Evidencias anestésicas en CMA

Servando López Álvarez

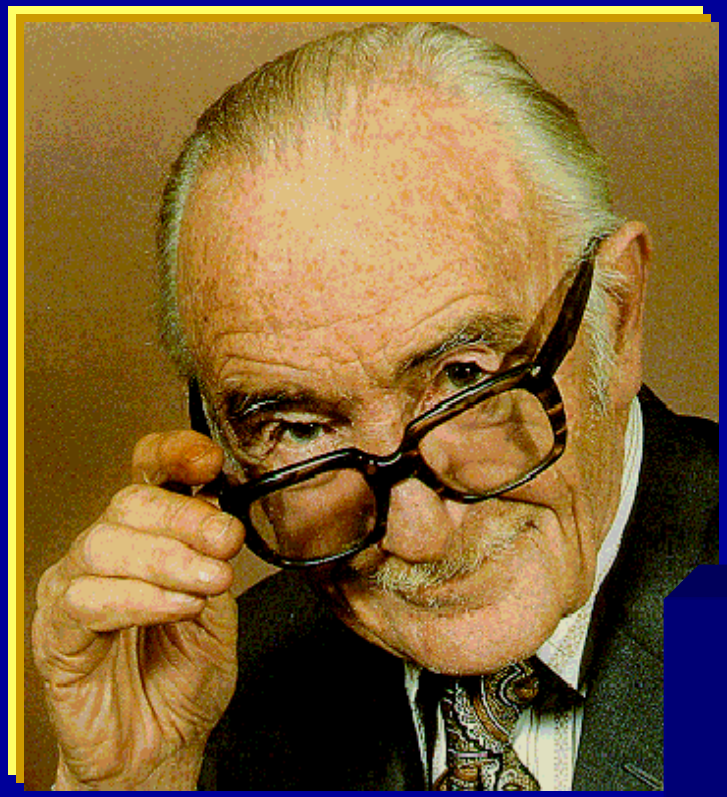
Hospital Abente y Lago. CHU Juan Canalejo. A Coruña

CONSORCIO HOSPITAL GENERAL UNIVERSITARIO DE VALENCIA

Sesión de Formación Continuada

Valencia 8 de noviembre del 2005

Professor Archibald Leman Cochrane, CBE FRCP FFCM, (1909 - 1988)



Sir Archie Cochrane

"It is surely a great criticism of our profession that we have not organised a critical summary, by specialty or subspecialty, adapted periodically, of all relevant randomized controlled trials"

ACP JOURNAL CLUB

Editorial: **1991**

JAMA

1992 Nov 4;268(17):2420-5.

Evidence-based medicine. A new approach to teaching the practice of medicine.

Evidence-Based Medicine Working Group.

Thomas Hart Benton, *The Lord Is My Shepherd*, 1926, American.

Comment in:

- JAMA. 1993 Mar 10;269(10):1253; author reply 1254.
- JAMA. 1993 Mar 10;269(10):1253; author reply 1254.

Pioneer of evidence-based medicine

Profesor David Sackett

La necesidad creciente de conocimientos

Las limitaciones de las fuentes tradicionales de información

La escasez de tiempo para el estudio

Antecedentes anestesia

- 1993: AMERICAN SOCIETY OF ANESTHESIOLOGISTS
- 1993: THE COCHRANE COLLABORATION
- 2000: **COCHRANE ANAESTHESIA GROUP**

- 2000: primer libro de MBE en Anestesiología

MBE en anestesiología

Cochrane Anaesthesia Group

- Títulos registrados: 131
- Anestesia: 782, revisiones 205
- Anestesia regional: 34, revisiones 18
- A. Regional y CA: 5 revisiones
- Protocolos: 43, de AR y CA 13

COCHRANE ANAESTHESIA GROUP

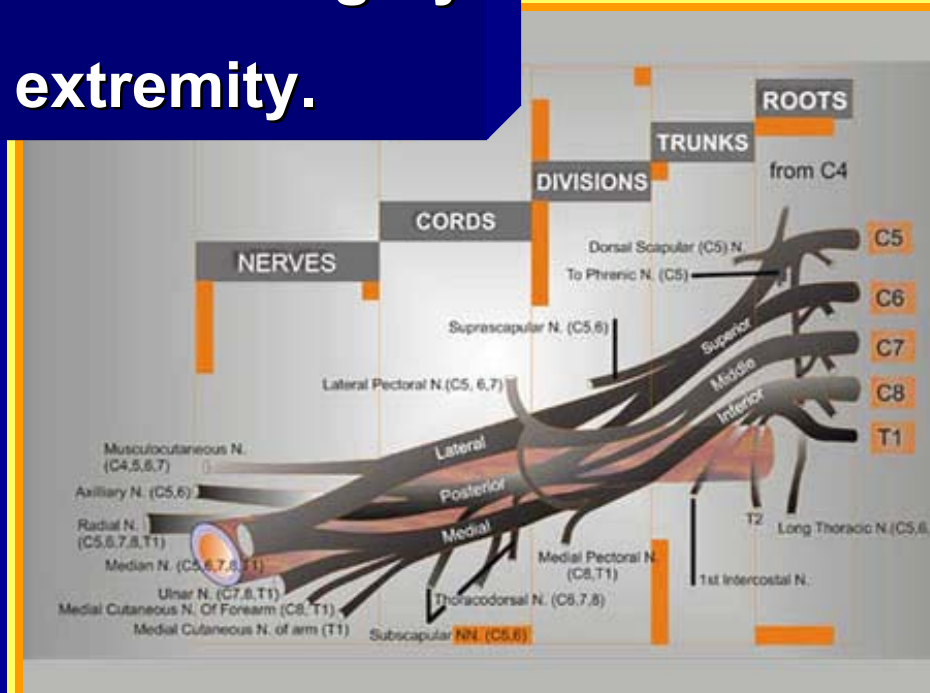
Reviews

- Premedication for anxiety in adult day surgery
- Stimulation of the wrist acupunture point P6 for preventing postoperative nausea and vomiting)
- Transient neurologic symptoms (TNS) following spinal anaesthesia with lidocaine versus other local anaesthetics

COCHRANE ANAESTHESIA GROUP

PROTOCOL

Single, double or multiple injection techniques for axillary brachial plexus block for surgery of the distal upper extremity.



Current Opinion in Anaesthesiology

Volume 15(6) December 2002 pp 661-668

Evidence-based medicine in anesthesiology

Schulman SR, Schardt C, Erb TO.

ANESTHESIA & ANALGESIA

Volume 92(3) March 2001 pp 787-794

Evidence-Based Medicine in Anesthesiology

Pronovost PJ, Berenholtz SM, Dorman T, Merritt WT, Martinez EA, Guyatt GH.

Volume 95(4) October 2002 pp 1012-1018

The Mission of the Cochrane Anesthesia Review Group: Preparing and Disseminating Systematic Reviews of the Effect of Health Care in Anesthesiology

Pedersen T, Møller A, Cracknell JR

Definición

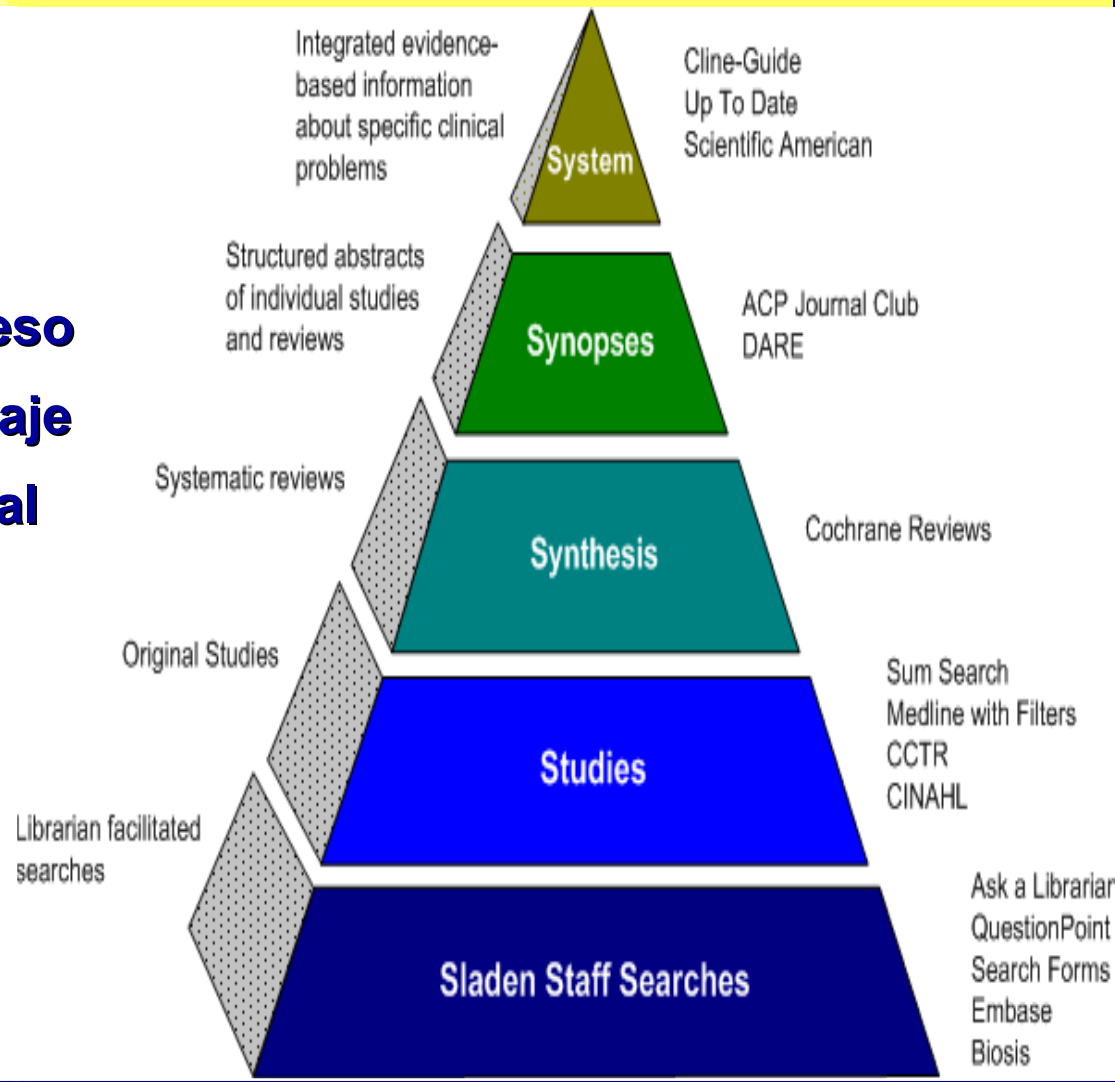
- Consiste en integrar en la experiencia clínica individual la mejor evidencia externa disponible
- Los elementos claves son:

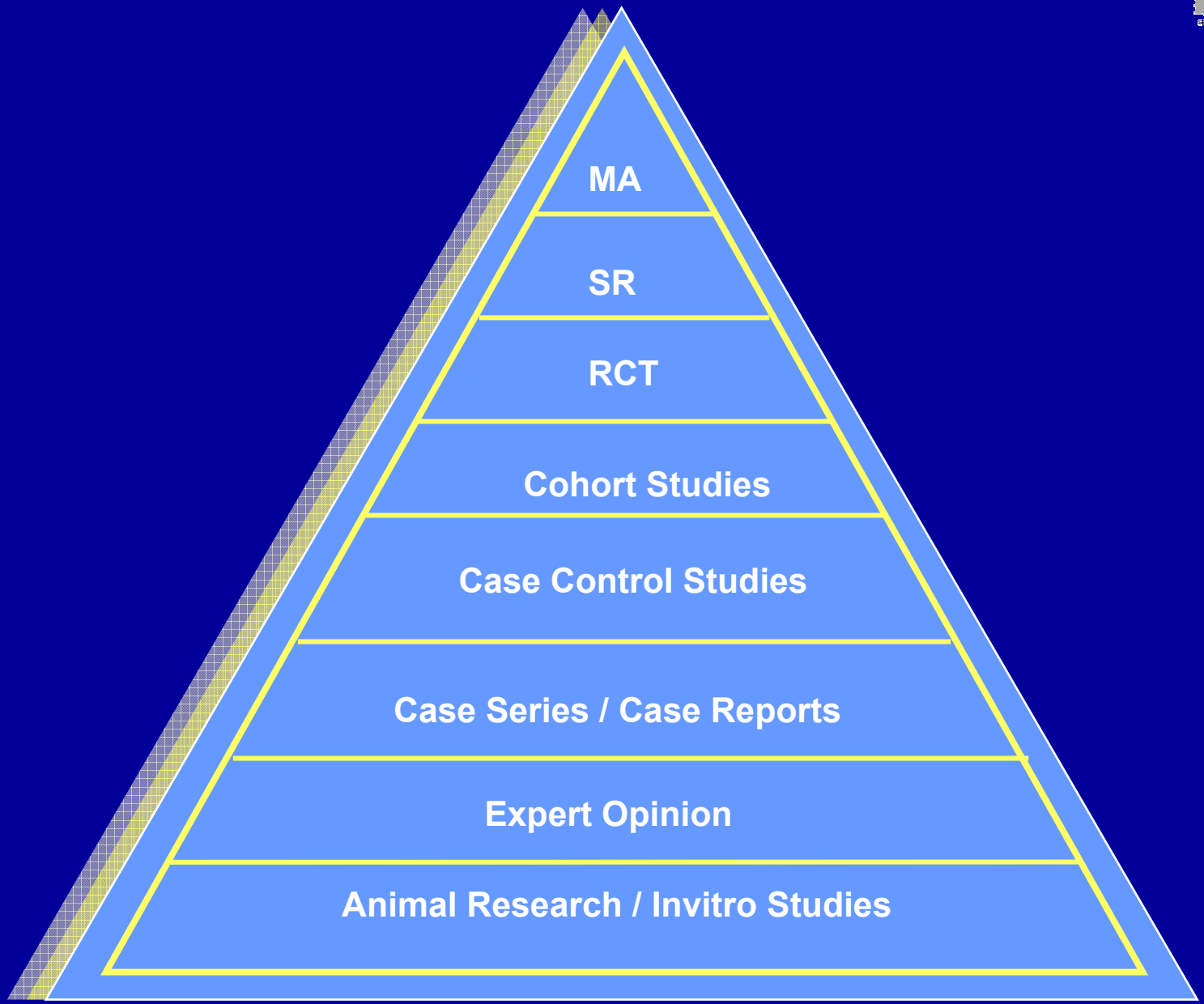
Metodología de trabajo

- Convertir la necesidad de información en preguntas susceptibles de respuestas
- Localizar las mejores evidencias con que responder
- Análisis crítico de los estudios
- Aplicación de las conclusiones a la práctica
- Evaluación de resultados

mplicaciones

Implica un proceso de autoaprendizaje y una actitud vital de búsqueda y actualización permanente




MA
SR
RCT
Cohort Studies
Case Control Studies
Case Series / Case Reports
Expert Opinion
Animal Research / Invitro Studies

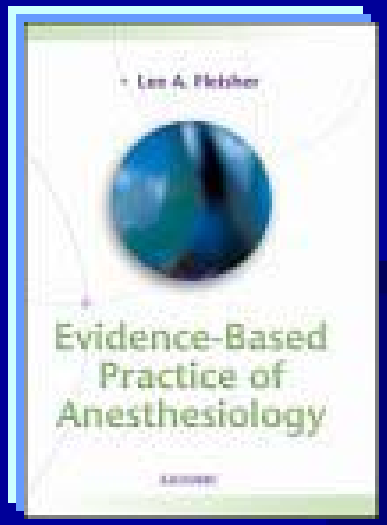
Niveles de evidencia

Grados de Recomendación basados en la Evidencia disponible		
	Nivel de evidencia sobre la que se basa	**Significado**
Grado A	**Existe evidencia satisfactoria, por lo general de nivel 1 (meta-análisis o ensayos clínicos randomizados y controlados) que sustenta la recomendación. (*)**	**Hay buena o muy buena evidencia para recomendarla.**
Grado B	**Evidencias de nivel 2 (ensayos clínicos bien diseñados y controlados aunque no randomizados)**	**Existe evidencia razonable para recomendarla.**
Grado C	**Existe pobre evidencia. Hallazgos inconsistentes. Deben ser sometidas a la aprobación del grupo de consenso.**	**Después de analizar las evidencias disponibles con relación a posibles sesgos, el grupo de consenso las admite y recomienda la intervención.**
Grado D	**Existe muy pobre evidencia. Evidencia empírica pobre o no sistemática.**	**Los estudios disponibles no pueden ser utilizados como evidencia, pero el grupo de consenso considera por experiencia que la intervención es favorable y la recomienda**
(*) En situaciones muy especiales, cuando el evento es mortalidad, especialmente ante una enfermedad previamente fatal, ésta puede deberse a evidencias de menor nivel.		

Clasificación de la evidencia científica según el diseño de estudio

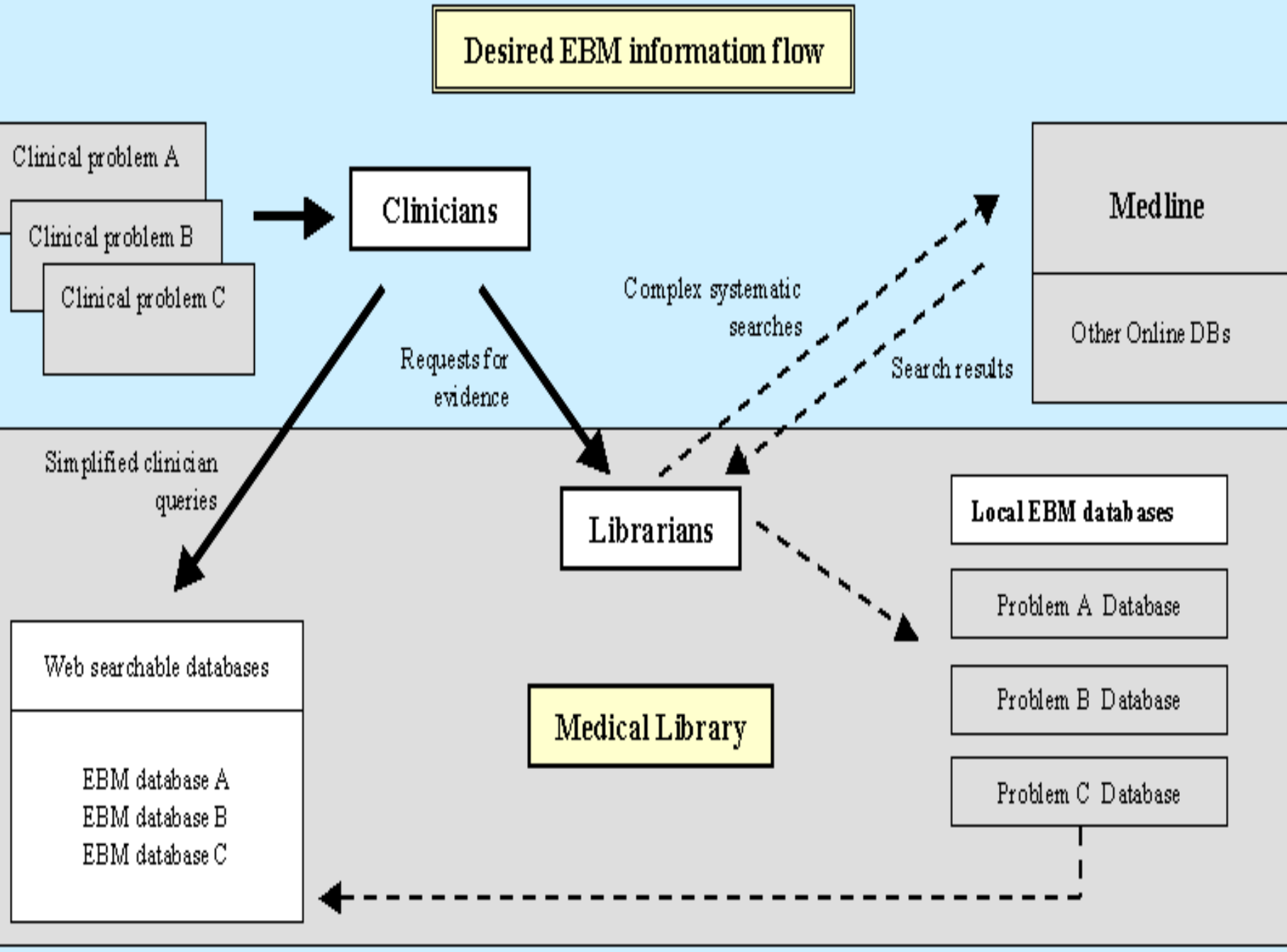
(tomado de US Preventive Task Force)

I	Evidencia obtenida a partir de al menos un ensayo aleatorizado y controlado diseñado de forma apropiada
II	1.Evidencia obtenida de ensayos controlados bien diseñados, sin randomización 2.Evidencia obtenida a partir de estudios de cohorte o caso-control bien diseñados, realizados preferentemente en más de un centro o por un grupo de investigación 3.Evidencia obtenida a partir de múltiples series comparadas en el tiempo con o sin intervención
III	Opiniones basadas en experiencias clínicas, estudios descriptivos o informes de comités de expertos



...las técnicas anestésicas deben estar basadas en evidencias sin arrastar empirismos.

Existe todavía poco terreno para sentar evidencias científicas en anestesia y la implantación de criterios de evidencia científica en un servicio de anestesiología no es tarea fácil.


Desired EBM information flow
Clinical problem A
Clinical problem B
Clinical problem C
Clinicians
Medline
Other Online DBs
Complex systematic searches
Search results
Requests for evidence
Simplified clinician queries
Librarians
Local EBM databases
Problem A Database
Problem B Database
Problem C Database
Web searchable databases
EBM database A
EBM database B
EBM database C
Medical Library

Canadian Journal of Anesthesia
Journal canadien d'anesthésie

2004 Oct;51(8):768-81.

2004 Oct;51(8):782-94.

Patient selection in ambulatory anesthesia - an evidence-based review: part I.

Bryson GL, Chung F, Finegan BA, Friedman Z, Miller DR, van Vlymen J, Cox RG, Crowe MJ, Fuller J, Henderson C

Patient selection in ambulatory anesthesia - an evidence-based review: part II.

Bryson GL, Chung F, Cox RG, Crowe MJ, Fuller J, Henderson C, Finegan BA, Friedman Z, Miller DR, van Vlymen J

Canadian Journal of Anesthesia
Journal canadien d'anesthésie

La influencia de la edad y la HTA en los resultados perioperatorios es de poca consistencia	Grado D
Los pacientes con EPOC tienen aumentado el riesgo de complicaciones respiratorias	Grado A
La enfermedad coronaria previa incrementa el riesgo de eventos cardiovasculares	Grado B
El riesgo de complicaciones perioperatorias aumenta en SAOS	Grado C
La diabetes no predice riesgo de complicaciones postoperatorias	Grado A
La obesidad incrementa el riesgo de eventos respiratorios intra y postoperatorios, pero no aumenta el riesgo de ingresos inesperados	Grado A

Premedicación para la ansiedad en la cirugía ambulatoria en adultos

Smith A F, Pittaway A J

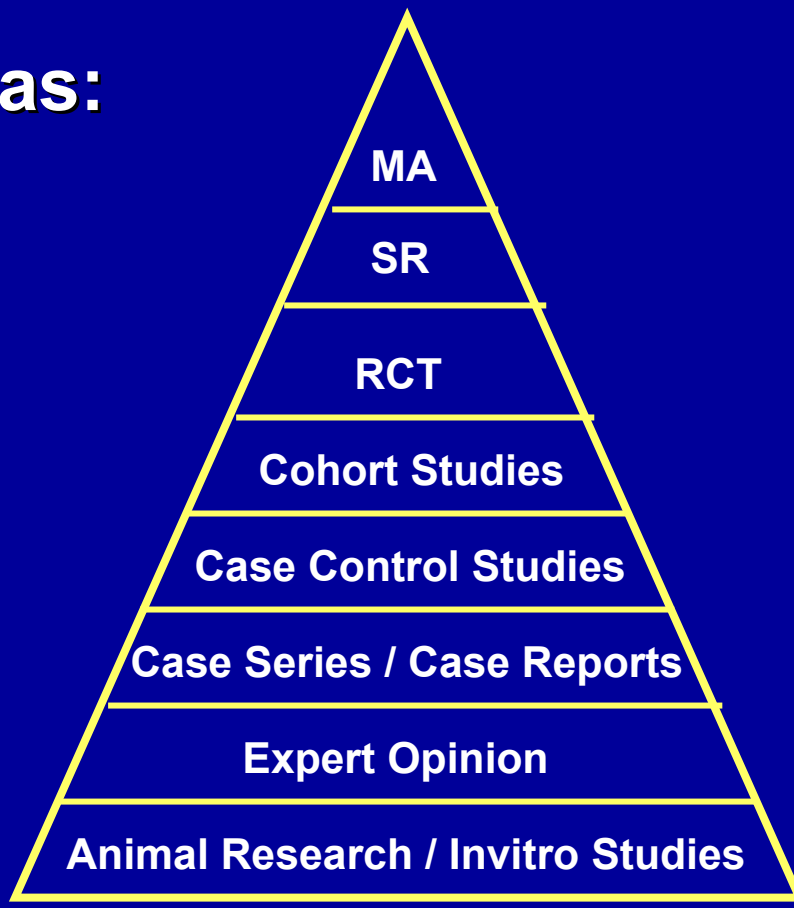
Conclusiones de los autores

No se encontraron pruebas acerca de una diferencia en el tiempo transcurrido hasta el alta hospitalaria, según lo evaluado por los criterios clínicos en los pacientes que recibieron medicación ansiolítica prequirúrgica. Sin embargo, debido a la antigüedad y variedad de las técnicas anestésicas utilizadas, las inferencias para la práctica ambulatoria actual deberían realizarse con cuidado.

¿Es la Anestesia Regional apropiada para Cirugía Ambulatoria?

Las evidencias sobre AR comparadas con AG deben ser revisadas:

- Tiempo de descarga
- Analgesia postoperatoria
- NVPO
- Utilización de quirófanos
- Satisfacción del paciente
- Complicaciones



Peripheral Nerve Blocks Result in Superior Recovery Profile Compared with General Anesthesia in Outpatient Knee Arthroscopy.

Anesth Analg 2005 Apr;100(4):976-981.

We hypothesized that a combination of lumbar plexus and sciatic blocks using a short-acting local anesthetic will result in shorter time-to-discharge-home as compared with GA. Patients scheduled to undergo knee arthroscopy were randomized to receive a GA (midazolam, fentanyl, propofol, N(2)O/O(2)/desflurane via laryngeal mask airway) or lumbar plexus/sciatic block (PNBs; 2-chloroprocaine). Patients given GA also received an intraarticular injection of 20 mL 0.25% bupivacaine for postoperative pain control. Patients in the PNB group were given midazolam (up to 4 mg) and alfentanil (500-750 mug) before block placement and propofol 30-50 mug . kg(-1) . min(-1) for intraoperative sedation. Relevant perioperative times, postanesthesia care unit bypass rate, severity of pain, and incidence of complications were compared between the two groups. Fifty patients were enrolled in the study; 25 patients each received GA or PNBs. Total operating room time did not differ significantly between the 2 groups (97 +/- 37 versus 91 +/- 42 min). Seventy-two percent of patients receiving PNB met criteria enabling them to bypass Phase I postanesthesia care unit compared with only 24% of those receiving GA ($P < 0.002$). Time to meet criteria for discharge home (home readiness) and time to actual discharge were significantly shorter for patients given PNBs than for patients given GA (131 +/- 62 versus 205 +/- 94 and 162 +/- 71 versus 226 +/- 96, respectively). **Under the conditions of our study, the combination of lumbar plexus and sciatic blocks with 2-chloroprocaine 3% was associated with a superior recovery profile compared with GA in patients having outpatient knee arthroscopy.**

Anesthesiology

2005; 102:1001-1007

For Outpatient Rotator Cuff Surgery, Nerve Block Anesthesia Provides Superior Same-day Recovery over General Anesthesia

Methods: In this clinical trial, 50 consenting outpatients (aged 18–70 yr) were randomly assigned to receive either fast-track general anesthesia followed by bupivacaine (0.25%) wound infiltration or interscalene brachial plexus block (0.75% ropivacaine), each under standardized protocols.

Results: Patients who received nerve block (*vs.* general anesthesia) bypassed the postanesthesia care unit more frequently (**76 *vs.* 16%;** $P < 0.001$), reported less pain, ambulated earlier, were ready for home discharge sooner (**123 *vs.* 286 min**; $P < 0.001$), had no unplanned hospital admissions (*vs.* 4 of 25 patients who underwent general anesthesia; $P = 0.05$), and were more satisfied with their care. No complications were reported in either treatment group.

Conclusions: **Nerve block anesthesia for outpatient rotator cuff surgery provides several same-day recovery advantages over general anesthesia.**

JAMA 2002;288:629-632.

Multimodal Pain Management Strategies for Office-Based and Ambulatory Procedures

James C. Crews, MD

INTRODUCTION

Office-based surgical procedures account for up to 25% of all elective surgical procedures performed in the United States.[1] Ambulatory surgical procedures now make up 70% of the total volume of hospital-based elective surgical procedures.[2] More major surgical procedures are being performed on an ambulatory or 23-hour hospital stay basis including intra-abdominal, intrathoracic, and major orthopedic procedures. Postoperative pain, nausea, and vomiting are the most common factors leading to delays in outpatient discharge and admissions to the hospital following ambulatory surgery.[3-4] An understanding of the pharmacologic concepts and pain management techniques for those office-based procedures performed within the scope of a primary care practice, and for patients undergoing hospital-based ambulatory (outpatient) surgical procedures, is a crucial component in the continuing education of the primary care physician.

Canadian Journal of Anesthesia
Journal canadien d'anesthésie

51:326-341 (2004)

Evidence-based management of postoperative nausea and vomiting a review

TABLE VI Strategies to keep the baseline risk of postoperative nausea and vomiting low

A. Use of regional anesthesia (IVA)[15]

B. Avoid emetogenic stimuli:

- Nitrous oxide (IIA)[2,9,4]
- Inhalational agents (IA)[8]
- Etomidate and ketamine (V)[77]

C . Minimize the following:

- Intraoperative (IIA) and postoperative (IVA) opioids.[2,10–13]

Adequate analgesia should, however, be achieved by incor- porating local anesthetics, non-steroidal anti-inflammatory drugs, and opioids as required

- The dose of neostigmine (IIA).[14] Consider limiting the dose to a maximum of 2.5 mg in adults (V).

D. Consider the following:

- Total *iv* anesthesia (TIVA) with propofol (IA)[36]
- Adequate hydration (IIIA)[106], especially with colloids (IIIA)[107]
- Use of intraoperative supplemental oxygen (FIO_2 = 0.8) (IIIB)[103,104]
- Anxiolytics, e.g., benzodiazepines (IIIB)[92–94]
- Non-pharmacological techniques e.g., acupuncture (IIA)[38]
- $_2$-adrenergic agonists e.g. clonidine (IIIA)[101,102]

Estimulación del punto de acupuntura P6 de la muñeca para la prevención de náuseas y vómitos en el período postoperatorio

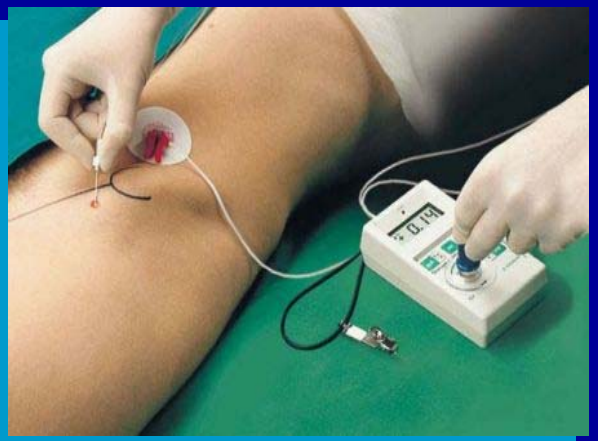
Lee A, Done ML

Conclusiones de los autores

Esta revisión sistemática apoya el uso de la estimulación del punto de acupuntura P6 en los pacientes sin tratamiento de profilaxis con antieméticos. En comparación con la profilaxis con antieméticos, la estimulación del punto de acupuntura P6 parece reducir el riesgo de náuseas, pero no de vómitos.

Localización de plexos

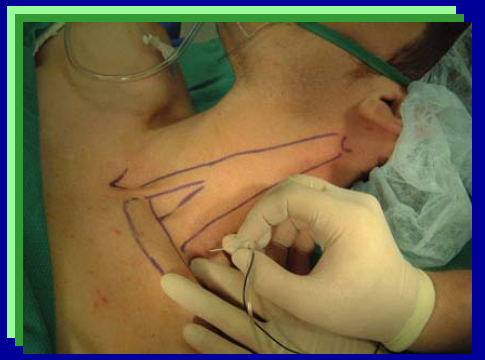
- Estimulación simple o múltiple.
- Intensidad óptima de estimulación.
- Neuroestimulación y riesgo de lesión nerviosa.
- Catéteres estimulables para bloqueos periféricos continuos.



PubMed

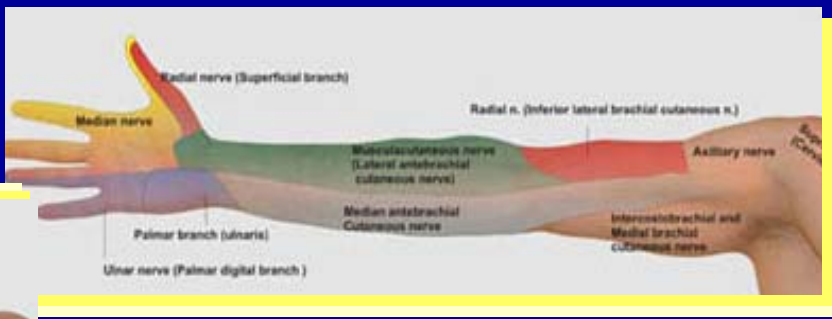
National Library of Medicine NLM

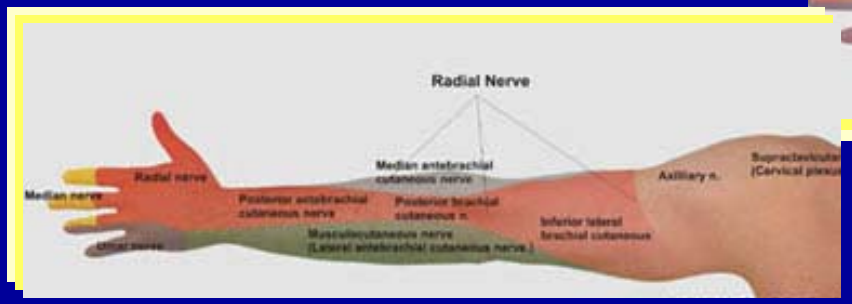
- **Search term:**
  - Regional anesthesia techniques
  - Peripheral nerve block
  - Inyection technique
  - Multiple nerve block
  - Multistimulation
- **Selection criteria:**
  - Randomized Controlled Trial



Resultados RCT

Bloqueo axilar	RCT	Nº pacientes	% éxito
Inyección simple	25	1599	69%
Doble inyección	15	697	74%
Inyección múltiple	26	1244	87%





Localización de plexos

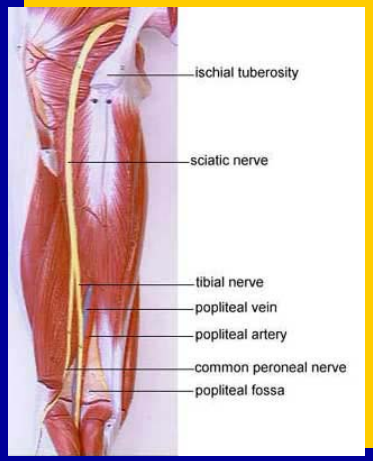
Evidencias

- El porcentaje de éxitos con el empleo de la técnica de inyección única para bloqueo axilar no esta influenciado por el método de identificación.
- Intensidad óptima de estimulación es de 0,2-0,5 mA.
- La estimulación múltiple ofrece ventajas sobre otros métodos de localización.
- No existen estudios que hayan comparado las dos técnicas, pero los datos que existen sugieren que las lesiones pueden ocurrir con cualquiera de los dos métodos.

Estudios a nivel del nervio ciático que comparan estimulación única con doble

Bloqueo ciático	RCT	Nº pacientes	% éxito
Inyección simple	4	124	65%
Doble inyección	4	126	84%

1. Bailey et al. Reg Anesth 1994
2. Paqueron et al. Anesth Analg 1999
3. Cuvillon et al. Anesthesiology 2004
4. Taboada et al. Acta Anesth Scand 2004



¿Es igual de útil la estimulación múltiple en todos los abordajes del nervio ciático?

Autor	Revista	Abordaje	Volumen	Éxitos
Domingo et al	Reg Anesth Pain Med 2004	Poplíteo lateral (n=32) Mediofemoral (n=31)	30 ml	94% 77%
Taboada et al	Anesthesiology 2004	Poplíteo lateral (n=25) Glúteo (n=25)	20 ml	68% * 96%

*** p< 0,05**

Estimulación única del nervio ciático: abordajes proximales vs dístales

Autor	Revista	Abordaje	Volumen	Éxitos
Taboada et al	Anesth Analg 2004	Poplíteo lateral (n=25) Subglúteo (n=25) Glúteo (n=25)	30 ml 30 ml 30 ml	96% 92% 92%
Fournier et al	Acta Anesth Scand 2005	Poplíteo lateral (n=138) Glúteo (n=149)	30 ml 30 ml	96% 98%
Taboada et al	Anesth Analg 2005	Lateral distal (n=25) Lateral proximal (n=25)	20 ml 20 ml	56% * 88%

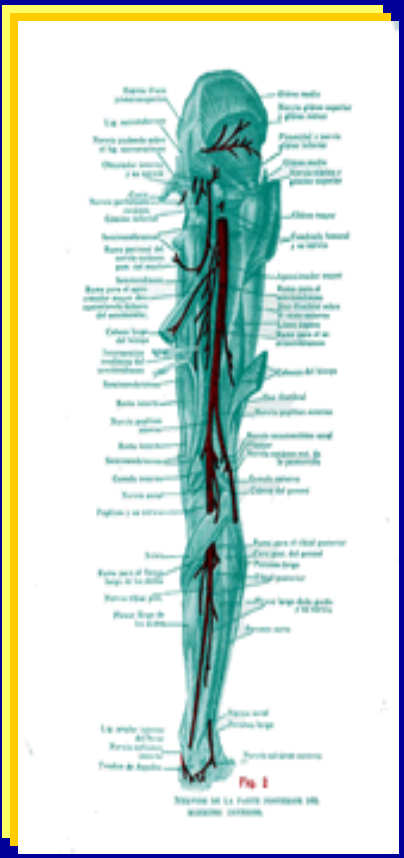
*** p< 0,05**

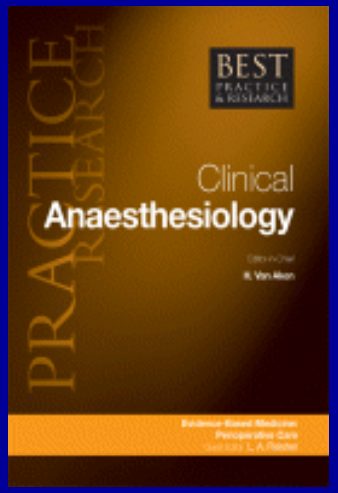
Localización nervio ciático

Evidencias

- Existen pocos estudios para poder afirmar que la estimulación múltiple sea mejor que la única.

- Factores importantes a tener en cuenta:
  - Volumen de AL y abordaje utilizado
  - Respuesta motora evocada
  - Intensidad de la neuroestimulación





Anaesthesia for outpatient knee surgery

Chester C. Buckenmaier

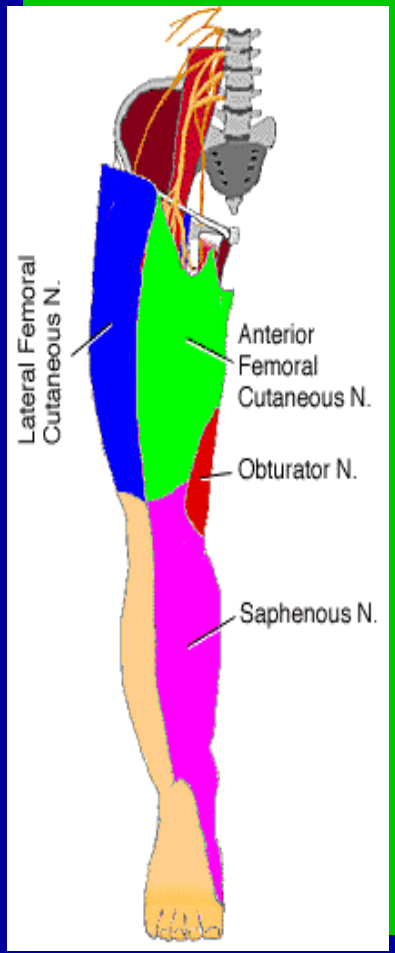
Volume 16, Issue 2, Pages 255-70 (June 2002)

Abstract

Surgical procedures of the knee are increasingly common in outpatient centres. Advances in arthroscopy and other technologies allow more complex knee procedures to be performed on an outpatient basis. This chapter focuses on the application and advantages of peripheral nerve block regional anaesthesia in the anaesthetic management of knee surgery patients. Specific nerve blocks and local anaesthetics suitable for various knee procedures are discussed. The use of perineural catheters in the outpatient management of major knee surgery patients is also considered.

PubMed National Library of Medicine NLM

- **Search term:**
  - Knee arthroscopy
  - Anesthetic technique
  - Regional vs general anesthesia
  - Peripheral nerve block
  - Perioperative outcomes
- **Selection criteria:**
  - Randomized Controlled Trial



RTC comparando técnicas anestésicas

Estudio	Nº	Técnica	Fallos	Alta	Satisfacción
Jacobson (2000)	400	IA-10 ml 0,5% Prilo SAB 60-90 Lido 5% AG propofol/alfen	16% - -	NR	90% 81% 97%
Cappelleri (2000)	50	BC + BF Mepi 2% SAB Unil 8 mg Bup	12% 4%	211+-77 246+-98	NR
Patel (1986)	90	BF BF + BC AG nitroso/opioides	15% -	55+-10 57+-9 95+-10	REG-95% AG-100%
Ben-David (1997)	50	SAB 5 mg Bup+ fen SAB 5 mg Bup	0% 24%	195+-49 187+-51	NR
Parnass* (1993)	260	AG Nitroso/iso/opioides Epidural	0% 0%	208+-8 159+-6	81% 87%
Mulroy (2000)	48	AG propofol/nitroso/fenta Epidural SAB 75 mg Procaina + fenta	0% 0% 0%	104+-31 92+-18 146+-52	94% 94% 88%
Ben-David (2001)	100	IA + propofol SAB 20 Lido + fenta	6% 0%	43(22-139) 45(28-180)	90% 90%
Wong (2001)	84	AG SAB 50 mg Lido 1%	0% 2,5%	122+-27 128+-31	89% 93%

ANESTHESIA & ANALGESIA

2004; 99:1668-73

A Comparison of Selective Spinal Anesthesia with Hyperbaric Bupivacaine and General Anesthesia with Desflurane for Outpatient Knee Arthroscopy.

In this randomized and controlled trial, 64 adult ambulatory knee arthroscopy patients received either selective spinal anesthesia (SSA) with 4 mg of hyperbaric bupivacaine or general anesthesia (GA) with desflurane. We conducted the study to determine whether SSA with small-dose bupivacaine provides equal fast-tracking possibilities, a shorter stay in the postanesthesia care unit, and earlier discharge home compared with GA with desflurane. Patients with a high risk for postoperative nausea and vomiting received prophylaxis in the GA group. No difference was seen in the fast-tracking possibilities or time in the postanesthesia care unit between the groups. Home readiness was achieved after 114 (31-174) and 129 (28-245) min (NS) in the SSA and GA groups, respectively. In the hospital, the pain scores were significantly ($P < 0.001$) lower in the SSA group compared with the GA group and the need for postoperative opioids was significantly ($P = 0.008$) larger after GA. The incidence of postoperative nausea and vomiting was 0% versus 19% in the SSA and GA groups ($P = 0.024$), respectively. **We conclude that for outpatients undergoing knee arthroscopy, SSA with hyperbaric bupivacaine provides equal recovery times with less frequent side effects compared with GA with desflurane.**

Síntomas neurológicos transitorios (SNT) después de anestesia espinal con lidocaína versus otros anestésicos locales

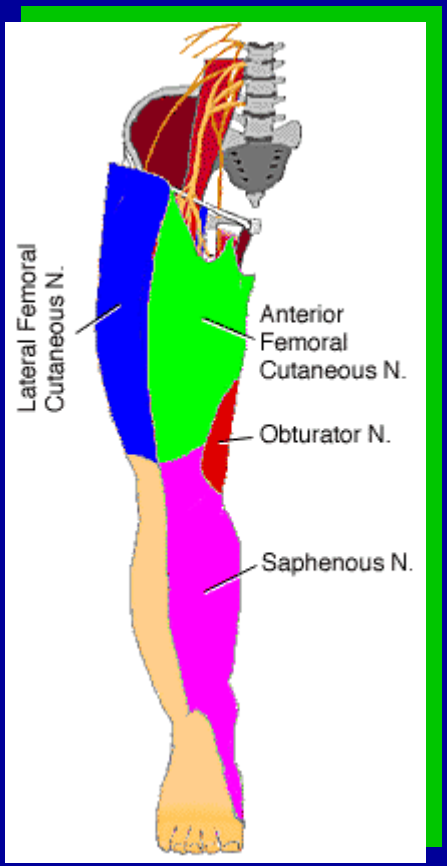
Zaric D, Christiansen C, Pace NL, Punjasawadwong Y.

Conclusiones de los autores

El riesgo de presentar SNT después de una anestesia espinal con lidocaína fue significativamente más elevado que cuando se utilizó bupivacaína, prilocaína y procaína. El término "SNT", que implica un hallazgo neurológico positivo, no se debería utilizar para este trastorno doloroso, que en realidad es comparable con cualquier otro efecto adverso después de una anestesia espinal (dolor lumbar). No está clara en la literatura la influencia del dolor en las extremidades inferiores en la satisfacción del paciente

¿Pueden sustituir los bloqueos nerviosos periféricos de la extremidad inferior a los bloqueos espinales?

Los bloqueos periféricos en manos expertas pueden sustituir en muchos casos a la anestesia subaracnoidea y en determinados pacientes convertirse en la técnica de elección.



ANESTHESIA & ANALGESIA

2005; 100:976-981

Peripheral Nerve Blocks Result in Superior Recovery Profile Compared with General Anesthesia in Outpatient Knee Arthroscopy

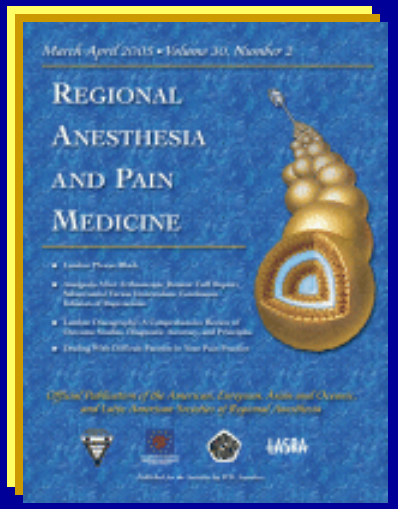
It has been suggested that use of peripheral nerve blocks (PNBs) may have some potenti benefits in the outpatient setting. There have been no studies specifically comparing PNE performed with short-acting local anesthetics with general anesthesia (GA) in patien undergoing outpatient knee surgery. We hypothesized that a combination of lumbar plexu and sciatic blocks using a short-acting local anesthetic will result in shorter time-t discharge-home as compared with GA. Patients scheduled to undergo knee arthroscopy we randomized to receive a GA (midazolam, fentanyl, propofol, N2O/O2/desflurane via laryngе mask airway) or lumbar plexus/sciatic block (PNBs; 2-chloroprocaine). Patients given GA als received an intraarticular injection of 20 mL 0.25% bupivacaine for postoperative pain contro Patients in the PNB group were given midazolam (up to 4 mg) and alfentanil (500-750 [mu] before block placement and propofol 30-50 [mu]g [middle dot] kg-1 [middle dot] min-1 f intraoperative sedation. Relevant perioperative times, postanesthesia care unit bypass rat severity of pain, and incidence of complications were compared between the two group Fifty patients were enrolled in the study; 25 patients each received GA or PNBs. Tot operating room time did not differ significantly between the 2 groups (97 +/- 37 versus 91 + 42 min). Seventy-two percent of patients receiving PNB met criteria enabling them to bypas Phase I postanesthesia care unit compared with only 24% of those receiving GA (P < 0.002 Time to meet criteria for discharge home (home readiness) and time to actual discharge we significantly shorter for patients given PNBs than for patients given GA (131 +/- 62 versus 20 +/- 94 and 162 +/- 71 versus 226 +/- 96, respectively). *Under the conditions of our study, t combination of lumbar plexus and sciatic blocks with 2-chloroprocaine 3% was associate with a superior recovery profile compared with GA in patients having outpatient kn*

Editorial

Evidence-based reports—Is there any evidence?

David L. Brown M.D.

Volume 28, Issue 1, Pages 1-2 (January 2003)



Evidence-Based Case Report

Anesthesia for outpatient knee arthroscopy: Is there an optimal technique?

Terese T. Horlocker M.D. and James R. Hebl M.D.

Volume 28, Issue 1, Pages 58-63 (January 2003)

Type of anaesthesia and patient acceptance in groin hernia repair: a multicentre randomised trial.

Hernia 2004;8 (3):220-5.

BACKGROUND: Groin hernia repair can be performed under general (GA), regional(RA), or local (LA) anaesthesia. This multicentre randomised trial evaluates patient acceptance, satisfaction, and quality of life with these three anaesthetic alternatives in hernia surgery. METHODS: One hundred and thirty-eight patients at three hospitals were randomised to one of three groups, GA, RA, or LA. Upon discharge, they were asked to complete a specially designed questionnaire with items focusing on pain, discomfort, recovery, and overall satisfaction with the anaesthetic method used. The global quality-of-life instrument EuroQol was used for estimation of health perceived. RESULTS: Significantly more patients in the LA group than in the RA group felt pain during surgery (P<0.001). This pain was characterised as light or moderate and for the majority of LA patients was felt during infiltration of the anaesthetic agent. Postoperatively, patients in the LA group first felt pain significantly later than patients in the other two groups (P=0.012) and significantly fewer LA patients consumed analgesics more than three times during the first postoperative day (P=0.002). **CONCLUSION: In a general surgical setting, we found LA to be well tolerated and associated with significant advantages compared to GA and RA.**

Anaesthetic practice for groin hernia repair--a nation-wide study in Denmark 1998-2003.

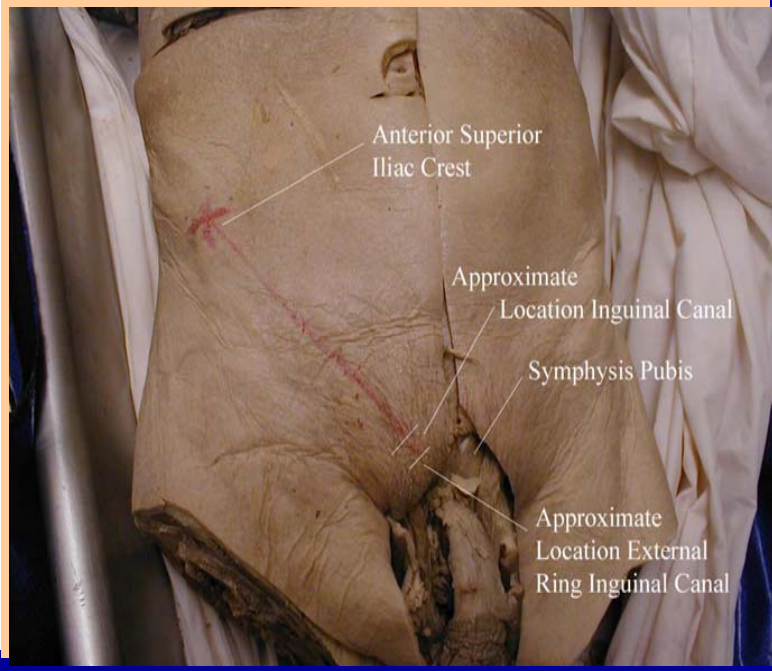
Acta Anaesthesiol Scand. 2005 Feb;49(2):143-6.

BACKGROUND: Recent scientific data suggest that local infiltration anaesthesia for inguinal hernia surgery may be preferable compared to general anaesthesia and regional anaesthesia, since it is cheaper and with less urinary morbidity. Regional anaesthesia may have specific side-effects and is without documented advantages on morbidity in this small operation. METHODS: To describe the use of the three anaesthetic techniques for elective open groin hernia surgery in Denmark from January 1st 1998 to December 31st 2003, based on the Danish Hernia Database collaboration. RESULTS: In a total of 57,505 elective open operations 63.6% were performed in general anaesthesia, 18.3% in regional anaesthesia and 18.1% in local anaesthesia. Regional anaesthesia was utilized with an increased rate in elderly and hospitalized patients. Outpatient surgery was most common with local infiltration anaesthesia. CONCLUSION: **Use/choice of anaesthesia for groin hernia repair is not in accordance with recent scientific data. Use of spinal anaesthesia should be reduced and increased use of local anaesthesia is recommended to enhance recovery and reduce costs.**

Best anesthetic method for inguinal hernia repair?

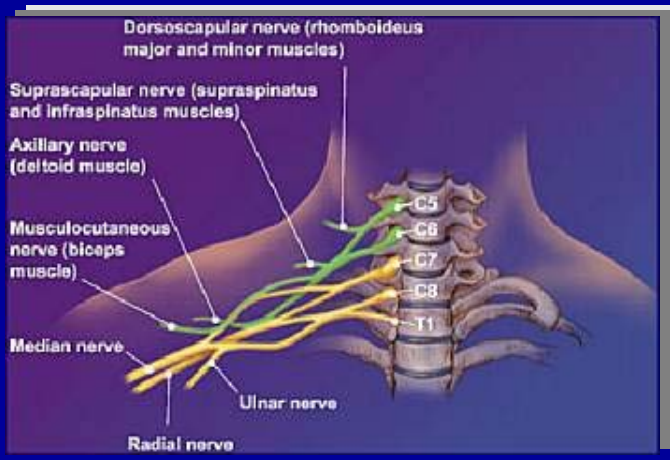
Acta Anaesthesiol Scand. 2005 Feb;49(2):131-2.

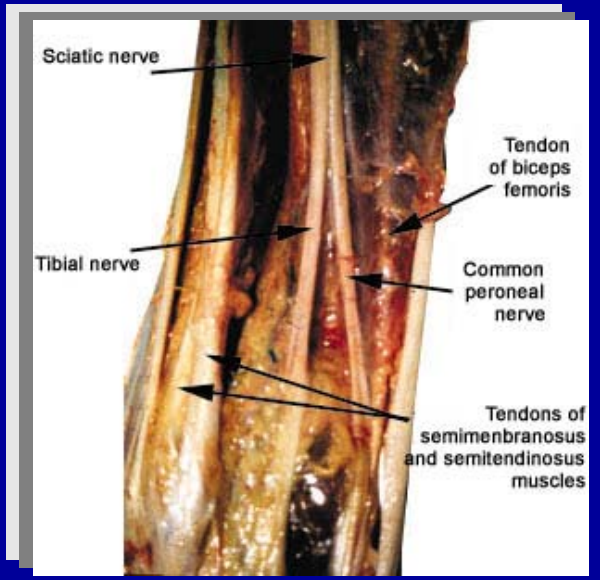
As the evidence in the literature are compelling on local anesthesia with sedacion as the methodo of choice, nor only with best safety and quality but actually combined with lowest cost; the choice should be easy.



¿Cuáles son los criterios de alta en CA tras BNP?

- No existen guías.
- BNP dosis única: 85% anestesiólogos dan altas con AL de acción prolongada en cirugía de extremidad superior y tobillo.
- BNP con catéter continuo: seguro, efectivo y proporciona alto grado de satisfacción.





Situación DP en CA

- Chung F et al. Posoperative pain in ambulatory surgery.
  Anesth Analg 1997; 85: 808-16
  - ➢ 10000 pacientes: 40-70% de incidencia DP
- Rawal N et al. Survey of postoperative analgesia following ambulatory surgery.
  Acta Anaesthesiol Scand 1997; 41: 1017-22
  - ➢ 40% de DP moderado a severo en casa
- Beauregard et al. Severity and impact of pain after day surgery.
  Can J Anesth 1998; 4: 304-311
  - ➢ 40% de DP moderado a severo en las primeras 24 horas

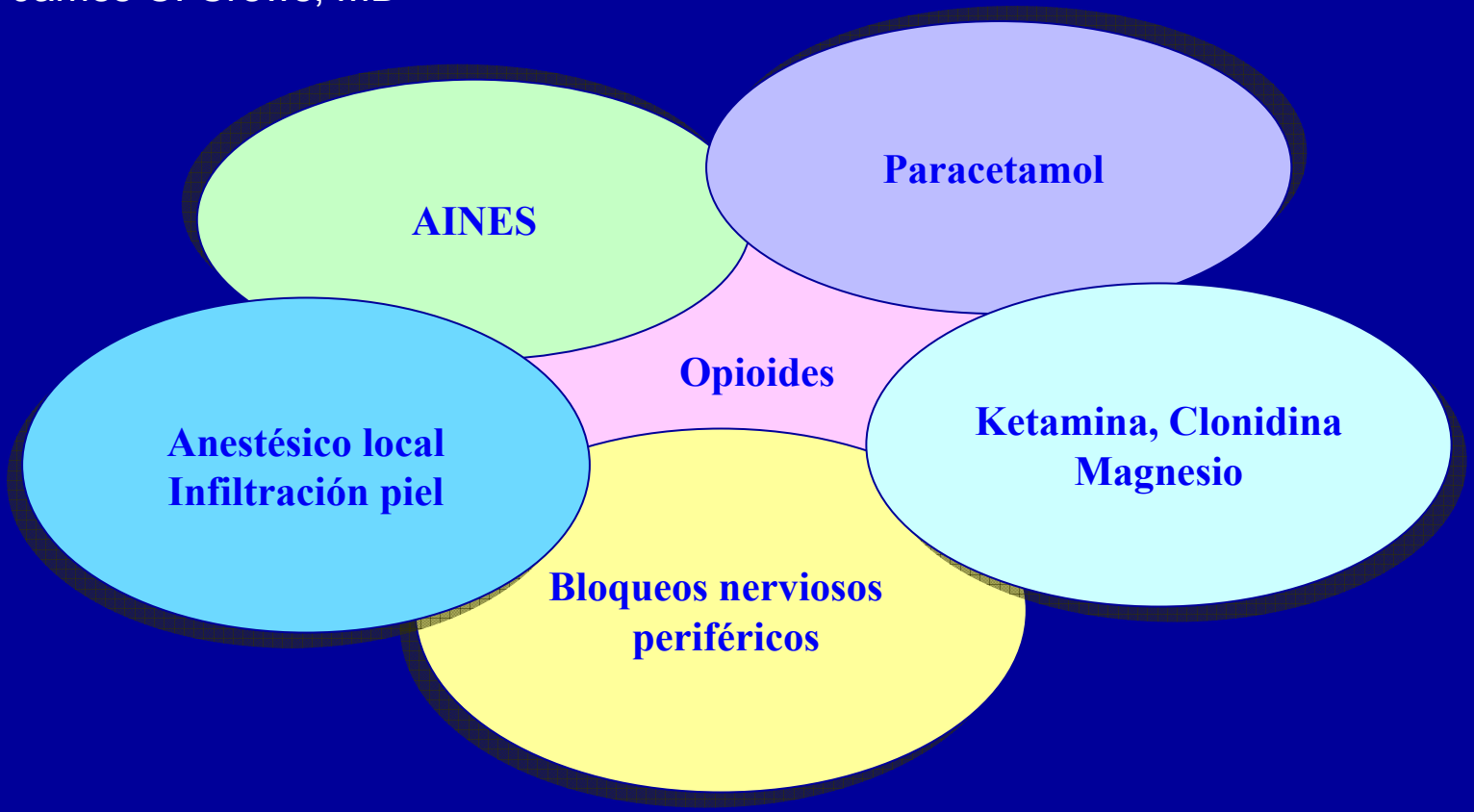
El DP es uno de los principales factores limitantes de la expansión de la CA

JAMA

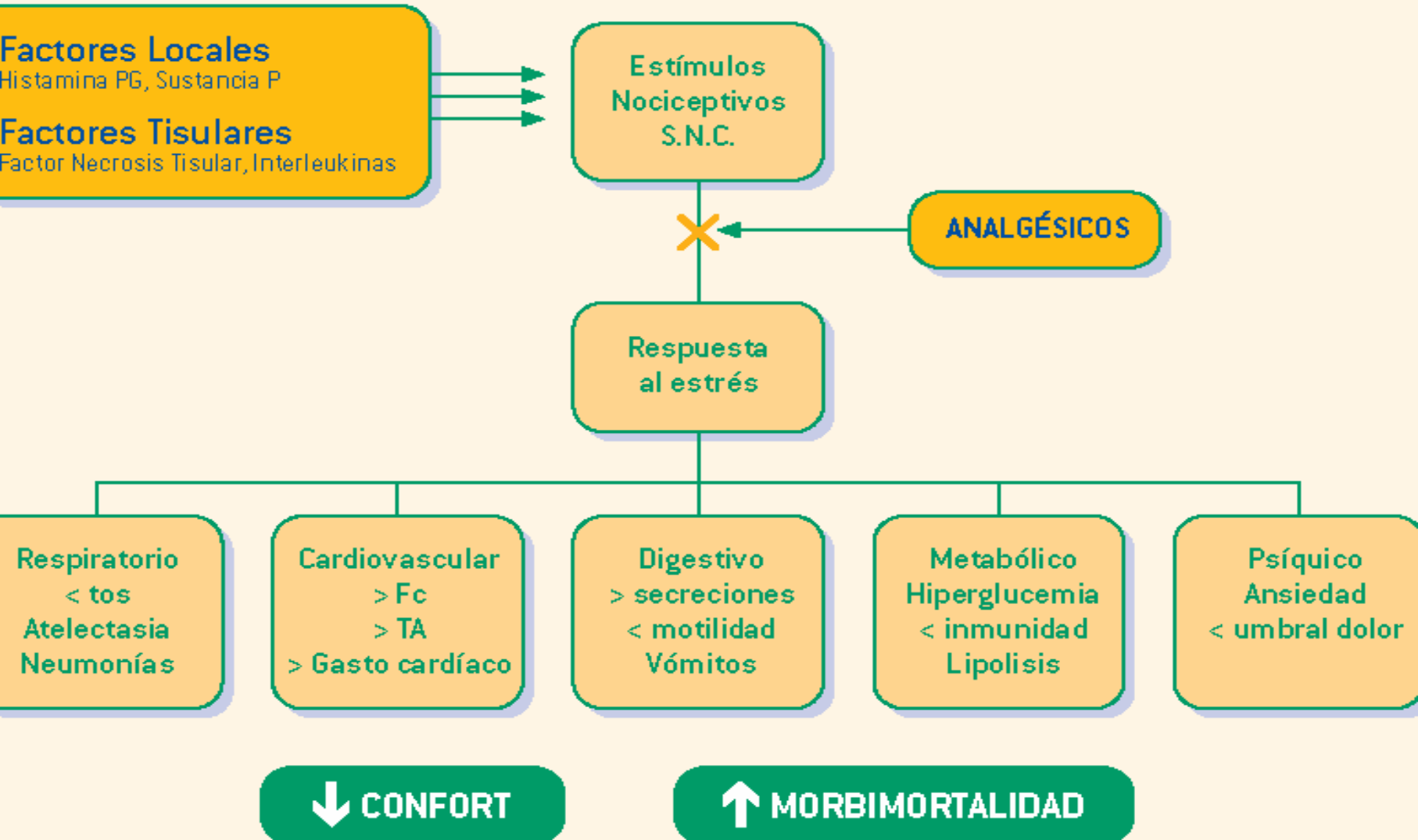
2002;288:629-632.

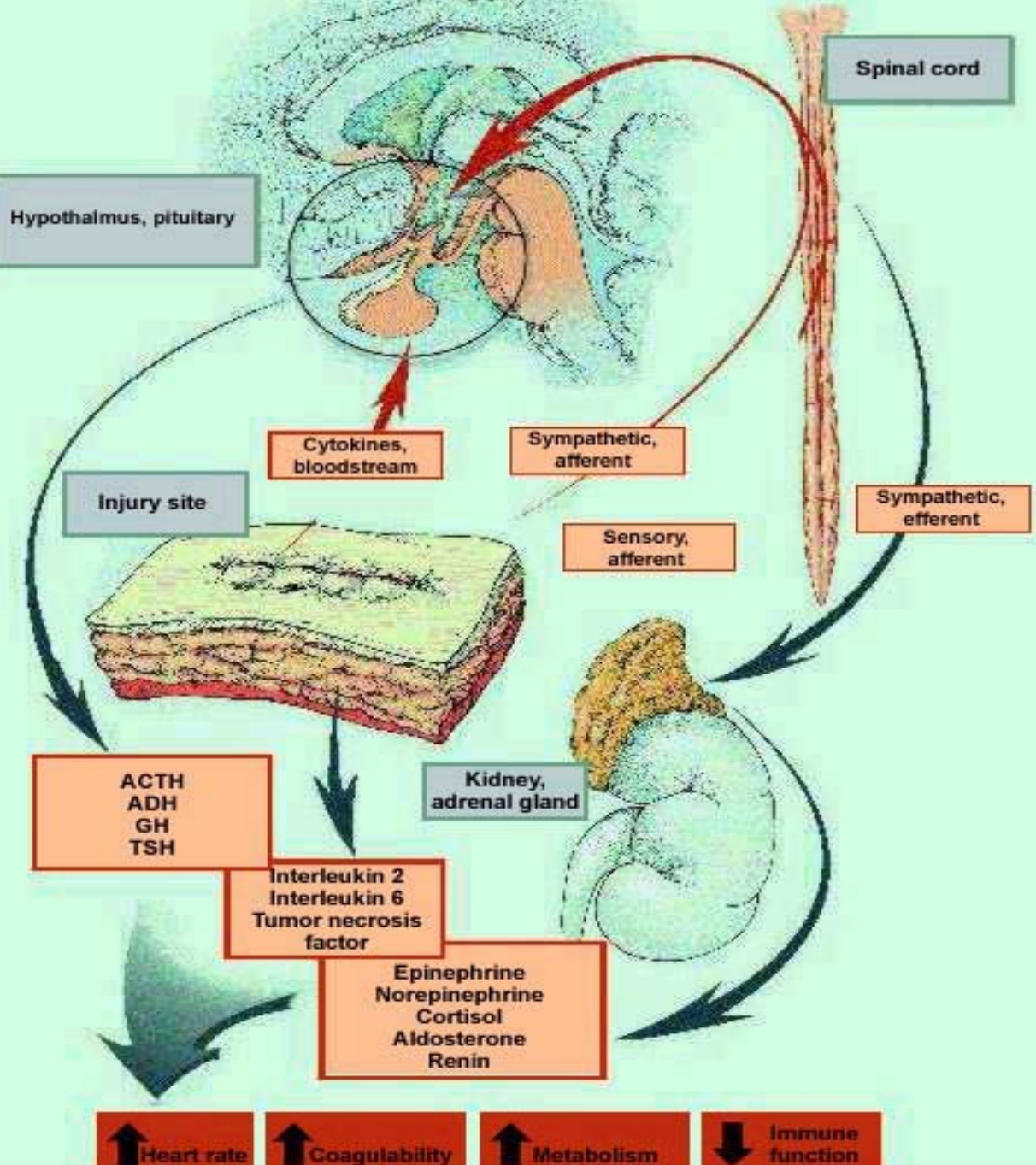
Multimodal Pain Management Strategies for Office-Based and Ambulatory Procedures

James C. Crews, MD



Efectos del Tratamiento Inadecuado del Dolor





Implicaciones

- NVPO
- Costes
- Demoras
- Reingresos
- Insatisfacción

1846 Cirugía Sin Dol

CA ➡ Confort Postoperatorio

⬇

Control de forma satisfactoria del DP

Sustituir protocolos por guías de práctica clínica según la evidencia científica

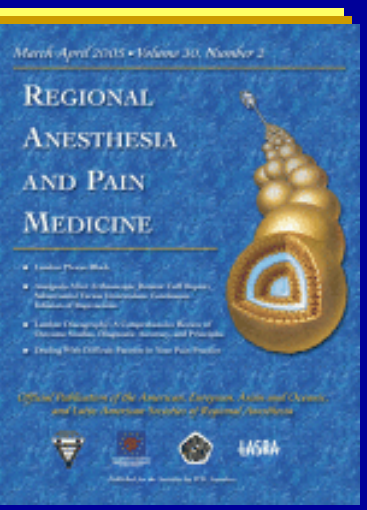
ANESTHESIA & ANALGESIA
2002; 94: 65-70

Ambulatory discharge after long-acting peripheral nerve block: 2382 blocks with bupivacaine.

Klein SM, Nielsen KC, Greengrass RA, et al.

Despite the use of long-acting local anesthesia in peripheral nerve block (PNB), 11% of patients report wound pain during the first 24 or 48 postoperative hours, and 17% to 22% of patients requiere opioid analgesic 7 day after surgery.

En EEUU solo un 8% de los procedimientos ambulatorios se realizan con AR



2001; 26: 24-29.

Femoral nerve block with 0.25% or 0.5% bupivacaine improves postoperative analgesia following outpatient arthroscopic anterior cruciate ligament repair

Mulroy MF, Larkin KL, Batra MS, Hodgson P, Owens B

Results:. Bupivacaine 0.25% and 0.5% provided 23.2 ± 7 and 25.7 ± 11 hours of analgesia, respectively. **Conclusions:** Femoral nerve block with 0.25% bupivacaine contributes significantly to multimodal postoperative analgesia in the immediate postoperative period following outpatient anterior cruciate ligament repair. Both doses of bupivacaine studied provided analgesia for the first night after surgery.

Previous investigations involving hospitalezed patients ingrest that local anesthesia infused via perineural catheters decreases postoperative pain and narcotic requeriments after variaty of procedures....

Infusión continua perineural domiciliaria

Postoperative patient-controlled local anesthetic administration at home.

Rawal N et al.

Anesth Analg 1998; 86: 86-89

Anesthesiology

Volume 96(6) June 2002 1290-1296

Patient-controlled Regional Analgesia (PCRA) at Home: Controlled Comparison between Bupivacaine and Ropivacaine Brachial Plexus Analgesia

Anesthesiology

Volume 96(6) June 2002 1297-1304

Continuous Infraclavicular Brachial Plexus Block for Postoperative Pain Control at Home: A Randomized, Double-blinded, Placebo-controlled Study

Anesthesiology

Volume 97(4) October 2002 959-965

Continuous Popliteal Sciatic Nerve Block for Postoperative Pain Control at Home: A Randomized, Double-Blinded, Placebo-Controlled Study

Anesthesiology

[EDITORIAL VIEWS]

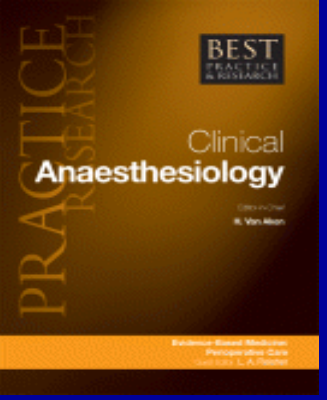
Volume 96(6) June 2002 1283-1285

Beyond the Hospital: Continuous Peripheral Nerve Blocks at Home

Continuous outpatient peripheral nerve catheters have the advantage of providing site- specific, dense, extended analgesia with systems and solutions that are readily available. Developing this area of anesthesia is essential to increasing the scale and scope of surgery that is compassionately performed on an outpatient basis. It is also crucial to enhancing the quality of care for surgical procedures that are already considered appropriate for ambulatory centers. The authors of the studies in this issue should be commended, **not only for their evidence demonstrating that continuous outpatient catheters are feasible, but also for looking beyond the operating room and scientifically exploring a technique that promises to improve the overall perioperative experience.**

Review: continuous plexus analgesia

- Evans H, Steele SM, Nielsen KC, Tucker MS, Klein SM.Peripheral nerve blocks and continuous catheter techniques.
  Anesthesiol Clin North America 2005;23(1):141-62.
- Ivani G. Tonetti F. Postoperative analgesia in infants and children: new developments.
  Minerva Anestesiol 2004;70(5):399-403.
- Liu SS, Salinas FV.Continuous plexus and peripheral nerve blocks for postoperative analgesia.
  Anesth Analg 2003;96(1):263-72.
- Chelly JE, Delaunay L, Williams B, Borghi B.Outpatient lower extremity infusions.
  Best Pract Res Clin Anaesthesiol 2002;16(2):311-20.
- Borgeat A. Ekatodramis G.Anaesthesia for shoulder surgery.
  Best Pract Res Clin Anaesthesiol 2002;16(2):211-25.
- Long TR, Wass CT, Burkle CM.Perioperative interscalene blockade: an overview of its history and current clinical use.
  J Clin Anesth 2002;14(7):546-56
- Gunter JB. Benefit and risks of local anesthetics in infants and children.
  Paediatr Drugs 2002;4(10):649-72.
- Sinatra RS, Torres J, Bustos AM. Pain management after major orthopaedic surgery: current strategies and new concepts.
  J Am Acad Orthop Surg 2002;10(2):117-29



Outpatient lower extremity infusions.

Chelly JE, Delaunay L, Williams B, Borghi B.

2002 Jun;16(2):311-20.

The considerable development of ambulatory surgery has led to an increase in the number of lower extremity procedures performed in an outpatient setting. More recently, the availability of disposable pumps has allowed us to extend the indications of continuous nerve blocks for ambulatory post-operative pain management. Indications for lumbar plexus continuous blocks include anterior cruciate ligament (ACL) reconstruction and patella repairs as well as frozen knee, whereas continuous sciatic blocks are indicated for major foot and ankle surgery. Different modes of local anaesthetic administration have been applied, including the use of repeated bolus, continuous administration and, more recently, patient-controlled perineural infusions. This latter technique seems to be the preferred mode because it offers the advantage of tailoring the amount of local anaesthetics, mostly 0.2% ropivacaine, to the individual need and also maximizes the duration of infusion for a given volume of local anaesthetic. Although the preliminary reports indicate that **lower extremity continuous blocks provide effective post-operative ambulatory analgesia and are safe,** especially as a part of a multimodal approach, appropriate training in these techniques represents one of the most important limiting factors of the placement of perineural catheters. Additional research is required to determine the optimal conditions in which these techniques are indicated.

ANESTHESIA & ANALGESIA

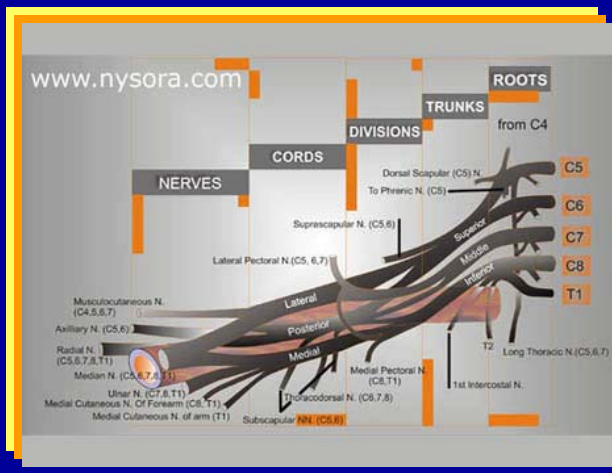
2003 ; 96(1): 263-72

Continuous plexus and peripheral nerve blocks for postoperative analgesia

Liu SS, Salinas FV.

El bloqueo del nervio femoral, nervio ciático y del plexo braquial a nivel interescalenico proporciona mejor analgesia y menos efectos secundarios que PCA IV tanto en cirugía de rodilla, pie y hombro.

En contraste los beneficios a nivel del plexo axilar no fueron establecidos



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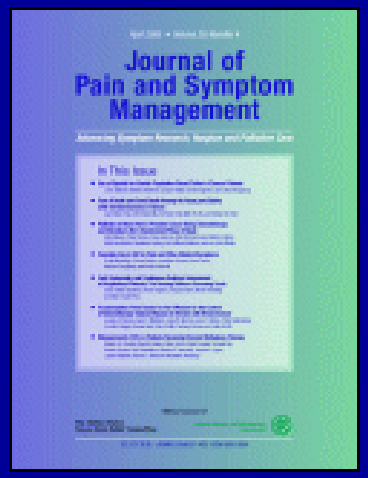
Continuous Peripheral Nerve Blocks at Home: A Review

Anesth Analg 2005; Jun 100 (6): 1822-1833.

Ilfeld BM, Enneking FK

There is strong evidence suggesting that continuous peripheral nerve blocks provided at home improve postoperative analgesia, sleep quality, and patient satisfaction while decreasing supplemental opioid requirements and opioid-related side effects. In addition, a basal infusion after moderately painful surgery maximizes infusion benefits, whereas adding PCA bolus doses allows for a decreased basal rate and increased infusion duration. Future investigation should include determining which patients and procedures benefit most from perineural infusion, the optimal local anesthetic, concentration, and adjutants, the most advantageous delivery regimen and dosing structure, the optimal catheters (e.g., stimulating versus nonstimulating catheters), placement techniques, and infusion pumps, the safest frequency of patient contact and method of catheter removal, and, finally, whether additional outcomes are affected with ambulatory perineural local anesthetic infusion.



1992; 7: 443-53

Patient and nurse evaluation of PCA delivery systems for postoperative pain manegement.

Sawaki Y, Parker RK, White PF.

"Comparative evaluation of electronic versus nonelectronic patient-controlled analgesic (PCA) devices demostrated that the use of a nonelectronic device was associated with fewer programming errors and greater patients and nurse satisfaction"

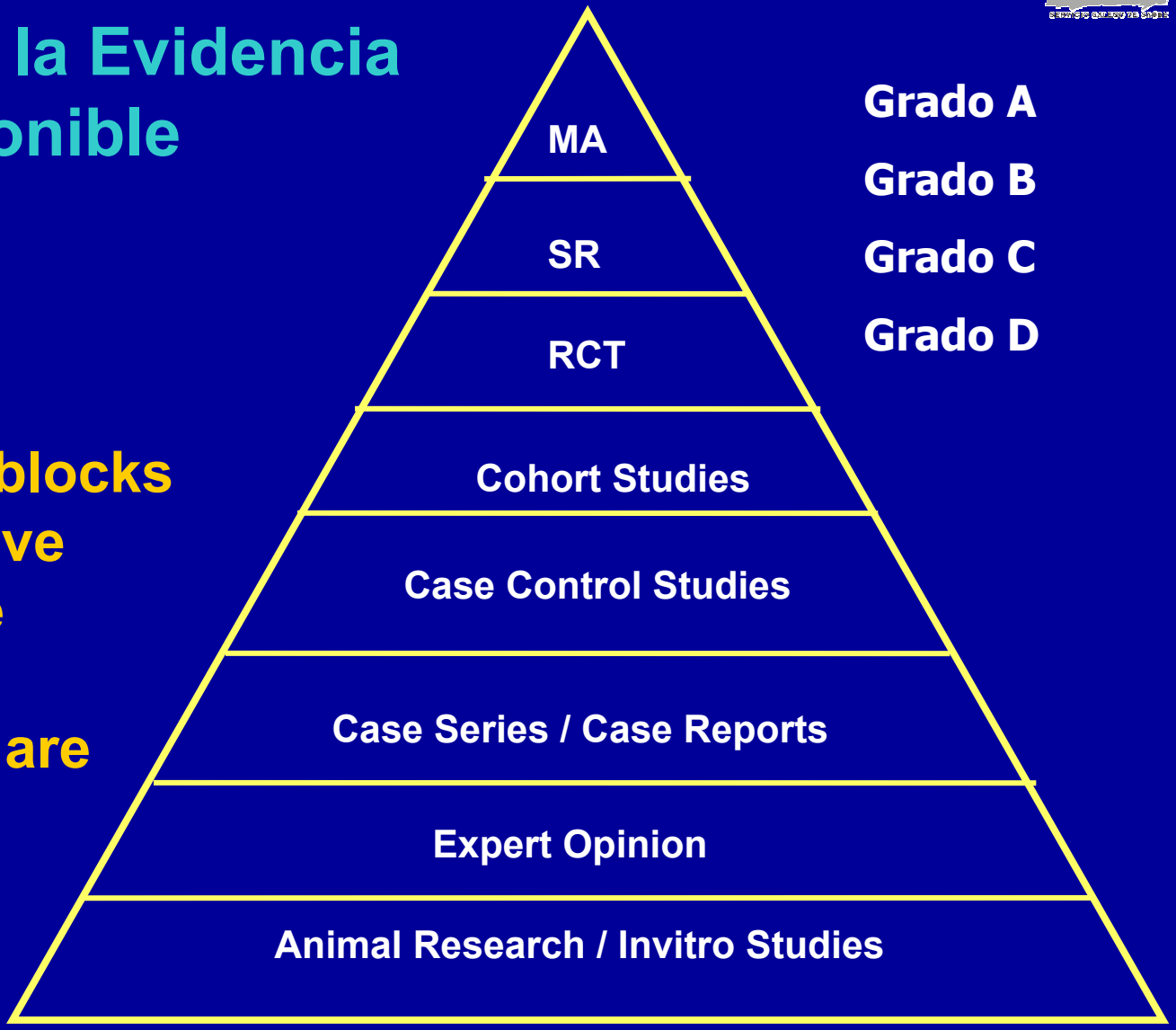
ANESTHESIA & ANALGESIA
2003; 96: 414-7

Patient-controlled perineural analgesia after ambulatory orthopedic surgery: a comparison of electronic versus elastomeric pumps.

Capdevila X, Macaire P, Aknin P, et al

"The use of disposable elastomeric pump for CPNB was associated with fewer technical problems and greater patients satisfaction than electronic pumps".

Grados de Recomendación basados en la Evidencia disponible



…continuous blocks provide effective post-operative ambulatory analgesia and are safe…

Indicaciones analgesia invasiva perineural

- **DAP moderado-severo mal controlado con fármacos vía oral**

Cirugía ortopédica de hombro

Cirugía ortopédica pie

Cirugía de reconstrucción ligamentos rodilla

[EDITORIAL VIEWS]

Anesthesiology

Volume 103(5) Nov 2005 921-923

Continuous peripheral nerve blocks: fewer excuses

Anesthesiology

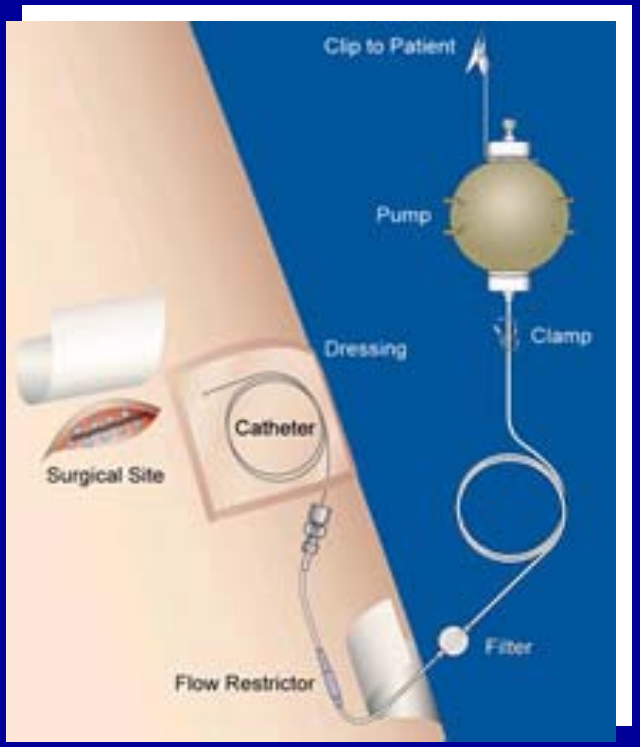
Volume 103(5) Nov 2005 1035-45

Continuous peripheral nerve blocks in hospital wards after orthopedic surgery. A multicenter prospective analysis of the quality of postoperative analgesia and complications in 1416 patients.

CPNB is the technique of choice for postoperative analgesia after painful orthopedic surgery.

Rawal N. 2002

Perineural and incisional catheter techniques are being used increasingly to manage postoperative pain in hospital and day surgery patients.



Canadian Journal of Anesthesia
Journal canadien d'anesthésie

2002; 49 (5): 481-6

Incisional self administration of bupivacaine or ropivacaine provides effective analgesia after inguinal hernia repair.

Vintar N, Pozlen G, Rawal N, Godec M, Rakovec S.

ANESTHESIA & ANALGESIA

2003; 97: 1089-91

Continuous wound infiltration with ropivacaine reduces pain and analgesic requeriments after shoulder surgery.

Gottschalk A et al.

Anesthesiology

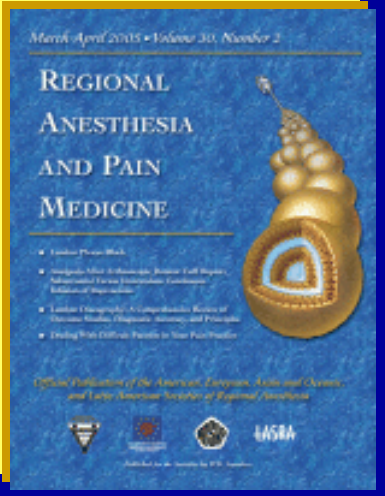
2004; 100: 1305-1306

Local Anesthetic Infusion Pump Systems Adverse Events Reported to the Food and Drug Administration

Brown SL, Morrison AE.

The FDA monitors the performance of regulated medical devices *via* a passive surveillance system.

Adverse events during direct local anesthetic infusion into surgical wounds, with an infusion pump system, have been reported to the FDA. These reports involve adverse events reported for surgeries performed at a variety of surgical sites, including orthopedic, gastrointestinal, podiatric, and others. Complications encountered with these infusion pump systems include tissue necrosis, surgical wound infection, and cellulitis. Following are examples of cases reported to the FDA and a summary of 40 injuries that occurred using direct local anesthetic infusion pump systems



2005; 30(2): 117-122

Analgesia after arthroscopic rotator cuff repair: Subacromial versus interscalene continuous infusion of ropivacaine

In conclusion, after rotator cuff repair, continuous interscalene block is more efficient than subacromial infusion for pain control. Nevertheless, continuous subacromial infusion coul be considered as an alternative in case of contraindication of interscalene block.

Las técnicas anestésicas deben estar basadas en evidencias científicas.

Ofrecer al paciente la mejor de las opciones existentes, integrando la mejor evidencia científica, experiencia y sentido común del clínico y la opinión del propio paciente.

La opción óptima es la más eficaz, segura y con mejor coste-beneficio.

Existen argumentos que aconsejan trabajar según criterios de evidencias científicas.

- **Saber que estamos ofreciendo la mejor opción al paciente según las evidencias disponibles**
- **Homogenizar las diferentes formas de trabajar**
- **La ABE es una argumentación para justificar nuestras intervenciones y necesidades de monitorización**

La ABE mejora nuestro trabajo y nos ayuda en nuestra formación continuada.