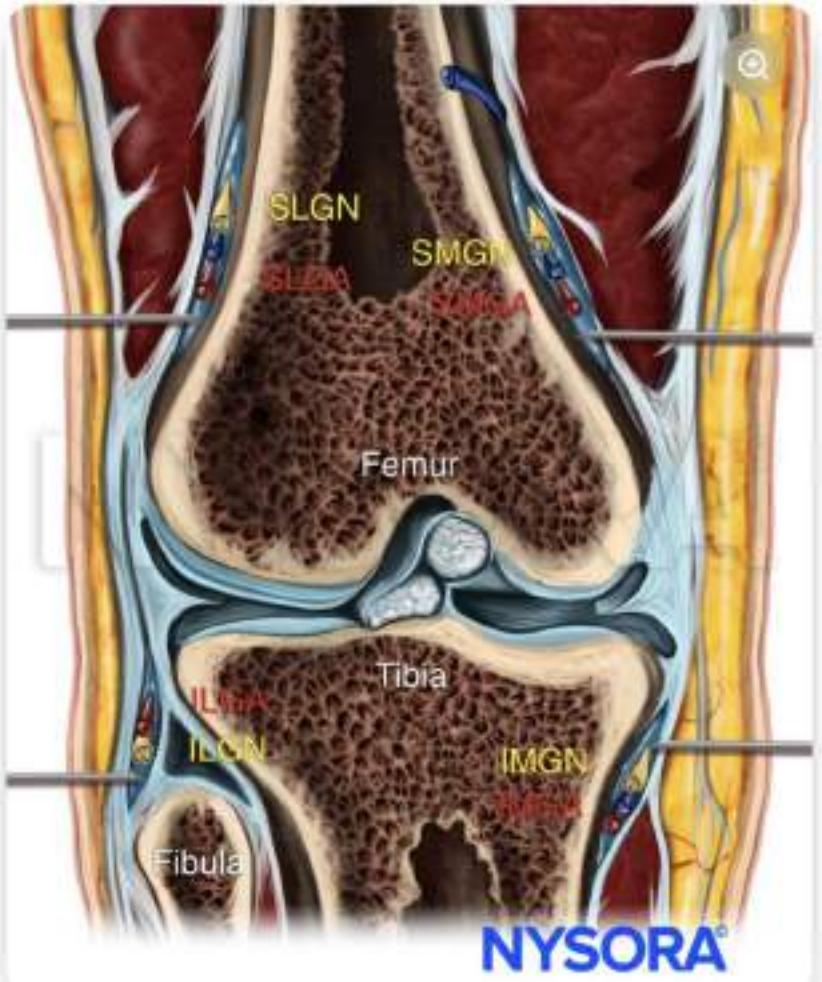
Transducer position and scanning

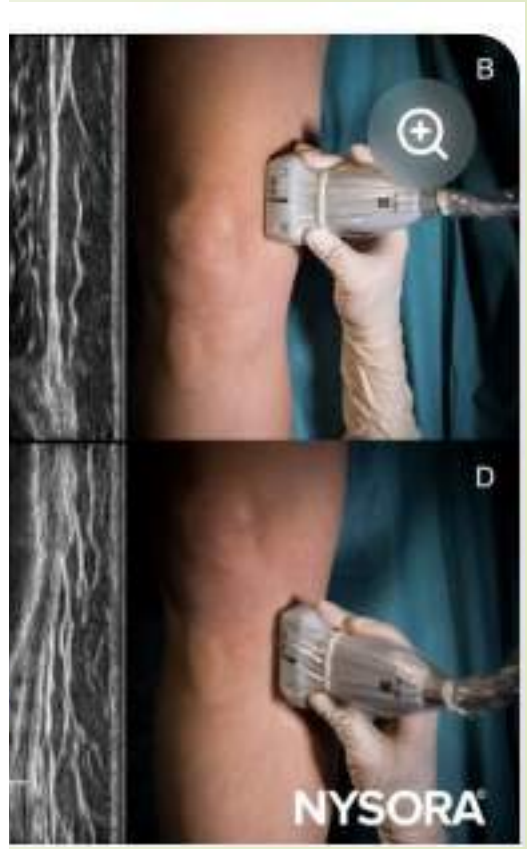
- **SLGN:** Place the transducer in a coronal orientation over the lateral epicondyle of the femur and then move proximally to visualize the metaphysis of the bone. The superolateral genicular artery may be seen at this level between the deep fascia of the vastus lateralis and the femur (A).



SLGA, superolateral genicular artery.

- **Goal:** Local anesthetic spread next to the genicular arteries (if visible) or at the junction of the epiphysis and diaphysis of the femur and tibia





- **Blocco della fascia iliaca**

TABELLA 31.2 INDICAZIONI E DOSAGGI DI AL NEL BLOCCO DELLA FASCIA ILIACA.

Indicazione	Dosaggi
Frattura di femore	Volume: 30-40ml Anestetici indicati: • levobupivacaina 0,25% o 0,375% • ropivacaina 0,25% o 0,375%
Artroprotesi del ginocchio	
Artroprotesi d'anca	
Trattamento del dolore cronico	Nessuna evidenza scientifica
Analgesia pediatrica (chirurgia ed artroscopia del femore)	Ropivacaina 0,2% (dosi da 0,35 a 0,60 mL/kg)

Programma fisioterapico pre-operatorio

Ricovero il giorno dell'intervento

ALR + blocchi nervosi antalgici ecoguidati:

Desametasone mg 8 ev+ **A.Spinale** con bupivacaina iperbarica 0,5% mg 10, **ACBp** (Ropivacaina 0,5% 20 ml), **Ipack block** (Ropivacaina 0,25% 20 ml) o **LIA**

Non utilizzo di tourniquet né di drenaggio.

Acido tranexamico per via endovenosa

Il paziente inizia riabilitazione fisioterapica dal giorno 0 con mobilizzazione immediata per recupero del ROM, isometria del quadricipite e deambulazione con carico completo

Preferire FANS agli oppioidi

Dimissione in terza/quarta giornata

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Local Anesthetic Peripheral Nerve Block Adjuvants for Prolongation of Analgesia: A Systematic Qualitative Review

Meghan A. Kirksey[1,2], Stephen C. Haskins[1,2], Jennifer Cheng[1], Spencer S. Liu[1,2]*

PLOS ONE | DOI:10.1371/journal.pone.0137312 September 10, 2015

Table 3. Summary of findings and recommendations.

Agent	Summary/Recommendations	Grade of Recommendation (level of evidence)[9]
Buprenorphine	Buprenorphine can significantly prolong PNB. Concern for PONV merits multimodal antinausea prophylaxis.	A (1b)
Epinephrine	May prolong blockade by a minimal amount (45–60min). High doses can result in systemic absorption, tachycardia, and hypertension. Avoid use in patients with preexisting neurovascular compromise, such as diabetic neuropathy.	A (1b)
Clonidine	Prolongs blockade with bupivacaine but does not appear to be effective with ropivacaine or levobupivacaine. *Meta-analysis of 20 other papers shows ~2 h prolongation of nerve block. High doses (2mcg/kg) can cause hypotension, bradycardia, and sedation via systemic absorption.	A (1a, 1b)
Dexmedetomidine	Evidence supports block prolongation from 1–8h depending on the block and local anesthetic. *Meta-analysis of 4 other papers shows prolongation, but was not statistically significant. May increase bradycardia and sedation intraoperatively.	A (1a, 1b)
Dexamethasone	Perineural dexamethasone likely prolongs nerve blockade; however, analgesic effect is similar with systemic dexamethasone. Its use may decrease rates of PONV in procedures with high incidence. *Meta-analysis of 9 other papers supports prolongation of brachial plexus blocks compared to dexamethasone free controls.	A (1a, 1b)

Post-Operative Phase

- ✓ **Analgesia:**

  Multimodalità: Blocchi periferici con adiuvanti – Blocchi perifierici in continuo – Paracetamolo – FANS – Oppiodi

- ✓ **Intolleranza Ortostatica:**

  Incidenza 40% 6h post-op / 20% 12h post-op
  PAS ↓ 20 mmHg / PAD ↓ 10 mmHg → svenimento, nausea, vomito

- ✓ **PONV:**

  Tecniche di Anestesia – Analgesia loco-regionale **opioid free/opioid sparing**, premedicazione con Desametasone.

- ✓ **Ritenzione Urinaria:**

  Legato all'anestesia spinale
  Utilizzo CV fattore di rischio per infezione delle vie urinarie

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Post-Operative Phase

- ✓ Tromboprofilassi
- ✓ Mobilizzazione Precoce

Vero limite alla dimissione precoce

Obiettivi funzionali progressivi per garantire il pieno recupero dell'autonomia = sicura dimissione ospedaliera

- **Esercizi muscolari isometrici + articolarità attiva**
- **Passaggi posturali + Ortostasi**
- **Deambulazione (Rieducazione al passo + uso ausilii)**
- **Scale (utilizzo ausilii)**
- **ADL (lavarsi, vestirsi, mangiare)**

Necessita presenza costante di staff fisioterapico

Q3 - Qual è la profilassi ottimale per il TEV dopo l'intervento di PTG/PTA?

Risposta/Raccomandazione. L'ASA a basso dosaggio è attualmente il metodo più efficace e più sicuro di profilassi contro il TEV nei pazienti sottoposti a intervento di TJR. Si raccomanda l'uso di ASA a basso dosaggio come metodo primario di profilassi del TEV in tutti i pazienti sottoposti a TJR, compresi i pazienti a rischio da moderato ad alto.
Forza della Raccomandazione. Forte.
Voto dei delegati. D'accordo 76.92%, in disaccordo 19.66%, astenuti 3.42% (forte consenso).
Anche con l'avvento di nuovi anticoagulanti più potenti, la tradizionale ASA a basse dosi resta il metodo ottimale di profilassi del TEV dopo TJR. I risultati di questa metanalisi, unitamente alla letteratura pubblicata in precedenza, ribadiscono la posizione dell'ASA a basso dosaggio come agente efficace, sicuro, ampiamente disponibile ed economico. L'analisi e il confronto tra gli studi sono mostrati nella Tabella I e nelle Figure 1-8.

«Prolonged bed rest postop is associated with increased Risk of thromboembolism, pulmonary complications, Insulin resistance and delayed wound healing»

Review > Reg Anesth Pain Med. 2016 Jul-Aug;41(4):501-10.
doi: 10.1097/AAP.0000000000000414.

Radiofrequency Procedures to Relieve Chronic Knee Pain: An Evidence-Based Narrative Review

Anuj Bhatia [1], Philip Peng, Steven P Cohen

Affiliations + expand

PMID: 27281721 DOI: 10.1097/AAP.0000000000000414

Abstract

Background and objectives: Chronic knee pain from osteoarthritis or following arthroplasty is a common problem. A number of publications have reported analgesic success of radiofrequency (RF) procedures on nerves innervating the knee, but interpretation is hampered by lack of clarity regarding indications, clinical protocols, targets, and longevity of benefit from RF procedures.

Methods: We reviewed the following medical literature databases for publications on RF procedures on the knee joint for chronic pain: MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, and Google Scholar up to August 9, 2015. Data on scores for pain, validated scores for measuring physical disability, and adverse effects measured at any timepoint after 1 month following the interventions were collected, analyzed, and reported in this narrative review.

Results: Thirteen publications on ablative or pulsed RF treatments of innervation of the knee joint were identified. A high success rate of these procedures in relieving chronic pain of the knee joint was reported at 1 to 12 months after the procedures, but only 2 of the publications were randomized controlled trials. There was evidence for improvement in function and a lack of serious adverse events of RF treatments.

Conclusions: Radiofrequency treatments on the knee joint (major or periarticular nerve supply or intra-articular branches) have the potential to reduce pain from osteoarthritis or persistent postarthroplasty pain. Ongoing concerns regarding the quality, procedural aspects, and monitoring of outcomes in publications on this topic remain. Randomized controlled trials of high methodological quality are required to further elaborate role of these interventions in this population.

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Periarticular vasoconstrictor infiltration: a novel technique for chemical vasoconstriction in major orthopaedic surgery

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L.I.A. In chirurgia protesica ginocchio

60 ml ropi 0.5% + 0.3 ml epinefrina (1 mg/ ml)+ 1 ml Ketorolac (30 mg/ml)+ 0.5 ml morfina (10 mg/ml)--→ sede intra e peri articolare durante

Continuous wound infiltration (CWI) : levobupi 0.2% a 10 ml/ h (prime 30 ore poi 5 ml/ h successive 30)→ catetere fino a raggiungere il condilo femorale mediale fino alla componente protesica

Chirurigia artroscopica

- Mepivacaina 2% (4-5 ml)o lidocaina 2% (4 ml) per ciascun sito del trocar. Prima della chiusura iniettare bupi 0.25% (5 ml) o levobupi 0.25% (4 ml) o ropi 0.25% (4 ml) in ciascun strato anatomico

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Aquatic exercise for the treatment of knee and hip osteoarthritis

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Abstract

Background: Osteoarthritis is a chronic disease characterized by joint pain, tenderness, and limitati of movement. At present, no cure is available. Thus only treatment of the person's symptoms and treatment to prevent further development of the disease are possible. Clinical trials indicate that aquatic exercise may have advantages for people with osteoarthritis. This is an update of a publishe Cochrane review.

Data collection and analysis: Two review authors independently selected trials for inclusion, extracted data and assessed risk of bias of the included trials. We analysed the pooled results using standardized mean difference (SMD) values.

Main results: Nine new trials met the inclusion criteria and we excluded two earlier included trials. Thus the number of participants increased from 880 to 1190 and the number of included trials increased from six to 13. Most participants were female (75%), with an average age of 68 years and a body mass index (BMI) of 29.4. Osteoarthritis duration was 6.7 years, with a great variation of the included participants. The mean aquatic exercise duration was 12 weeks. We found 12 trials at low to unclear risk of bias for all domains except blinding of participants and personnel. They showed that aquatic exercise caused a small, short term improvement compared to control in pain (SMD -0.31, 95% CI -0.47 to -0.15; 12 trials, 1076 participants) and disability (SMD -0.32, 95% CI -0.47 to -0.17; 12 trials, 1059 participants). Ten trials showed a small effect on quality of life (QoL) (SMD -0.25, 95% CI -0.49 to -0.01; 10 trials, 971 participants). These effects on pain and disability correspond to a five point lower (95% CI three to eight points lower) score on mean pain and mean disability compared to the control group (scale 0 to 100), and a seven point higher (95% CI 0 to 13 points higher) score on mean QoL compared with control group (scale 0 to 100). No included trials performed a radiographic evaluation. No serious adverse events were reported in the included trials with relation to aquatic exercise.

Authors' conclusions: There is moderate quality evidence that aquatic exercise may have small, short-term, and clinically relevant effects on patient-reported pain, disability, and QoL in people with knee and hip OA. The conclusions of this review update does not change those of the previous published version of this Cochrane review.

European Society of Regional Anaesthesia & Pain Therapy

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Strategie alternative

- TENS :che nel caso dell'applicazione su pazienti sottoposti a PTG, si è rivelata avere un potere analgesico collegato esclusivamente ad un effetto placebo, come dimostrato in un recente trial randomizzato, cieco e controllato da placebo[1]
- STIMOLAZIONE TRANSCRANICA DIRETTA CON CORRENTE (tDCS) che in due recenti trial randomizzati controllati si sono rivelate efficaci nel ridurre il dolore post-operatorio e l'utilizzo di farmaci oppioidi dopo intervento di PTG[12,13]
- CRIOTERAPIA : sua diffusione è giustificata non tanto dall'evidenza scientifica della sua efficacia, ma dalla relativa facilità di somministrazione e dalla sua accettabilità da parte del paziente. Cochrane che ha valutato l'utilizzo acuto (entro 48 ore) di tale tecnica in seguito a PTG per il controllo del dolore, della perdita di sangue e il recupero della funzione[14]. In particolare, gli autori prendendo in esame 4 trial hanno trovato che c'era scarsa evidenza che la crioterapia migliori il livello del dolore dopo 48 ma non dopo 24 o 72 ore. Secondo gli autori questo **beneficio** può **non** essere **clinicamente significativo e concludono dicendo che i benefici potenziali della crioterapia possono essere troppo pochi e qualitativamente irrilevanti per giustificare il suo utilizzo**.
- TERAPIE MANUALI
- AGOPUNTURA

- *“Un dolore fisico spesso può essere domato da un antidolorifico,ma la sofferenza interiore non conosce rimedi immediati; essa è per sua stessa natura indomabile in un sol colpo…”*

- **GRAZIE PER L’ATTENZIONE!**