

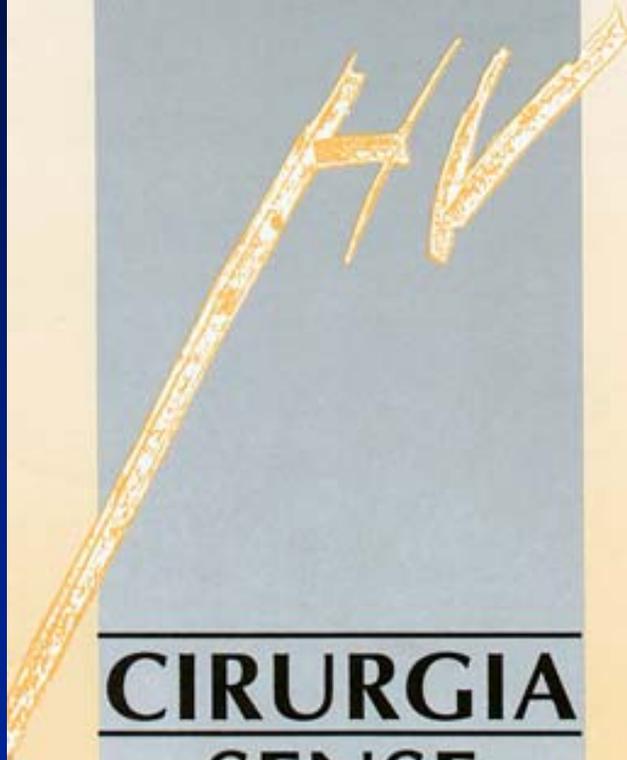
ANESTESIA EN CIRUGIA MAYOR AMBULATORIA

Josep Planell. Corporació Parc Taulí

- The surgery of Infancy. Nicoll J.H. British Medical Journal 1909.
- The Surgicenter and innovation in delivery and cost of medical care. J.H. Ford, W.A. Reed. Arizona Medicine.1969.
- Cirugia Mayor Ambulatoria: Estudio piloto.Rivera J., Giner M., Subh S. Cir. Esp. 1988.
- Comissió per a l'el.laboració de pautes i recomanacions per el desenvolupament de la cirurgia major ambulatoria. Societat Catalana de Cirurgia. 1992.
- Cirugia Mayor Ambulatoria. Guia de organización y funcionamiento. Ministerio de sanidad y consumo.1993.
- Journal of Ambulatory Surgery. 1993
- IAAS. 1995.
- Cirugia Mayor Ambulatoria (ASECMA). 1996.
- Sección de Anestesia Ambulatoria de la SEDAR. 2004.
- Societat Catalana de Cirurgia Major Ambulatoria. 2009.

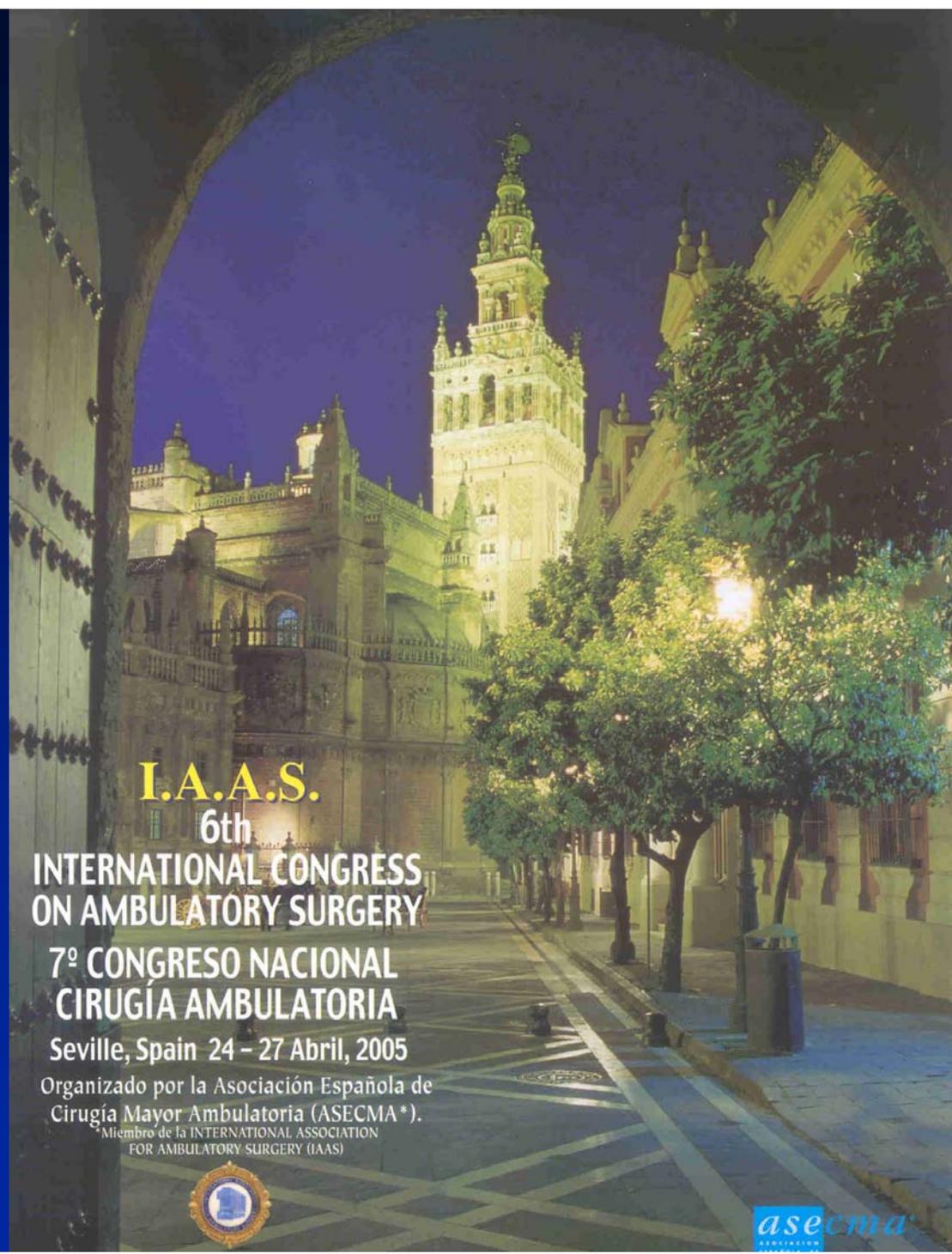


 Institut Català de la Salut
Hospital de Viladecans



CIRURGIA
SENSE
INGRÉS

1990



I.A.A.S.

6th

**INTERNATIONAL CONGRESS
ON AMBULATORY SURGERY**

**7º CONGRESO NACIONAL
CIRUGÍA AMBULATORIA**

Seville, Spain 24 - 27 Abril, 2005

Organizado por la Asociación Española de
Cirugía Mayor Ambulatoria (ASECMA*).

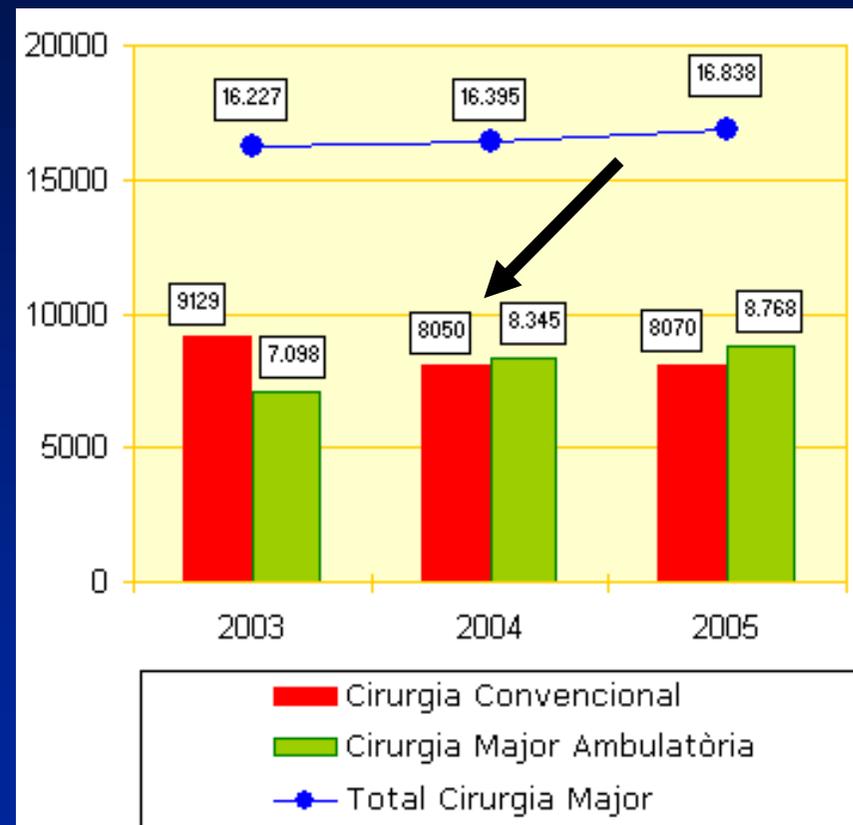
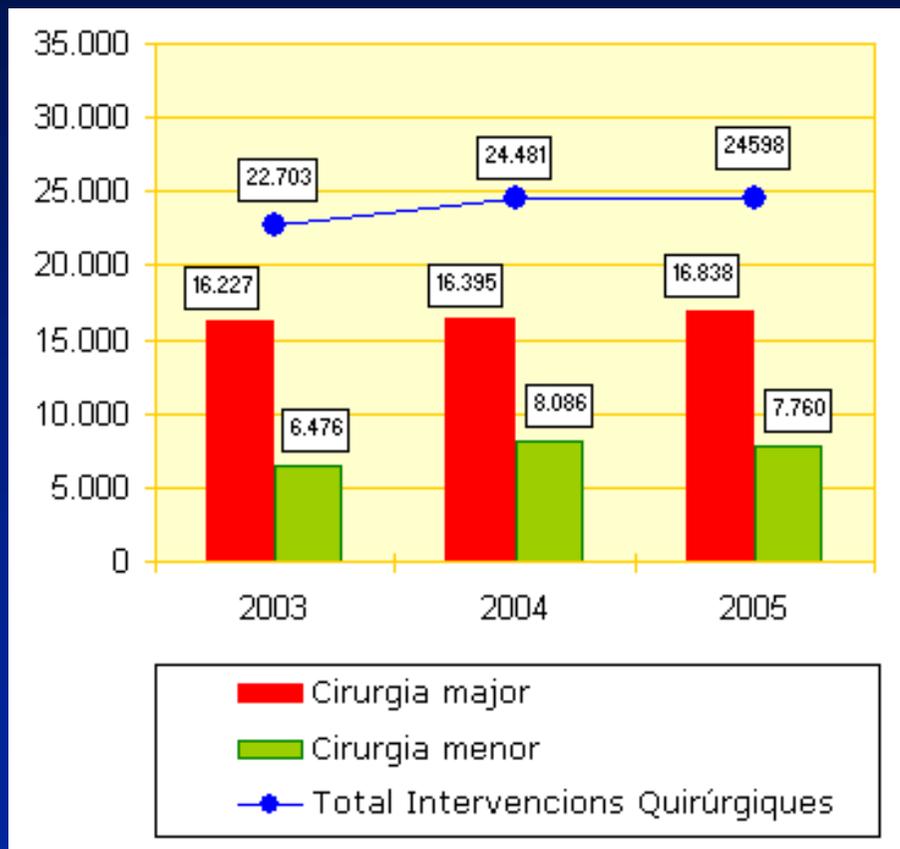
Miembro de la INTERNATIONAL ASSOCIATION
FOR AMBULATORY SURGERY (IAAS)



asecma
ASOCIACIÓN



CORPORACIÓ PARC TAULI



LA CIRUGIA MAYOR AMBULATORIA ES UNA TECNICA ASISTENCIAL:

Proceso asistencial común.

Número limitado de procedimientos.

Multidisciplinariedad.

ACADÉMIA DE CIÈNCIES MÈDIQUES DE
CATALUNYA I DE BALEARS



Comisión para la elaboración

de pautas y recomendaciones

para el desarrollo de la

CIRUGIA AMBULATORIA

Maig 1993

SOCIETAT CATALANA DE CIRURGIA



SOCIEDADES INTEGRANTES DE LA ACADEMIA DE CIENCIAS MEDICAS DE CATALUÑA Y BALEARES QUE HAN COLABORADO EN LA REDACCION DE ESTE DOCUMENTO

Sociedad Catalana de Anestesiología, Reanimación y Terapéutica del Dolor

Sociedad Catalana de Cirugía

Sociedad Catalana de Cirugía Máxilo-facial

Sociedad Catalana de Cirugía Ortopédica y Traumatología

Sociedad Catalana de Cirugía Plástica, Reparadora y Estética

Sociedad Catalana de Cirugía Vascular

Sociedad Catalana de Obstetricia y Ginecología

Sociedad Catalana de Oftalmología

Sociedad Catalana de Otorrinolaringología

Sociedad Catalana de Pediatría

Sociedad Catalana de Radiología y Diagnóstico por la Imagen

Sociedad Catalana de Urología

Sociedad Catalano-Balear de Enfermería

Cirugía Mayor Ambulatoria

- Acto quirúrgico realizado con cualquier tipo de anestesia
- Necesita unas horas de observación
- Permite el regreso del paciente a su domicilio el mismo día (Day-Case)

CIRUGIA MAYOR AMBULATORIA

CONJUNTO DE ACCIONES DIAGNOSTICAS Y
TERAPEUTICAS QUE PERMITEN QUE LA OFERTA
SANITARIA SEA:

 **MAS AGIL**

 **MAS HUMANIZADA Y CON MENOR DESINSERCIÓN
SOCIAL**

 **TAN SEGURA COMO LA OFERTA CONVENCIONAL**

 **CON MENOR RIESGO DE YATROGENIA (Infec)**

 **MENOS “COSTOSA”**

CRITERIOS GENERALES

- ❖ RIGUROSA SELECCIÓN DE LOS PACIENTES (ASA I-II / III-IV)
- ❖ VALORACIÓN PREOPERATORIA
- ❖ TECNICAS QUIRURGICAS Y ANESTESICAS “EXCELENTES”
- ❖ ANESTESIOLOGOS Y CIRUJANOS “EXPERTOS”
- ❖ CONTROL POSTOPERATORIO ADECUADO
- ❖ INFORMACIÓN - COMUNICACIÓN - ENTORNO SOCIAL ADECUADO
- ❖ POSIBILIDADES DE INGRESO AGILES

TIPOS DE UNIDADES

DEPENDIENTES DE UN HOSPITAL

Integradas

Separadas

Satélites

INDEPENDIENTES

“Free-standing”

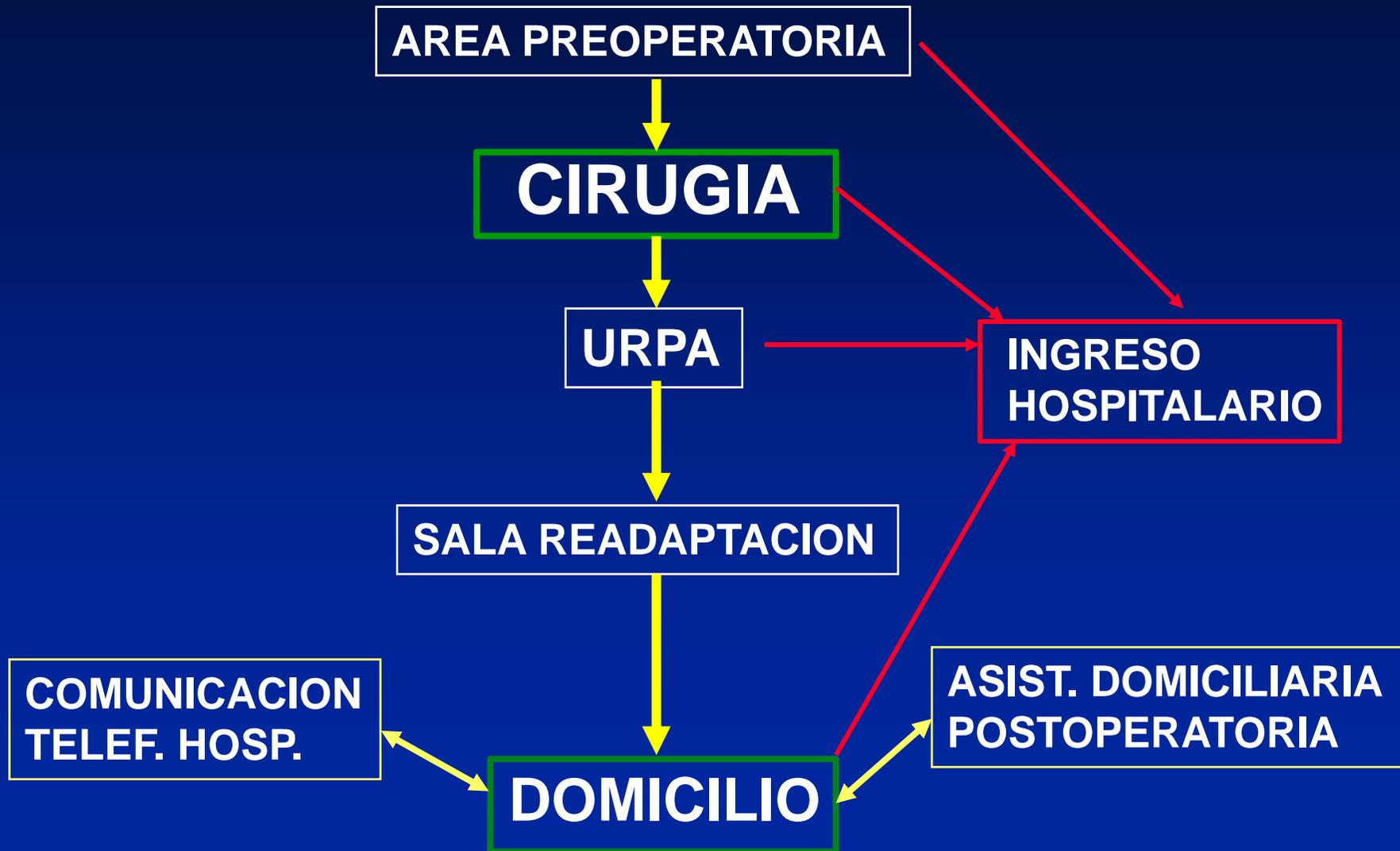
VENTAJAS - INCONVENIENTES

	INTEGRADA	SEPARADA	SATELITE
Inversión inicial	↑	↓	↓
Personal	↑↓	↑↓	↑↓
Respaldo hospitalario	↑	↑	↑↓
Circuitos	↓	↑	↑
Diseño	↓↑	↑	↑

ORGANIGRAMA FUNCIONAL



ORGANIGRAMA FUNCIONAL (cont)



CRITERIOS DE SELECCION DE LOS PACIENTES EN CIRUGIA AMBULATORIA

A) RELACIONADOS CON LA ACTITUD DEL PACIENTE - ENTORNO SOCIAL

- ACTITUD POSITIVA del paciente y familiares/responsables a la CMA y al dolor que pueda ocasionar
- ACEPTACIÓN per parte del paciente de la intervención em regimen ambulatorio despues de ser debidamente informado
- imprescindibles la disposición de TELEFONO accesible y de un ADULTO RESPONSABLE durante las 24-48 primeras horas del post-operatorio en el domicilio
- Inexistencia de BARRERAS ARQUITECTONICAS en determinados procedimientos en el acceso al domicilio de los pacientes (ascensor en pisos..), y distancia domicilio-hospital no mayor de 1 hora (isocrona) aproximadamente.

CRITERIOS DE SELECCION DE LOS PACIENTES EN CIRUGIA AMBULATORIA

B) RELACIONADOS CON EL ESTADO FISICO PREVIO DEL PACIENTE

Los pacientes han de ser valorados individualmente, como en todo procedimiento quirurgico.

CRITERIOS D'INCLUSION:

- Pacientes clasificados en la visita pre-operatoria como ASA I-II, sin alteraciones mentales o psicologicas
- En determinados procedimientos y/o tecnicas anestesicas, pacientes ASA III-IV estables, sin episodios de descompensación en los últimos tres meses

PACIENTES PROBLEMATICOS / CRITERIOS POSIBLES DE EXCLUSIÓN*

- pacientes con alteraciones de la coagulación y/o tratamientos anticoagulantes *
- pacientes epilepticos o en tratamiento psiquiatrico *
- drogodependientes *
- diabeticos tipo I *
- antecedentes de complicaciones anestesicas en intervencions anteriores *
- obesos (> 30% del peso teorico), Via aerea dificil, EPOC, SAOS *.
- pacientes con factores de riesgo de presentar hipertermia maligna*

Society for Ambulatory Anesthesia Consensus Statement on Preoperative Selection of Adult Patients with Obstructive Sleep Apnea Scheduled for Ambulatory Surgery

Girish P. Joshi, MBBS, MD, FFARSCI,* Saravanan P. Ankichetty, MD, DA, MBA,†
Tong J. Gan, MD, MHS, FRCA,† and Frances Chung, MBBS, FRCPC†

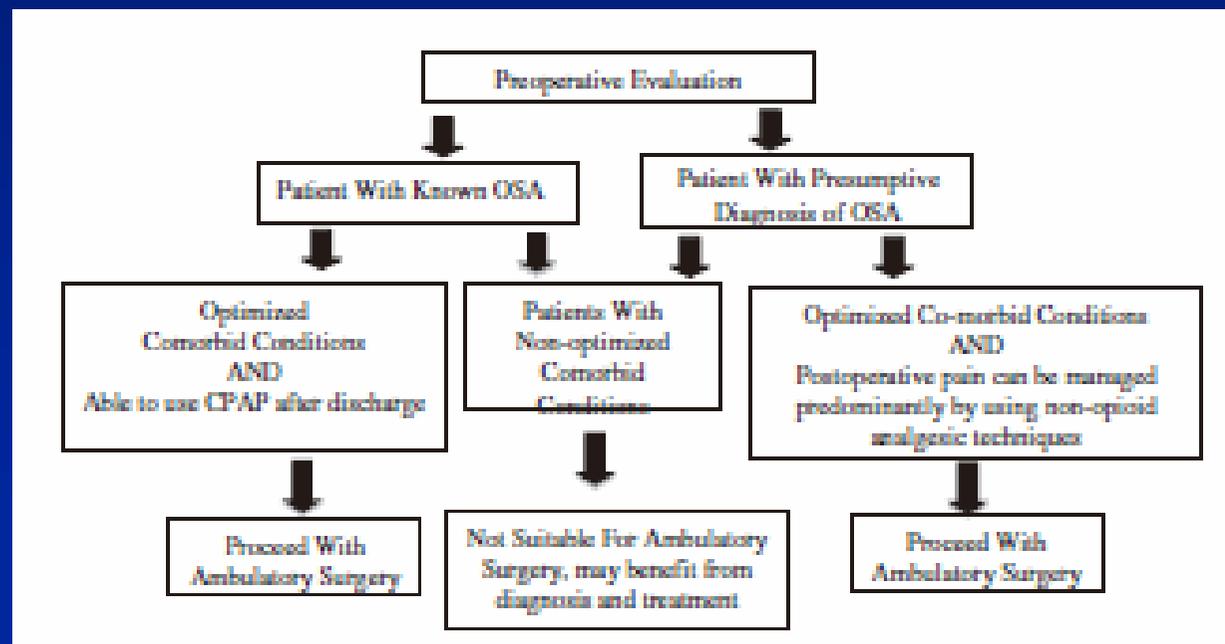
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DOI: 10.1213/ANE.0b013e318269d3d7

anesthesia-analgesia.org

November 2012 • Volume 115 • Number 5

Table 1. Concerns with Obstructive Sleep Apnea Patients Undergoing Ambulatory Surgery

Intraoperative	Difficult/failed mask ventilation and/or tracheal intubation. Difficulty maintaining adequate oxygen saturation.
Immediate postoperative	Delayed extubation. Obstruction and/or desaturation after extubation. Postobstructive pulmonary edema. Need for tracheal reintubation. Exacerbation of cardiac comorbidities: hypertension, arrhythmias, myocardial ischemia and infarction, pulmonary hypertension, heart failure. Cerebrovascular disorders (e.g., stroke). Prolonged postanesthesia care unit stay. Delayed discharge home. Unanticipated hospital admission.
Postdischarge	Readmission after discharge. Hypoxic brain death and death.



CRITERIOS DE SELECCION DE LOS PACIENTES EN CIRUGIA AMBULATORIA

C) RELACIONADOS CON EL PROCEDIMIENTO QUIRURGICO

- No preparación compleja en el pre-operatorio
- que no involucre organos vitales
- que el sangrado operatorio sea minimo
- baja expectativa de complicaciones o efectos adversos post-operatorios.

- no necesidad de administración de antibioticos por via ev domiciliaria*
- que no haya un territorio septico activo*
- duración corta-intermedia, de 90' como maximo en caso de realización con anestesia general (es un criterio actualmente discutible)*
- que el dolor post-operatorio previsible sea de intensidad leve-moderada, controlable con la administración de analgesicos orales*
- no necesidad de inmovilización en cama en el post-operatorio*

PROCEDIMIENTOS 1

→ Cirugía General

→ Hernia, hemorroides (?), fisura y fístula anal, sinus pilonidal, biopsia y extirpación de pequeños nódulos (mama, ganglios, etc.), litiasis biliar (?), Tiroidectomias (?)...

→ Traumatología

→ Túnel carpiano, ganglión, Dupuytren, extracción material de osteosíntesis, artroscopia, hallux valgus, Rizartrosis, Prótesis unicompartmentales (?)

→ Oftalmología

→ Cataratas, cirugía del estrabismo, D.R., Vitrectomía, Dacriocistorinostomía

PROCEDIMIENTOS 2

→ Urología

→ Cistoscopia, orquidopexia, varicocele, hidrocele, fimosis, incontinencia urinaria (TVT), Prostatectomía láser (?)....

→ ORL

→ Amigdalectomía (?), adenoidectomía, micro.laringe, polipectomía, miringotomía, rinoseptoplastia, DTT.

→ Ginecología

→ Dilatación y legrado uterino, laparoscopias, histeroscopias quir., conizaciones, Quistes ...

→ Otras especialidades

→ C. Plástica, C. Pediátrica, C Maxilofacial, Neurocirugía, C. Vascular, Radiología intervencionista, Endoscopias.

FASE PREOPERATORIA

VALORACIÓN PREOPERATORIA

- **VALORACIÓN PREOPERATORIA IMPRESCINDIBLE (Enfermería-Primaria)**
- **PRUEBAS COMPLEMENTARIAS PROTOCOLIZADAS**
- **INFORMACIÓN. Encuestas.**
- **RECOMENDACIONES ESPECIFICAS**
- **AJUSTES MEDICACION**
- **PRESCRIPCION PREMEDICACION**

Elimination of Preoperative Testing in Ambulatory Surgery

Frances Chung, FRCPC

Hongbo Yuan, PhD

Ling Yin, MSc

Santhira Vairavanathan, MBBS

David T. Wong, MD

BACKGROUND: Preoperative testing has been criticized as having little impact on perioperative outcomes. We conducted a randomized, single-blind, prospective, controlled pilot study to determine whether indicated preoperative testing can be eliminated without increasing the perioperative incidence of adverse events in selected patients undergoing ambulatory surgery.

METHODS: One thousand sixty-one eligible patients were randomized either to have indicated preoperative testing or no preoperative testing. In the indicated testing group, patients received indicated preoperative testing: a complete blood count, electrolytes, blood glucose, creatinine, electrocardiogram, and chest radiograph according to the Ontario Preoperative Testing Grid as per current practice, whereas in the no testing group, no testing was ordered. The investigators, data collectors, and patient outcome reviewers were blinded to the group assignment. The primary outcome measures were the rate of perioperative adverse events and the rates of adverse events within 7 and 30 days after surgery.

RESULTS: Patients' age, gender, American Society of Anesthesiologists status, type of surgery, and anesthesia were similar between the two groups. There were no significant differences in the rates of perioperative adverse events and the rates of adverse events within 30 days after surgery between the no testing group and the indicated testing group. Hospital revisits ≤ 7 days were higher in the indicated testing group ($P < 0.05$). None of the adverse events were related to the indicated testing or no testing.

CONCLUSIONS: This pilot study showed that there was no increase in the perioperative adverse events as a result of no preoperative testing in our study population. A larger study is needed to demonstrate that indicated testing may be safely eliminated in selected patients undergoing ambulatory surgery without increasing perioperative complications.

(Anesth Analg 2009;108:467-75)

CIRUGIA AMBULATORIA

FASE PREOPERATORIA AYUNO PREOPERATORIO

- < 6 m. 4 h (leche-solidos) 2 h (liq. Azucar.)
- 6-24 m. 6 h " 3 h "
- > 24 m. 6 h " 4 h "

Agua 2 horas

CIRUGIA AMBULATORIA CATARATAS

Es necesario el ayuno preoperatorio en anestesia tópica ?

PREPARACIÓN

- ANSIOLISIS DOMICILIARIA
- PROTECTORES GASTRICOS
- PROFILAXIS ANTIEMETICA
- SEDANTES PREOPERATORIOS
- EMLA
- SEGUIR MEDICACION HABITUAL
 - ANTIDIABETICOS ORALES – INSULINAS
 - ANTIAGREGANTES PLAQUETARIOS
 - SINTROM

EQUIPAMIENTO QUIROFANO

- GASES : O₂ / AIRE / N₂O
- VACIO - ASPIRADOR - SISTEMA EVACUACION GASES
- RESPIRADOR DE ANESTESIA
- MONITORIZACION: ECG - PULSIOX. - PNI - CAPNOGRAFIA - BIS
- INSTALACION ELECTRICA HOMOLOGADA

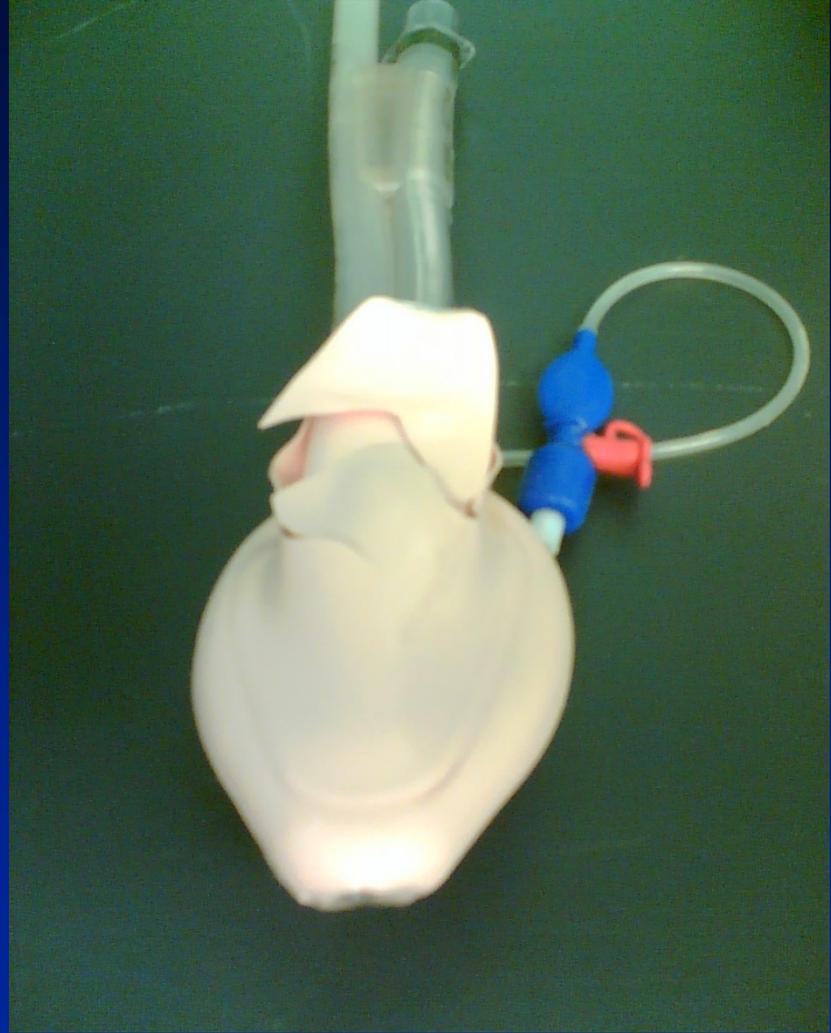
SELECCIÓN TÉCNICA ANESTÉSICA I

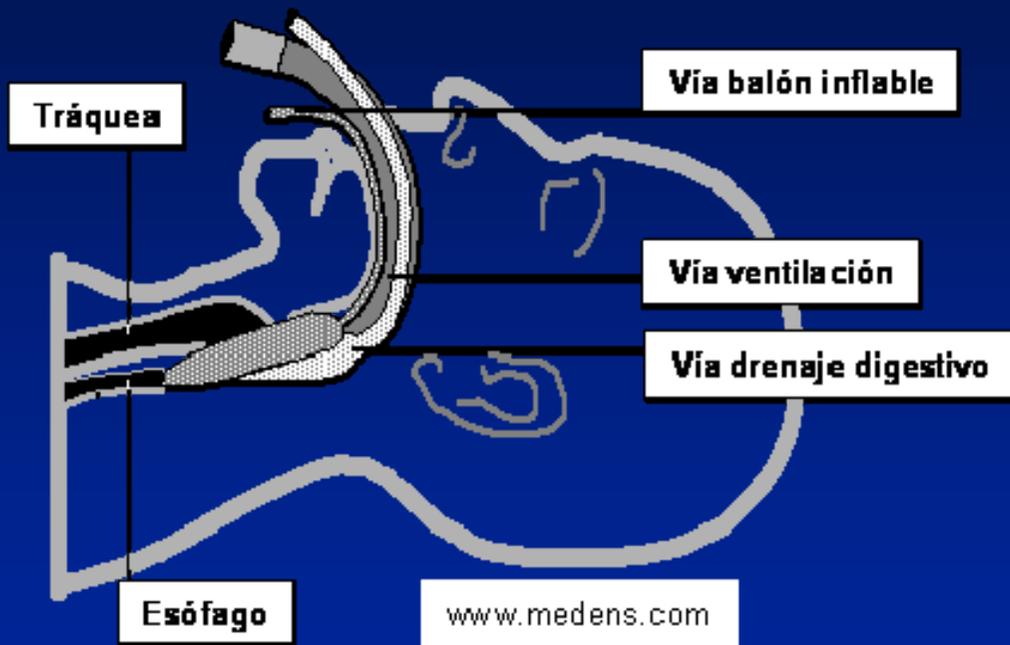
ANESTESIA GENERAL

FARMACOS DURACION CORTA

- AN. INH. ISOFLURANE – SEVOFLURANE - DESFLURANE
- AN. INTR. PROPOFOL - TIOPENTAL - ETOMIDATO
- REL. MUSC. NO DESP. INTERM.
ATRACURIO /cis – ROCURONIO-VECURONIO – MIVACURIO
Sugammadex
- MORFICOS: REMIFENTANIL - FENTANIL - ALFENTANIL
- VIA AEREA: INT. TRAQ.- DISP. SUPRAGLOTICOS
- SEDACIÓN: MIDAZOLAM - PROPOFOL - REMI / FENTANIL
- Prevención de NAUSEAS y VÓMITOS: DEXAMETASONA

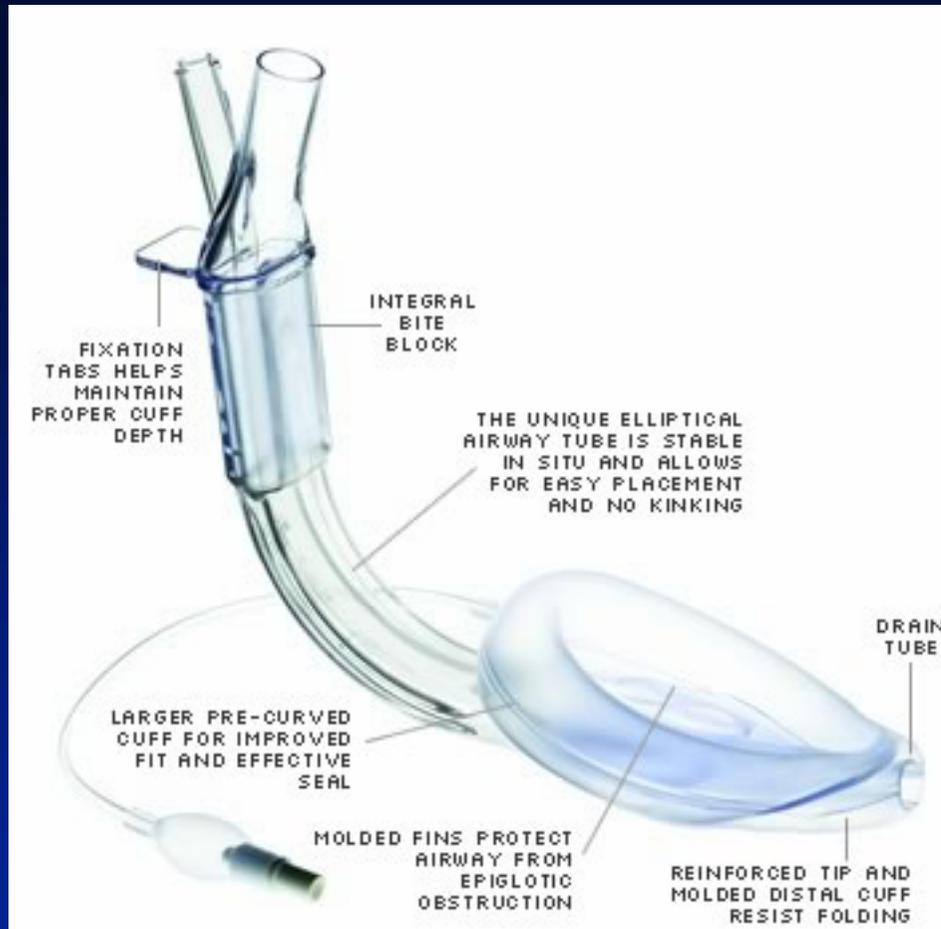






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SELECCIÓN TECNICA ANESTESICA II

ANESTESIA LOCO-REGIONAL

VENTAJAS

- **DISMINUYE LA SEDACIÓN POSTOPERATORIA**
- **DISMINUYE VOMITOS POSTOP.**
- **BUENA ANALGESIA POSTOP. INMEDIATO**
- **ALIMENTACION PRECOZ**
- **BUENAS EXPECTATIVAS DE RECUPERACIÓN GLOBAL**



Regional anaesthesia in day-stay and short-stay surgery

S. L. Kopp¹ and T. T. Horlocker²

1 Assistant Professor of Anesthesiology, Mayo Clinic College of Medicine, Rochester, Minnesota, USA

2 Professor of Anesthesiology and Orthopedic Surgery, Mayo Clinic College of Medicine, Rochester, Minnesota, USA

Summary

The goals for ambulatory surgery are rapid recovery with minimal side effects, adequate postoperative pain control, rapid patient discharge and overall cost containment. The addition of regional anaesthetic techniques has been shown to decrease nausea, postoperative pain scores and the need for post-anaesthesia care unit monitoring. The use of regional anaesthesia is increasing as studies confirm the goals for ambulatory anaesthesia can be met with a combination of regional anaesthesia and a multimodal pain management regimen.

SELECCIÓN TÉCNICA ANESTÉSICA III

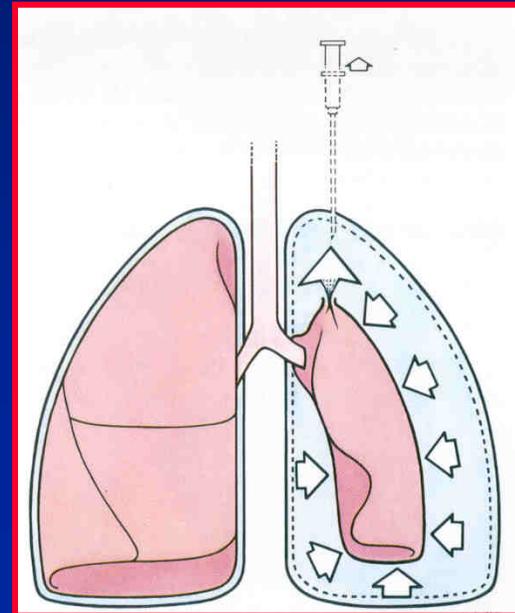
ANESTESIA LOCO-REGIONAL

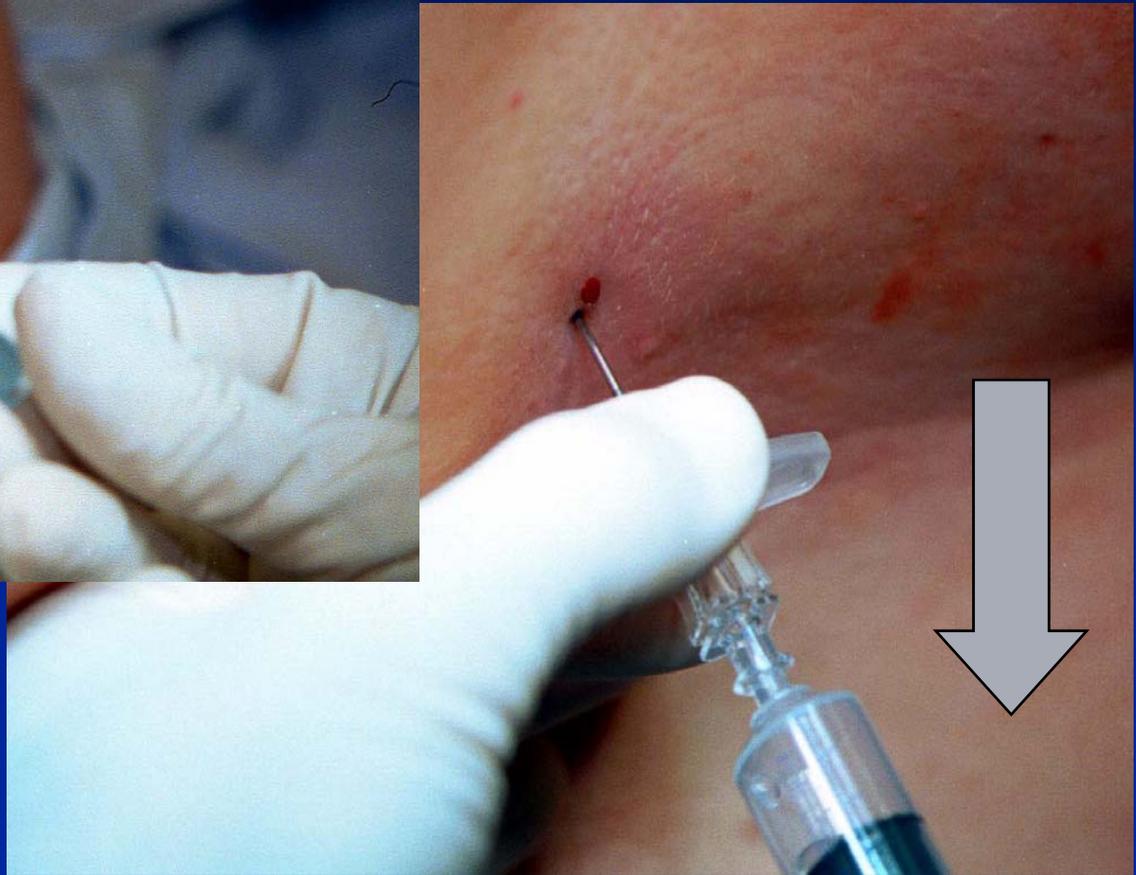
INCONVENIENTES

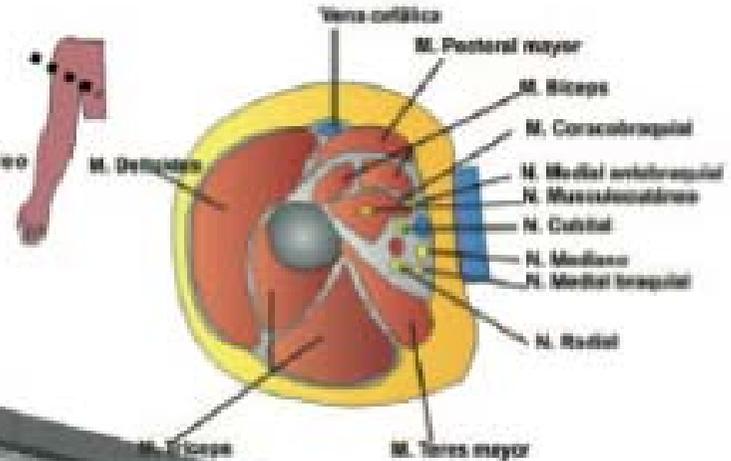
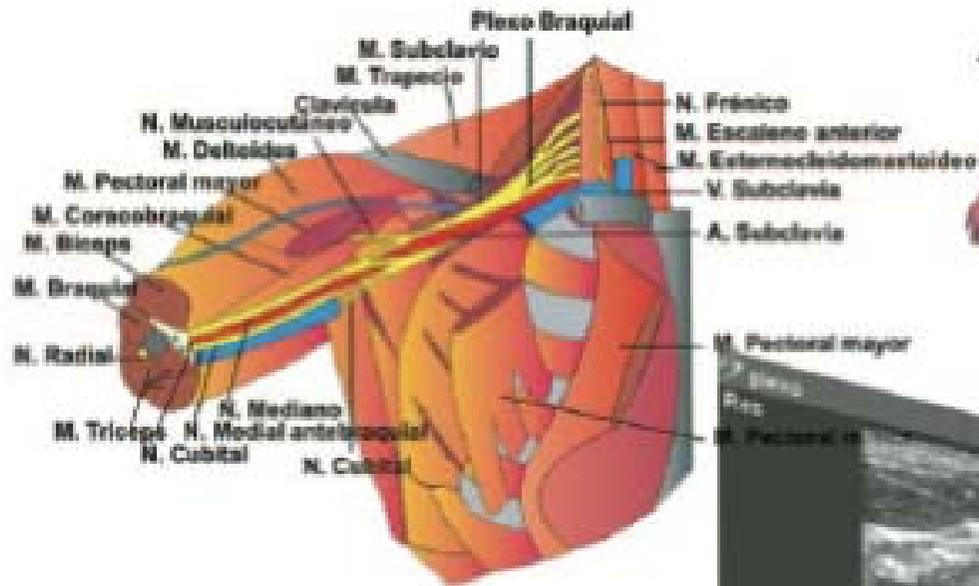
- **RETRASO PROGRAMACION QUIRURGICA**
- **DURACION BLOQUEO (URPA)**
- **FALLOS DE LA TECNICA**
- **EFFECTOS SECUNDARIOS**
- **RETENCIONES DE ORINA**

ANESTESIA LOCOREGIONAL EN CMA

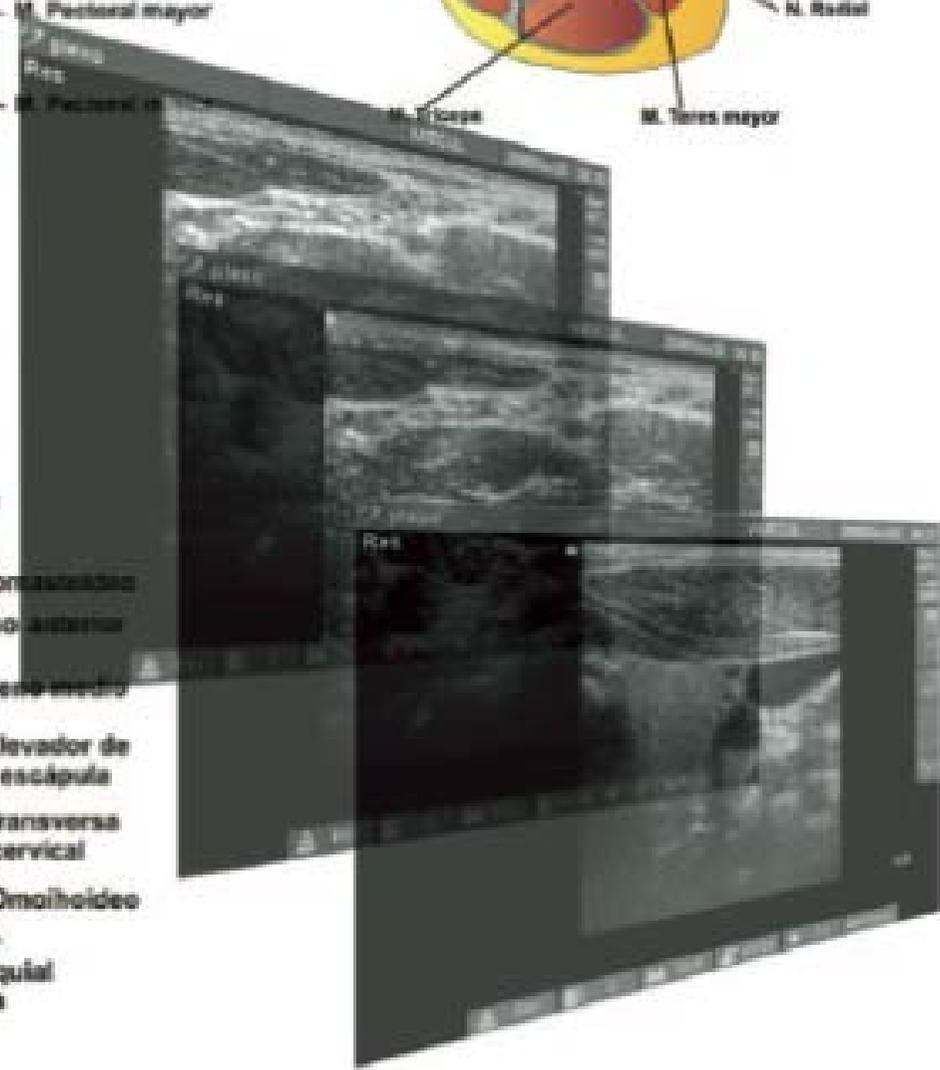
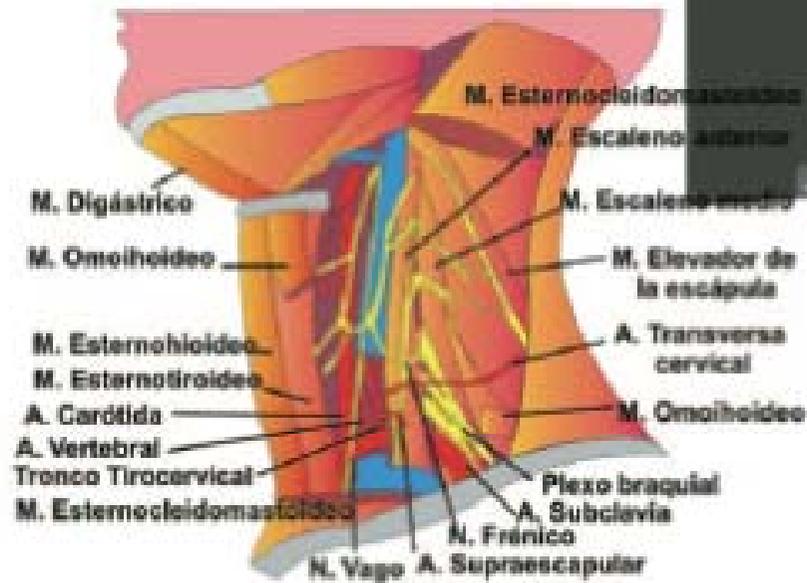
- Bloqueo Caudal
- Bloqueo del plexo braquial – B. Regional endovenoso
- Bloqueos de nervios perifericos
 - Paracervical
 - Ilio-inguinal – Hipogastrico – TAP
 - Dorsal del pene – Rodete peneano
 - Peribulbar – Retrobulbar – Subtenoniano – Topica
 - Plexo Braquial - Cubital – Radial – Mediano -
Supraescapular
 - Plexo Lumbo/Sacro – Ciatico - Safeno - Peroneo -
Tibial
 - Infiltraciones locales
- Bloqueo Espinal o Intradural
- Bloqueo Epidural







anestesia regional
con ecografía



ANESTESICOS LOCALES EN CMA

➤ BLOQUEOS ESPINALES

➤ LIDOCAINA (SNT)

➤ CLORPROCAINA

➤ PRILOCAINA

➤ BUPIVACAINA hiperbara a bajas dosis

➤ MEPIVACAINA

➤ Asociaciones con farmacos opiaceos

➤ BLOQUEOS PERIFERICOS

➤ BUPIVACAINA

➤ MEPIVACAINA

➤ ROPIVACAINA

➤ LEVOBUPIVACAINA



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*

Complications of peripheral nerve blocks

C. L. Jeng, T. M. Torrillo and M. A. Rosenblatt*

Department of Anaesthesiology, Mount Sinai School of Medicine, New York, USA

Summary Complications of peripheral nerve blocks are fortunately rare, but can be devastating for both the patient and the anaesthesiologist. This review will concentrate on current knowledge about peripheral nerve injury secondary to nerve blocks, complications from continuous peripheral nerve catheter techniques, and local anaesthetic systemic toxicity.

Conclusions

The widespread use of single-shot and continuous regional anaesthetic techniques is associated with few complications, but neurological deficits, PNC-related issues, and LAST still occur. Understanding the aetiologies of these complications and implementing methods to minimize their occurrence will promote the safe practice of regional anaesthesia.

British Journal of Anaesthesia **105** (S1): i97–i107 (2010)

CMA CONTROL POSTOPERATORIO





URPA

CMA

URPA

- ❖ Vigilancia de los pacientes en el postoperatorio inmediato
- ❖ Recuperación hemodinámica i respiratoria (Escala de Steward, Aldrete o otras)
- ❖ Tratamiento adecuado del dolor
- ❖ Profilaxis y tratamiento de los efectos indeseables de la anestesia (Nauseas, Vomitos, Temblores, ...)
- ❖ Reversión del bloqueo anestésico (bloqueos nerviosos centrales) y tratamiento de los efectos indeseables si aparecen
- ❖ Información al paciente y familiares sobre el proceso operatorio y perioperatorio.

Anesth Analg 1999;88:1069-72

New Criteria for Fast-Tracking After Outpatient Anesthesia: A Comparison with the Modified Aldrete's Scoring System

Paul F. White, PhD, MD, FANZCA, and Dajun Song, MD, PhD

Appendix 1

Proposed fast-track criteria to determine whether outpatients can be transferred directly from the operating room to the step-down (Phase II) unit. A minimal score of 12 (with no score <1 in any individual category) would be required for a patient to be fast-tracked (i.e., bypass the postanesthesia care unit) after general anesthesia.

	Score
Level of consciousness	
Awake and oriented	2
Arousable with minimal stimulation	1
Responsive only to tactile stimulation	0
Physical activity	
Able to move all extremities on command	2
Some weakness in movement of extremities	1
Unable to voluntarily move extremities	0
Hemodynamic stability	
Blood pressure <15% of baseline MAP value	2
Blood pressure 15%–30% of baseline MAP value	1
Blood pressure >30% below baseline MAP value	0
Respiratory stability	
Able to breathe deeply	2
Tachypnea with good cough	1
Dyspneic with weak cough	0
Oxygen saturation status	
Maintains value >90% on room air	2
Requires supplemental oxygen (nasal prongs)	1
Saturation <90% with supplemental oxygen	0
Postoperative pain assessment	
None or mild discomfort	2
Moderate to severe pain controlled with IV analgesics	1
Persistent severe pain	0
Postoperative emetic symptoms	
None or mild nausea with no active vomiting	2
Transient vomiting or retching	1
Persistent moderate to severe nausea and vomiting	0
Total score	14

MAP = mean arterial pressure.

TRATAMIENTO MULTIMODAL DEL DOLOR POSTOPERATORIO

- ↑ Analgesia profiláctica por vía oral o parenteral preoperatoria
- ↑ Analgesia intraquirúrgica
- ↑ AINES parenterales intraquirúrgicos
- ↑ Infiltración de las heridas quirúrgicas
- ↑ Instilación de anestésicos locales en las cavidades
- ↑ AINES/opioides parenterales en postoperatorio inmediato
- ↑ Utilización de otros fármacos coadyuvantes (corticoides, sedantes orales, morfínicos o AINES intraarticulares, ...)
- ↑ Catéteres incisionales o intraarticulares con infusión anest. local
- ↑ Otras Técnicas analgésicas más sofisticadas (Dispositivos de infusión continua iv, incisional o perineural PCA parenteral o subcutánea, parches de fentanest transdérmico, TNS, ...)

The role of multimodal analgesia in pain management after ambulatory surgery

Ofelia L. Elvir-Lazo^a and Paul F. White^{b,c}

^aDepartment of Anesthesia, Cedars Sinai Medical Center, Los Angeles, California, USA, ^bDirector of Research, Policlinico Abano, Abano Terme, Italy and ^cCedars Sinai Medical Center, Los Angeles, California, USA

Correspondence to Paul F. White, PhD, MD, FANZCA, President, The White Mountain Institute, 144 Ashby Lane, Los Altos, CA 94022, USA

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Current Opinion in Anesthesiology 2010,
23:697–703

Purpose of review

As outpatient (day-case) surgery had continued to grow throughout the world, many more complex and potentially painful procedures are being routinely performed in the ambulatory setting. Opioid analgesics, once considered the standard approach to preventing acute postoperative pain, are being replaced by a combination of nonopioid analgesic drugs with diverse modes of action as part of a multimodal approach to preventing pain after ambulatory surgery. This review will provide an update on the topic of multimodal pain management for ambulatory (day-case) surgery.

Recent findings

Efficacy of multimodal analgesic regimens continues to improve; opioid analgesics are increasingly taking on the role of 'rescue analgesics' for acute pain after day-case surgery. The use of multimodal analgesia is rapidly becoming the 'standard of care' for preventing pain after ambulatory procedures at most surgery centers throughout the world.

Summary

This article discusses recent evidence from the peer-reviewed literature regarding the role of local anesthetics, NSAIDs, gabapentinoids, and acetaminophen, as well as alpha-2 agonists, ketamine, esmolol, and nonpharmacologic approaches (e.g., transcutaneous electrical stimulation) as parts of multimodal pain management strategies in day-case surgery.

Systemic Lidocaine Decreased the Perioperative Opioid Analgesic Requirements but Failed to Reduce Discharge Time After Ambulatory Surgery

Allannah McKay, MD*

Antje Gottschalk, MD*†

Annette Ploppa, MD*‡

Marcel E. Durieux, MD, PhD*

Danja S. Groves, MD, PhD*

BACKGROUND: In this randomized, blinded, placebo-controlled trial, we evaluated whether systemic lidocaine would reduce pain and time to discharge in ambulatory surgery patients.

METHODS: Sixty-seven patients were enrolled to receive lidocaine or saline infusion perioperatively.

RESULTS: Length of postanesthesia care unit (PACU) stay did not differ between groups. Intraoperative opioid use was significantly less in the lidocaine group, both in the PACU and during the total study period but not after discharge. In the PACU, patients in the lidocaine group reported less pain (visual analog scale score 3.1 ± 2.04 vs 4.5 ± 2.9 ; $P = 0.043$). There were no differences in postoperative nausea and vomiting.

CONCLUSION: Perioperative systemic lidocaine significantly reduces opioid requirements in the ambulatory setting without affecting time to discharge.

(Anesth Analg 2009;109:1805-8)



Wound infiltration for surgery

N. B. Scott

Consultant Anaesthetist, Golden Jubilee National Hospital, Clydebank, Scotland

Summary

Wound infiltration with local anaesthetics is a simple, effective and inexpensive means of providing good analgesia for a variety of surgical procedures without any major side-effects. In particular, local anaesthetic toxicity, wound infection and healing do not appear to be major considerations. The purpose of this review is to outline the existing literature on a procedure-specific basis and to encourage a more widespread acceptance of the technique, ensuring that all layers are infiltrated in a controlled and meticulous manner.

Wound infiltration with local anaesthetics in ambulatory surgery

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Current Opinion in Anesthesiology 2010, 23:708–713

Purpose of review

Wound infiltration analgesia using local anaesthetics has been used for several decades. Recently, newer techniques to prolong analgesia have developed, including the use of catheters and injection of local anaesthetics or other adjuvants, and local infiltration analgesia using large volumes of local anaesthetics injected into different tissue planes. The aim of this review is to present the current status of wound infiltration analgesia in management of postoperative pain and to highlight the risks of this technique in clinical practice.

Summary

Used correctly and in adequate doses, wound infiltration analgesia can be used in a multimodal analgesic regime without major complications. It offers the benefit of providing analgesia at a low cost when used as a single injection.

Topical application of analgesics: a clinical option in day case anaesthesia?

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Current Opinion in Anesthesiology 2010,
23:704–707

Purpose of review

To examine the available and emerging evidence of the use of topically applied analgesics with particular reference to day case anaesthesia.

Recent findings

Current postoperative pain therapy revolves around the use of wound infiltration and systemic administration of opioids, nonsteroidal anti-inflammatory drugs and paracetamol. However, since the origin of postoperative pain is the surgically inflicted wound, there is appeal to localized application of drug to the site of injury, with the hope of enhanced pain relief and a reduction in the side effects associated with systemic administration of drugs. With our enhanced knowledge of the origin and modulation of postoperative pain, it is clear that there are a variety of peripheral targets for our pharmacological interventions. In this review these targets are discussed along with suggestion of which available and emerging drugs are and may be available to interact with these pharmacological targets.

Summary

A variety of targets for peripherally applied analgesics exists, some of which can be accessed using currently available drugs, whereas others may need development of new formulations before they can be clinically targeted.

Indications and management of continuous infusion of local anesthetics at home

Michael Axley and Jean-Louis Horn

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Tel: +1 503 494 3086; fax +1 503 418 0884;
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Current Opinion in Anaesthesiology 2010,
23:650–655

Purpose of review

The review examines recent research activity in the field of continuous peripheral nerve blocks in the ambulatory setting and places it in context with regard to previous research efforts.

Recent findings

Use of continuous peripheral nerve blocks at home following outpatient surgery is an increasingly accepted form of anesthesia practice. Researchers continue active investigation of optimal strategies for the relationship between continuous local anesthetic infusion volume and concentration as well as assisted and ideal catheter placement techniques including ultrasound.

Summary

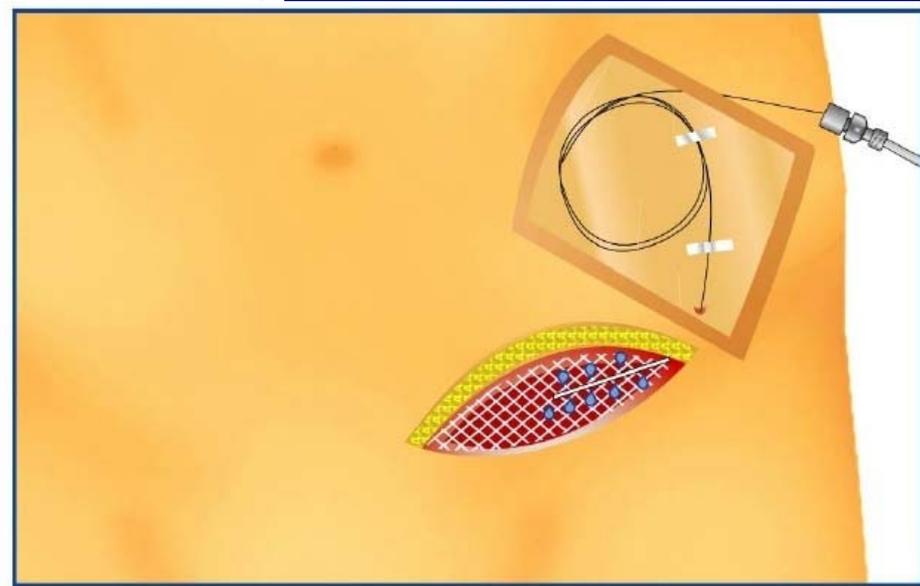
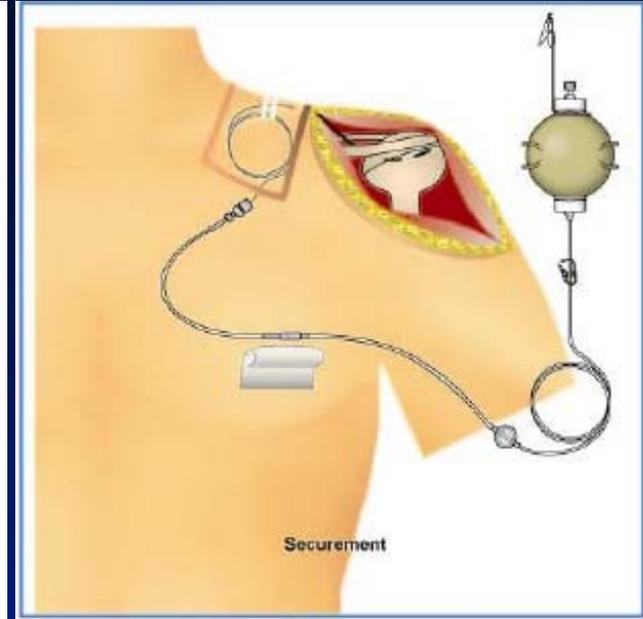
Continuous peripheral nerve blockade at home offers good short-term control of postoperative pain in the outpatient setting. Long-term outcomes remain to be evaluated fully. More information is becoming available on local anesthetic volume and concentration relationships in both the upper and lower extremities – optimal strategies are not yet clear. Ultrasound may offer benefits in terms of speed and ease of continuous catheter placement while reducing the necessary number of needle passes required to reach the target structure site(s).

INFUSOR® Bombas Elastomericas

El Arte de la Analgesia



INFUSOR®
La solución ideal para
el tratamiento del dolor
agudo postoperatorio





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



ADAPTACIÓN
AL MEDIO

CMA

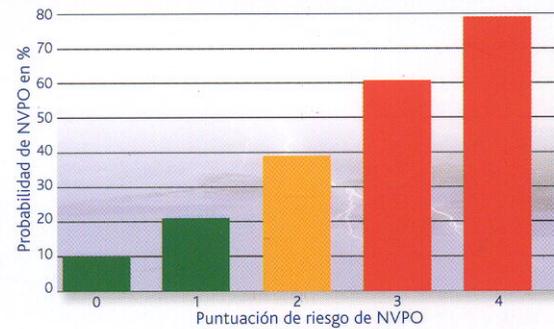
COMPLICACIONES POSTOPERATORIAS

- Nauseas / Vómitos
- Dolor no controlado
- Sangrado excesivo
- Transtornos miccionales
- Descompensación patología asociada
- Irritación Radicular Transitoria

Probabilidad de Náuseas y Vómitos después de la anestesia general

Escala de Riesgo NVPO según Apfel

Factores de riesgo	Puntos
Ninguno	0
Sexo femenino	1
No-fumador	1
Historia de NVPO o cinetosis	1
Opioides postoperatorios	1
Suma	0...4



Tratamiento profiláctico de NVPO según puntuación Apfel

Riesgo	Profilaxis	Fármacos IV
Bajo o muy bajo (0-1 puntos: ≤ 20%)	Monoterapia	Dexametasona 4 - 8 mg ó Droperidol 0,625-1,25 mg
Moderado (2 puntos ≤ 40%)	Terapia doble	Dexametasona 4 - 8 mg y Droperidol 0,625-1,25 mg
Alto o muy alto (3-4 puntos > 40%)	Terapia multimodal: Tres antieméticos y Medidas generales	Dexametasona 4 - 8 mg y Droperidol 0,625-1,25 mg y Ondansetrón 4 mg

PROFILAXIS. Medidas generales para reducir el riesgo

- Anestesia regional en vez de general
- Propofol en la inducción y mantenimiento (evitar agentes inhalatorios)
- Minimizar los opioides perioperatorios (analgesia multimodal con AINES)
- Fármacos antieméticos: Dexametasona, Droperidol, Ondansetrón y su combinación mejora la eficacia

TRATAMIENTO. Dependerá de la profilaxis realizada

SIN profilaxis previa:

- Ondansetrón 1-4 mg iv
- Droperidol 0,625 mg iv (dosis baja para evitar sedación)
- La dexametasona es poco efectiva para el tratamiento

CON profilaxis previa:

- Administrar antiemético de grupo diferente al utilizado en la profilaxis
- Repetir ondansetrón si han transcurrido > 6 h de la última dosis
- Prometazina 6,25 -12,5 mg iv (dosis baja para evitar sedación)
- Propofol 20 mg iv (Sólo en la URPA y a dosis baja para evitar sedación)

CMA

CRITERIOS DE ALTA

- ✓ Deambulaci3n*
- ✓ Orientaci3n temporo-espacial
- ✓ Constantes cl3nicas estables
- ✓ No signos de alerta cl3nica postquirurgicos o postanestesicos
- ✓ No nauseas ni vomitos
- ✓ Analgesia eficaz; Dolor controlable con analgesicos orales*.
- ✓ Entrega del informe operatorio y de las ordenes/recomendaciones postoperatorias
- ✓ Presencia de un adulto responsable
- ✓ Aceptaci3n del alta por parte del paciente y del adulto responsable
- ✓ Existencia de un telefono de contacto hospitalario
- ✓ Tolerancia a l3quidos*
- ✓ Micci3n espontanea*

INDICADORES DE CALIDAD EN CMA

↑ Índice de Anulaciones

↑ Índice de Ingresos (Inmediatos o Diferidos)

↑ Porcentaje de Complicaciones

↑ Porcentaje de reintervenciones (Inmediatas o diferidas)

↑ Índice de Substitución Ambulatoria por procedimientos

↑ Encuestas de satisfacción en los pacientes

Lineas de progreso-investigación en CMA

- Busqueda de una mayor calidad asistencial
- Incorporación de nuevos procedimientos en los programas de CMA
- Optimización de los recursos farmacologicos, tecnologicos y de la organización.
- Incorporación de los avances médicos correspondientes.

**TECNICAS
ANESTESICAS DE
ELECCIÓN EN CMA**

CIRUGIA
ARTROSCOPICA DE
RODILLA



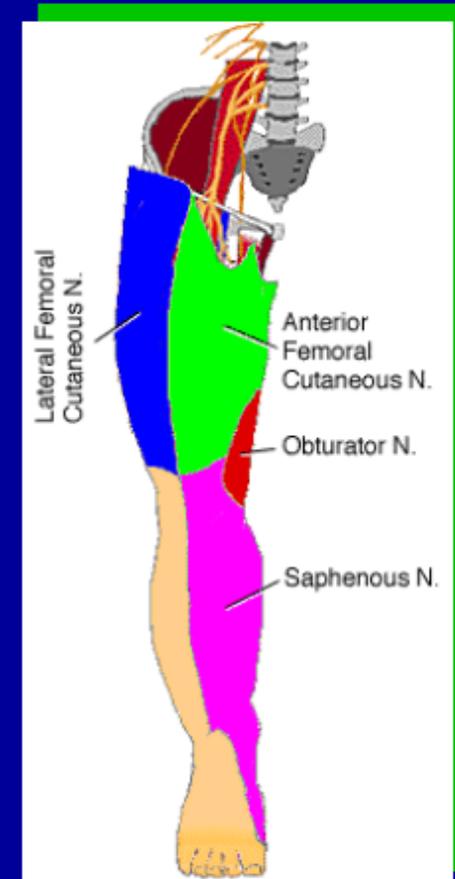
Peripheral Nerve Blocks Result in Superior Recovery Profile Compared with General Anesthesia in Outpatient Knee Arthroscopy.

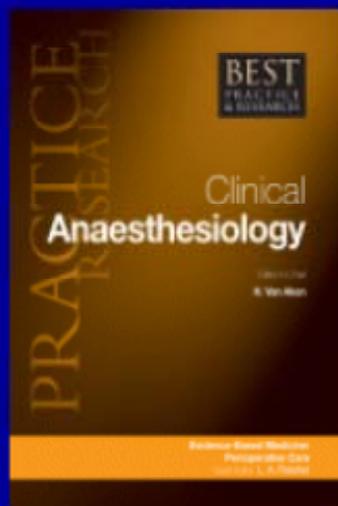
Anesth Analg 2005 Apr;100(4):976-981.

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.**

¿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.





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.



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.**

Regional anesthesia techniques for ambulatory orthopedic surgery

Brian D. O'Donnell and Gabriella Iohom

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Current Opinion in Anaesthesiology 2008,
21:723–728

Purpose of review

The purpose of this review is to present advances in the use of regional anesthetic techniques in ambulatory orthopedic surgery. New findings regarding the use of both neuraxial anesthesia and peripheral nerve block are discussed.

Recent findings

Neuraxial anesthesia: The use of short-acting local anesthetic agents such as mepivacaine, 2-chloroprocaine, and artocaine permits rapid onset intrathecal anesthesia with early recovery profiles. Advantages and limitations of these agents are discussed.

Peripheral nerve block: Peripheral nerve blocks in limb surgery have the potential to transform this patient cohort into a truly ambulatory, self-caring group. Recent trends and evidence regarding the benefits of regional anesthesia techniques are presented. Continuous perineural catheters permit extension of improved perioperative analgesia into the ambulatory home setting. The role and reported safety of continuous catheters are discussed.

CIRUGIA DEL PIE

HALLUX VALGUS

OSTEOTOMIA WEILL

NEURALGIA DE MORTON

ARTRODESIS DEDOS

TIPOS DE ANESTESIA EN CIRUGIA DEL PIE

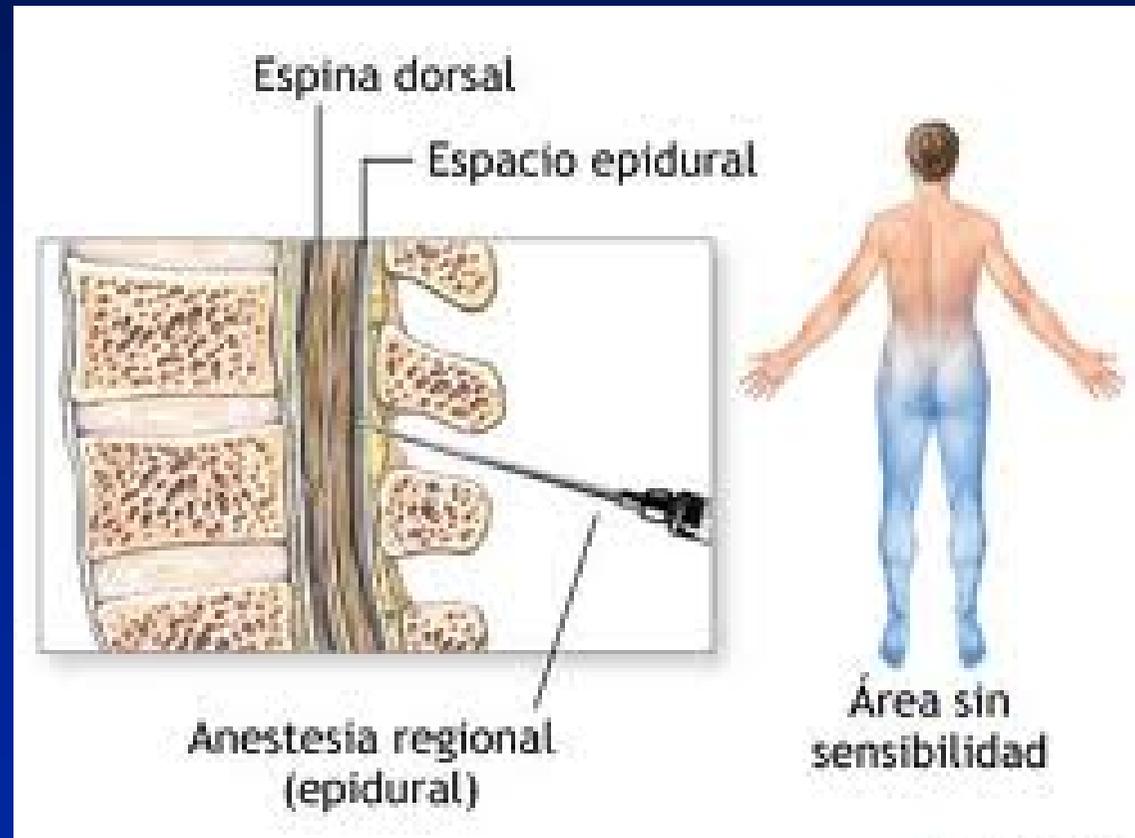
Anestesia
General



TIPOS DE ANESTESIA EN CIRUGIA DEL PIE

Anestesia Loco Regional

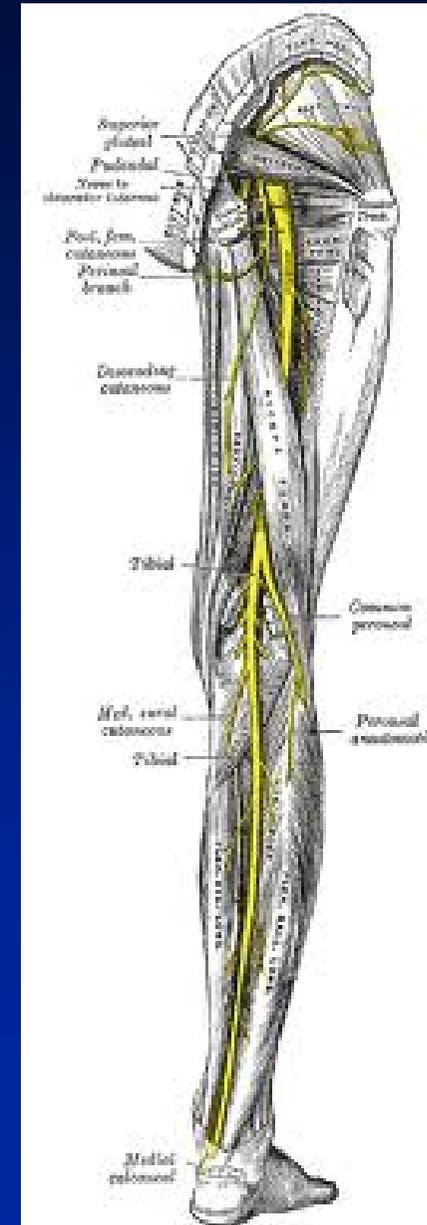
Bloqueo Neuroaxial
Intradural
Peridural



ANESTESIA EN CIRUGIA DEL PIE

Bloqueo Nervioso Extremidad Inferior

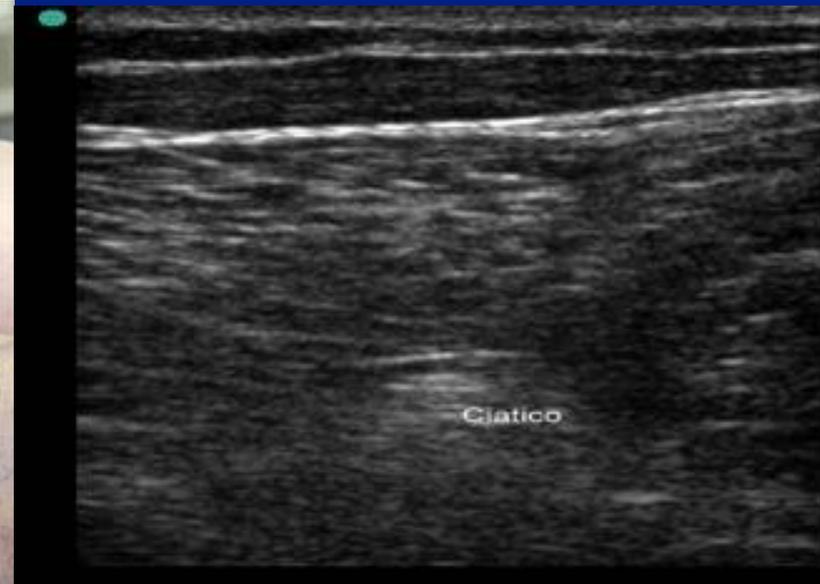
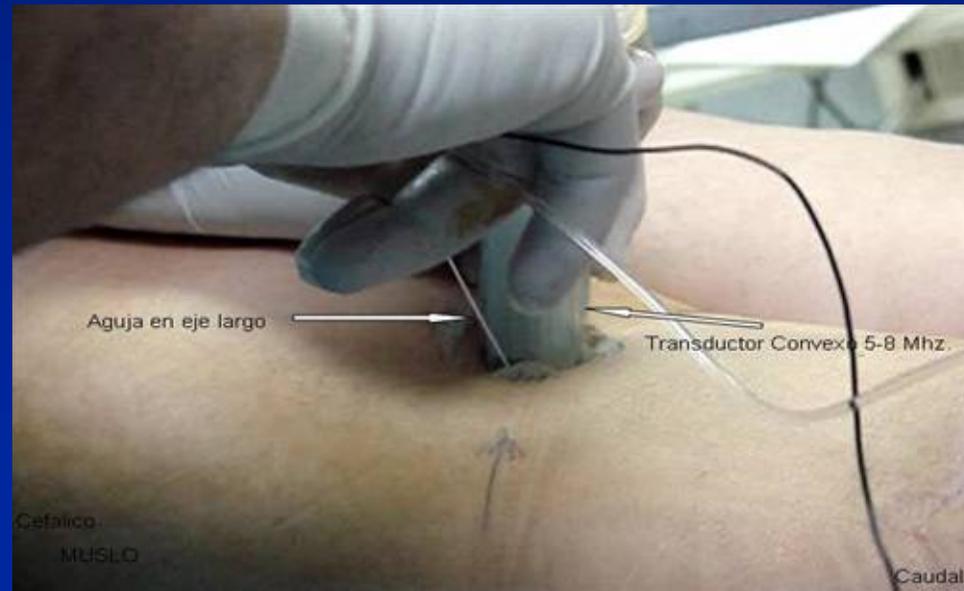
- Femoral
- Tres en uno + Fascia iliaca
- Plexo lumbar posterior
- **Ciático Proximal**
(anterior, lateral, Posterior, Litotomía)
- **Ciático Poplíteo**
(Lateral, Posterior)



Bloqueo del N. Ciático Poplíteo Método Ecográfico

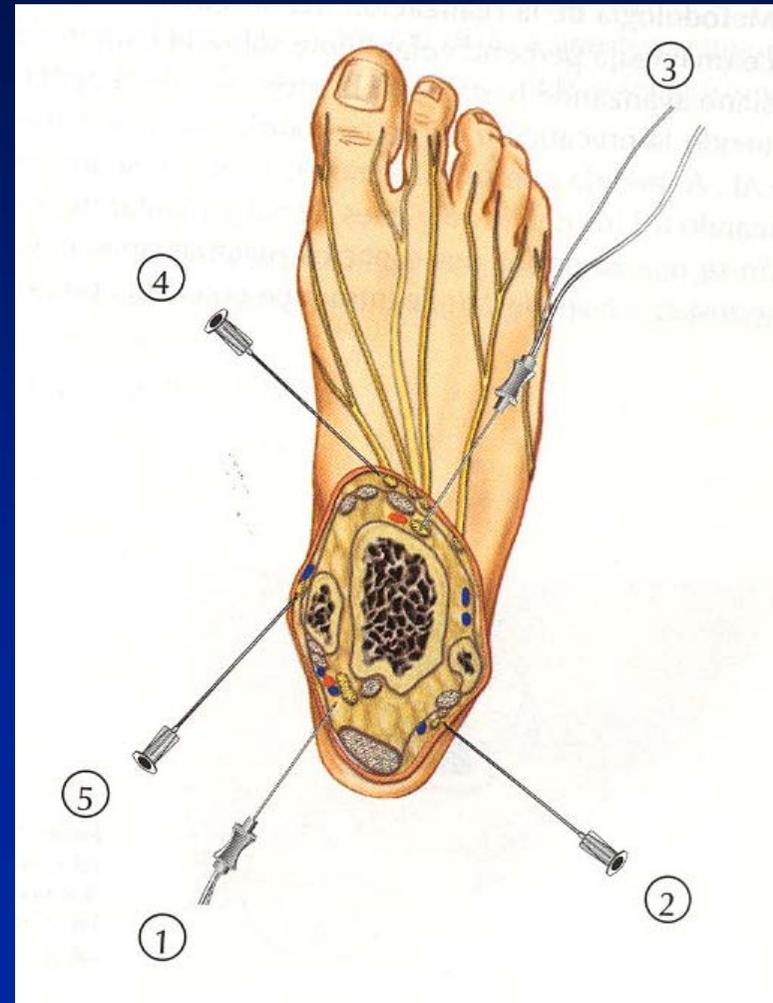
El bloqueo del nervio ciático está indicado para cirugía de pie y tobillo, y combinado con bloqueo del plexo lumbar para la cirugía de cadera y de rodilla. Con la introducción de los transductores de alta frecuencia en el rango de 6 a 13MHz y alta resolución a partes pequeñas, la evaluación ecografica del nervio viene a ser de más fácil acceso.

El bloqueo del nervio ciático a nivel del hueco poplíteo es uno de los mas indicados para la cirugía de pie y tobillo.



Bloqueo del Pie a nivel del Tobillo

1. Tibial
2. Sural
3. Peroneo Profundo
4. Peroneo Superficial
5. Safeno



BLOQUEOS NERVIOSOS PARA CIRUGIA DEL PIE

RECOMENDACIONES GENERALES

1 El Bloqueo ciático es muy recomendable.

Un bloqueo complementario del nervio safeno permite anestesiar la cara anterior y medial de la pierna.

No hay consenso sobre la mejor vía de bloqueo ciático por encima de la rodilla o en el hueco poplíteo.

2 Se recomienda una doble estimulación (n. fibular y n. tibial) en la vía de abordaje lateral en el hueco poplíteo.

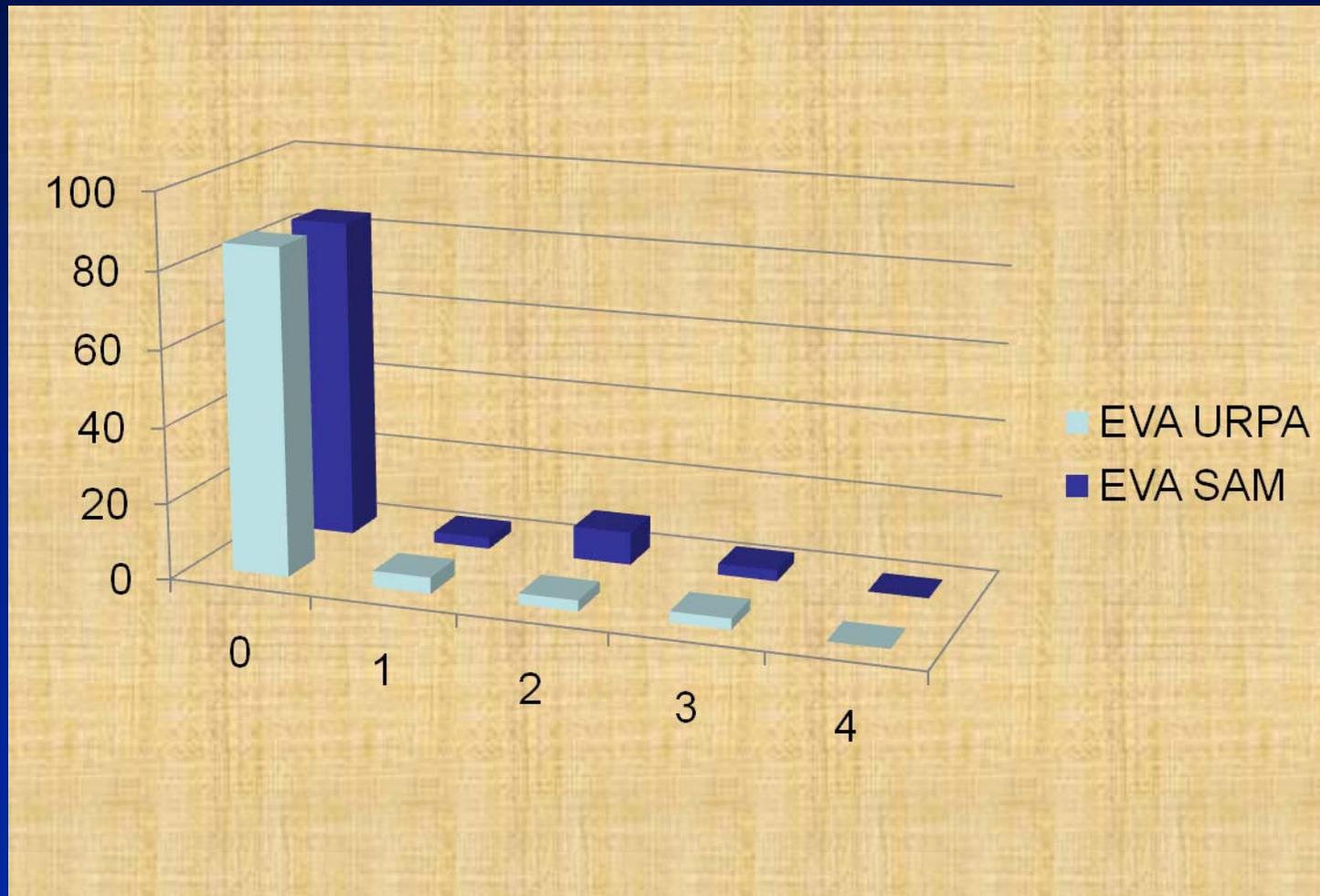
3 Escoger el Bloqueo en función del tipo de acto quirúrgico

El Bloqueo de tobillo es una técnica fácil, muy bien adaptada a la cirugía menor del pie y a las características de la CMA.

El Bloqueo ciático en el hueco poplíteo se adapta a cualquier cirugía del pie con isquemia a nivel del tobillo. Se puede completar con el bloqueo del nervio safeno para limitar el dolor de la isquemia.

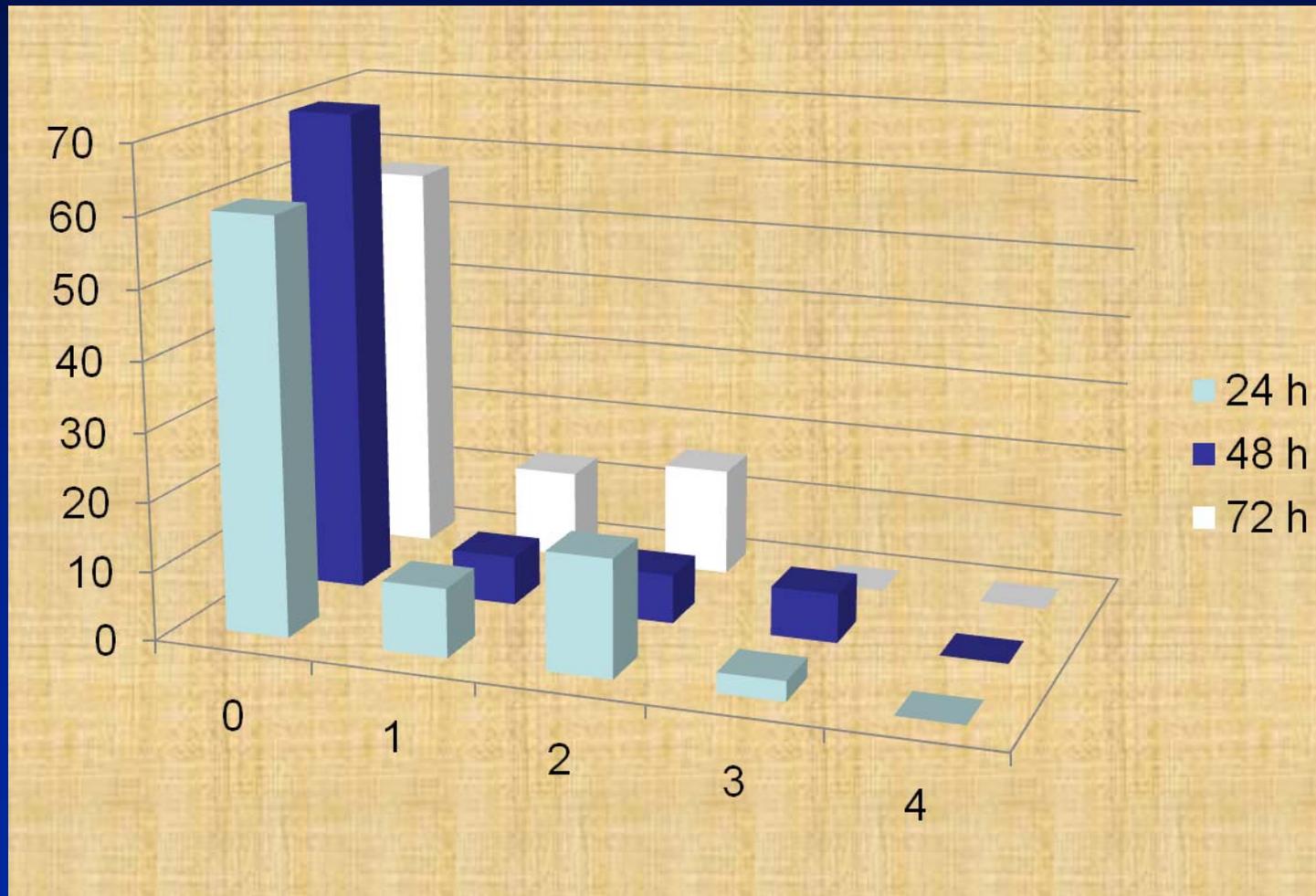
El Bloqueo ciático por encima de la rodilla se adapta a la cirugía con isquemia en el muslo.

CIRUGIA AMBULATORIA DEL PIE RESULTADOS DOLOR POSTOP HOSPITALARIO

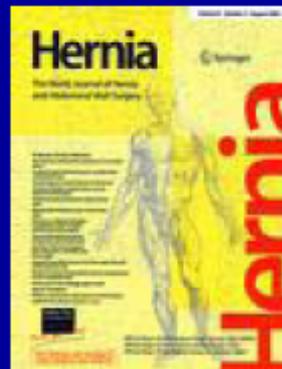


CIRUGIA AMBULATORIA DEL PIE

RESULTADOS DOLOR POSTOP DOMICILIARIO



CIRUGIA DE LA HERNIA INGUINAL



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.

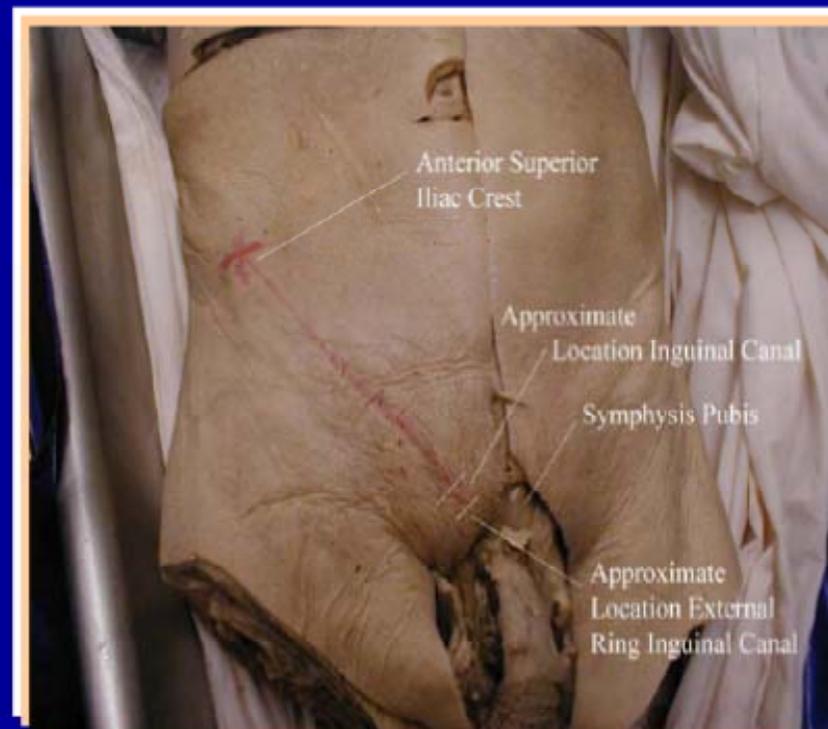
BACKGROUND: Recent scientific data suggest that local infiltration anaesthesia for inguinal hernia surgery may be preferable compared to general anaesthesia and regional anaesthesia, since it is cheaper and with less urinary morbidity. Regional anaesthesia may have specific side-effects and is without 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.



Transversus abdominis plane block

Olivia Finnerty^{a,b} and John G. McDonnell^{a,b,c}

Purpose of review

Since the publication of original work on the transversus abdominis plane (TAP) block, the translation of the research into clinical practice has resulted in some 146 articles being published in peer-reviewed journals. However, there continues to be controversies over the best approach to be used. The introduction of ultrasound should have aided the development of this block, but in fact it has caused more questions to be asked. There are a number of reviews of the block already published, but were they published too early and what is our current understanding of the TAP block and its mechanisms of action?

Recent findings

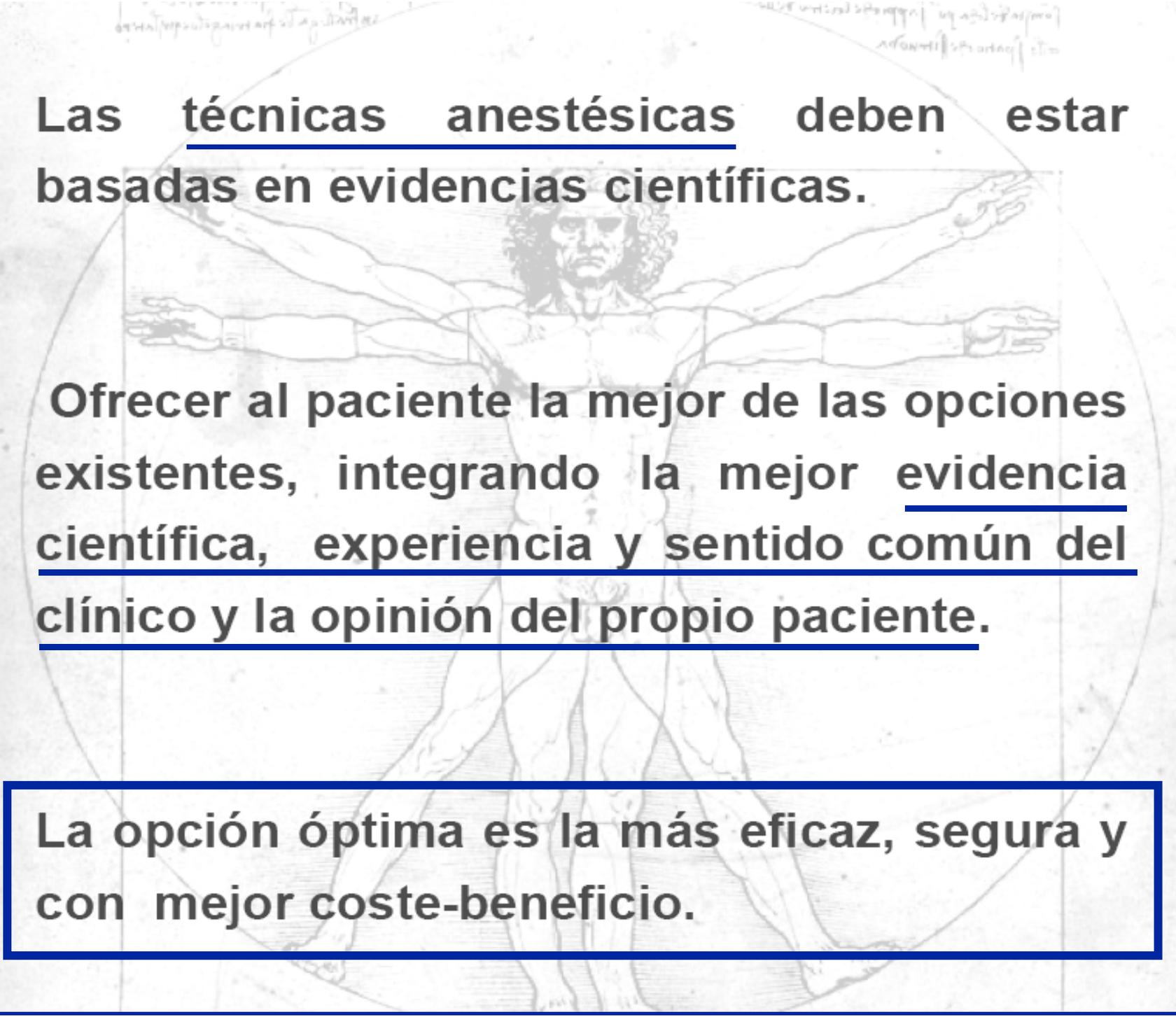
The TAP block continues to develop. We now understand that the TAP block is a multifaceted block, working with both localized field effects as well as distal effects due to a distant spread of local anesthetic. Recent research would suggest that the location of needle tip placement causes variation in the block characteristics obtained. The more anterior approaches adopted for use since the introduction of ultrasound might be better described as RAFI (regional abdominal field infiltration) blocks.

Summary

The TAP block, in all its guises, is an effective analgesic tool, but what is the best approach? Randomized controlled trials comparing the TAP/RAFI blocks to epidural based analgesia are required.

Keywords

abdominal wall block, paravertebral, transversus abdominis plane block

The background of the slide features a faded, light-colored version of Leonardo da Vinci's Vitruvian Man drawing. The figure is centered, with arms and legs extended, inscribed within a circle and a square. The drawing is rendered in a sketchy, line-art style.

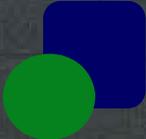
Las técnicas anestésicas deben estar basadas en evidencias científicas.

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.

CIRUGIA MAYOR AMBULATORIA “LA CIRUGIA DE LA EXCELENCIA”




Corporació
Parc Taulí

Centre Quirurgic Ambulatori