



Bordeaux
19-20 Novembre 2015

Retour à domicile après chirurgie Ambulatoire Quels enjeux pour l'analgésie?

Nicolas Dufeu



Conflits intérêts

- Baxter
- B-Braun
- Gamida
- Horus
- Kheops
- MSD
- Nordic Pharma
- Sonosite
- Studio Santé

ANALGESIE en Chirurgie AMBULATOIRE

QUE SAVONS NOUS?

Acte avec Risque Maitrisé

Patient sélectionné



Whiteb Pf, Kehlet H. *Postoperative pain management and patient outcome : **time to return to work!*** (Editorial)
Anesth Analg 2007;104:487-90

Pain Intensity on the First Day after Surgery

A Prospective Cohort Study Comparing 179 Surgical Procedures

Hans J. Gerbershagen, M.D., Ph.D.,* Sanjay Aduckathil, M.D.,† Albert J. M. van Wijck, M.D., Ph.D.,‡
Linda M. Peelen, Ph.D.,§ Cor J. Kalkman, M.D., Ph.D.,|| Winfried Meissner, M.D., Ph.D.#

Background: Severe pain after surgery remains a major problem, occurring in 20–40% of patients.



What We Already Know about This Topic

- The amount of pain that following many types of surgery remains unknown, as does pain variation among procedures

Results: The 40 procedures with the highest pain scores (median numeric rating scale, 6–7) included 22 orthopedic/trauma procedures on the extremities.

What This Article Tells Us That Is New

- The investigators evaluated postoperative pain in 50,523 patients from 105 German hospitals, and compared pain scores among 179 surgical groups
- Pain scores were often high and, generally speaking, were worst in “minor” procedures, including appendectomy, cholecystectomy, hemorrhoidectomy, and tonsillectomy
- Many relatively small operations are associated with considerable pain, perhaps because these patients are given less analgesia than needed



Anesthesiology. 2013 Apr;118(4):934-44

Postoperative Nausea and Vomiting Are Strongly Influenced by Postoperative Opioid Use in a Dose-Related Manner

Gregory W. Roberts, B Pharm, FSHP, BCPS*, Tenna B. Bekker, MSc Pharm†, Helle H. Carlsen, MSc Pharm‡, Christine H. Moffatt, MBBS, FANZCA†, Peter J. Slattery, MBBS, FANZCA, FFPMANZCA†, and Anna F. McClure, B Pharm, BCPS*

(Anesth Analg 2005;101:1343–8)

*Pharmacy Department and †Department of Anesthesia, Intensive Care, and Pain Medicine, Repatriation General Hospital, Daw Park, Australia; and ‡Royal Danish School of Pharmacy, Copenhagen, Denmark

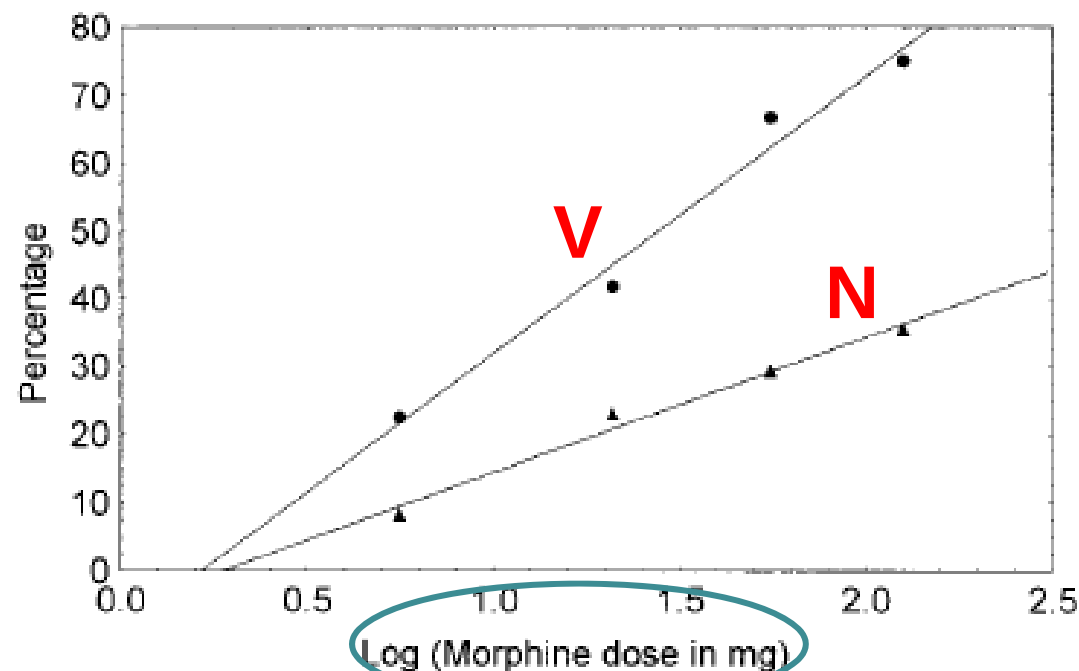


Figure 3. Log morphine dose (mg) in the immediate 24 h postoperatively versus vomiting (▲) and nausea (●). Vomiting: $r^2 = 0.98$, $P = 0.008$. Nausea: $r^2 = 0.98$, $P = 0.010$.

Table 4. Univariate Analyses of Factors Predictive of Postoperative Nausea or Vomiting

Variable	Level	No. in Level	% With PONV	P value
Pre-/intraoperative fentanyl ($\mu\text{g}/\text{kg}$)	<1.5	87	21%	<0.001
	≥ 1.5	81	46%	
Surgery type	Hernia	25	40%	0.001
	Male knee	25	20%	
	Plastic	25	72%	
	Laparoscopy	25	40%	
	Transvaginal	25	24%	
	Breast	25	24%	
	Female knee	25	20%	
Surgery duration (min)	<60	101	26%	0.003
	60-119	3	41%	
	≥ 119	11	73%	
Cumulative fentanyl (μg) ^a	<150	103	27%	0.02
	≥ 150	72	44%	
Intraoperative ketorolac	No	111	41%	0.03
	Yes	64	23%	
Anesthesia (breast surgery cases only)	General anesthesia	15	40%	0.05
	Local anesthesia	10	0%	

PONV = postoperative nausea and/or vomiting.

^a Cumulative fentanyl = pre-/intraoperative fentanyl plus recovery fentanyl dose.

Pain management after ambulatory surgery – Where is the disconnect?

Paul F. White PhD MD FANZCA

« La DPO est un symptôme **complexe et multifactoriel** qui nécessite une approche réfléchie utilisant **plusieurs modalités de traitement** avant d'obtenir des résultats optimaux quant au **confort** du patient et à un processus de **réhabilitation** facilité.

L'analgésie multimodale constitue une approche de **prévention** de la DPO qui se base sur l'administration d'une **combinaison** d'analgésiques **opiacés et non opiacés**, lesquels agissent sur différents sites des systèmes nerveux central et périphériques afin **d'éliminer les effets secondaires liés à l'utilisation des opiacés** »

Society for Ambulatory Anesthesia Guidelines for the Management of Postoperative Nausea and Vomiting

ANESTHESIA & ANALGESIA Vol. 105, No. 6, December 2007

Table 2. Strategies to Reduce Baseline Risk

Avoidance of general anesthesia by the use of regional anesthesia (11,16) (randomized, controlled trial, RCT)
Use of propofol for induction and maintenance of anesthesia (4,14,41,42) (RCT/systematic review, SR)
Avoidance of nitrous oxide (3,4,43,44) (RCT/SR)
Avoidance of volatile anesthetics (15,28) (RCT)
Minimization of intraoperative (SR) and postoperative opioids (3,13,15,17,18,20,28,43) (RCT/SR)
Minimization of neostigmine (19,45) (SR)
Adequate hydration (46) (RCT)

Tong J Gan. et al

Overall Incidence of PDNV =37%

5 indépendant predictors

- female gender
- âge< 50
- history and/or PONV after previous anesthesia
- opioid administration in PACU**
- Nausea in PACU

Apfel Ch C. Anesthesiology 2012



DPO

Repos /Mouvement



Le Défi



NVPO



~~Réhabilitation~~

Enjeux Analgésie ambulatoire

1-EFFICACE

❖ Adaptée **Intensité** DPO

- Dès pré et per opératoire
(Initialisation) →

Prémédication analgésique
Analgésiques per opératoire
ALR pré opératoire

- Antalgiques « secours »

❖ Adaptée **Durée** DPO → Relais++

2-MINIMUM EFFETS SECONDAIRES NVPO

3-RESPECTEE **Consignes** Information orales écrites CS Appel J-1

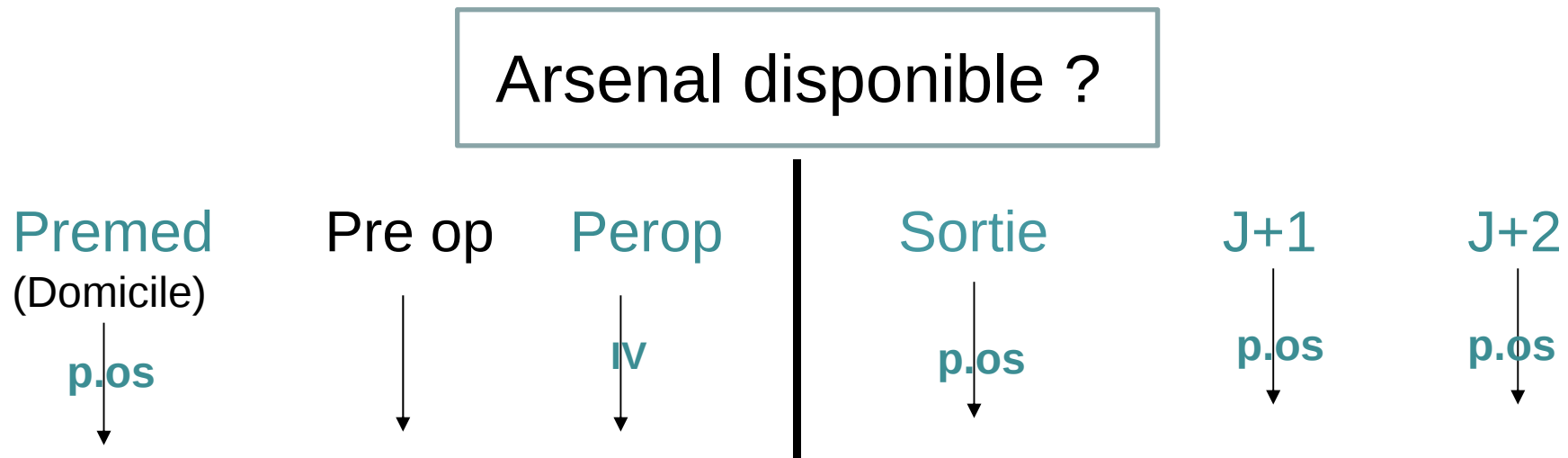
4-SUIVIE **Continuité** 24h Evaluation /Adaptation Appel J+1

Quelle Stratégie adopter?

ANTICIPER Intensité / Durée

EPARGNE MORPHINIQUE

ACTION MULTIMODALE



Analgésiques Disponibles

SYSTEMATIQUEMENT

Car aucun effet secondaire qui puisse retarder la sortie

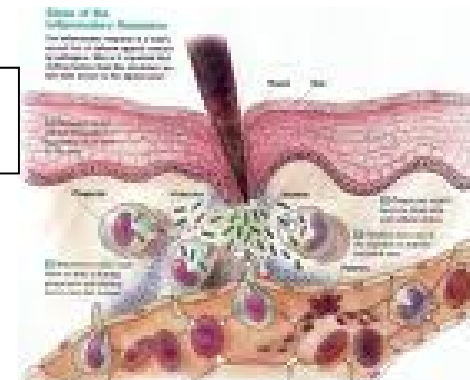
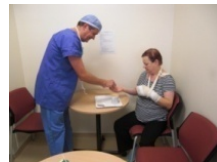
1- Paracétamol (inhibition synthèse Prostaglandines) CI :! Hépatique

2- AINS +++ (inhibition synthèse Cyclo Oxygenase),
Profènes *Ibuprofène-Kétoprofène-Naproxène-Kétorolac,..*

Chirurgie → Agression tissulaire → Réaction INFLAMMATOIRE

+/- inhibiteur de la pompe à protons + ingestion au moment des repas

48h suffisent



CI :suspicion de saignement digestif, I rénale, IEC ,personne âgée, association (AVK, Aspirine, ISRS, corticoïdes,..)

REVIEW ARTICLE

Preventive Acetaminophen Reduces Postoperative Opioid
Consumption, Vomiting, and Pain Scores After Surgery
Systematic Review and Meta-Analysis

Brett Doleman, MBBS, David Read, BMBS, Jonathan N. Lund, DM, and John P. Williams, PhD

7 études
544 patients

Table 4. Univariate Analyses of Factors Predictive of Postoperative Nausea or Vomiting

Variable	Level	No. in Level	% With PONV	P value
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Surgery duration (min)	<60	101	26%	0.003
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	>119	11	73%	
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	Local anesthesia	10	0%	

PONV = postoperative nausea and/or vomiting.

^aCumulative fentanyl = pre-/intraoperative fentanyl plus recovery fentanyl dose.

AINS per opératoire

Anesthesiology 2005; 102:1249-60

© 2005 American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins, Inc.

Effects of Nonsteroidal Antiinflammatory Drugs on Patient-controlled Analgesia Morphine Side Effects

Meta-analysis of Randomized Controlled Trials

Emmanuel Marret, M.D.,* Okba Kurdi, M.D.,* Paul Zufferey, M.D.,† Francis Bonnet, M.D.‡

in morphine adverse effects. A meta-analysis of randomized controlled trials was performed to evaluate the risk of morphine adverse effects in patients treated with NSAIDs. Twenty-two prospective, randomized, double-blind studies including 2,307 patients were selected. NSAIDs decreased significantly postoperative nausea and vomiting by 30%, nausea alone by 12%, vomiting alone by 32% and sedation by 29%. A regression analysis yielded findings indicating that morphine consumption was positively correlated with the incidence of nausea and vomiting. Pruritus, urinary retention, and respiratory depression were not significantly decreased by NSAIDs.

22 études
2307 patients

« Une diminution de la consommation de morphine de 10 mg s'accompagne d'une diminution de l'incidence des nausées de 9 % et de celle des vomissements de 3 % »

Arsenal disponible

Paracétamol
AINS ($\pm$ IPP)

Preméd
(Domicile)

p.os

Pre op



Perop



IV

Sortie



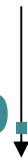
p.os

J+1



p.os

J+2



p.os

3. Kétamine (inhibiteur du glutamate au niveau des récepteurs NMDA)

Doses infra anesthésiques | IV perop : 0.15 µg/kg
0.5 µg/kg + 10 µg kg⁻¹min

Menigaux Anest Analg 2001;93:472-6
Loftus. Anesthesiology 2010;113:639-646

Anesth Analg. 2001 Sep;93(3):606-12.

Intraoperative small-dose ketamine enhances analgesia after outpatient knee arthroscopy.

Menigaux C¹, Guignard B, Fletcher D, Sessler DI, Dupont X, Chauvin M.

J Oral Maxillofac Surg. 2012 Mar;70(3):537-46.

Analysis of propofol and low-dose ketamine admixtures for adult outpatient dentoalveolar surgery: a prospective, randomized, positive-controlled clinical trial.

Cillo JE Jr¹.

CONCLUSIONS: Through maintenance of hemodynamic stability and faster recovery time, the group B admixture (10:1 propofol-**ketamine** ratio) provided the greatest benefit

3.Kétamine

Intraoperative Ketamine Reduces Perioperative Opiate Consumption in Opiate-dependent Patients with Chronic Back Pain Undergoing Back Surgery

Randy W. Loftus, M.D.,* Mark P. Yeager, M.D.,† Jeffrey A. Clark, M.D.,*

- Reduces pain intensity throughout the postoperative period in this patient population.
This benefit is **without an increase in side effects**.

4. Dexaméthasone (gluco corticoïde de synthèse)

Acta Anaesthesiol Scand. 2011 Nov;55(10):1196-205. doi: 10.1111/j.1399-6576.2011.02536.x.

Dexamethasone has additive effect when combined with ondansetron and droperidol for treatment of established PONV.

Ormel G, Romundstad L, Lambert-Jensen P, Stubhaug A.

Antiémétique [IV H-1 (4-8 mg) préop] —————> Antalgique

Br. J. Anaesth. (2013) 110 (2): 191–200. doi: 10.1093/bja/aes431
First published online: December 5, 2012

Impact of perioperative dexamethasone on postoperative analgesia and side-effects: systematic review and meta-analysis

N. H. Waldron, C. A. Jones, T. J. Gan, T. K. Allen and A. S. Habib*

5796 pat
1.25 à 20mg
→ score Douleur
→ consommation morphique

« small but statistically significant analgesic effect »

Br J Anaesth. 2011 Jun 13. [Epub ahead of print]

Dose ranging study on the effect of preoperative dexamethasone on postoperative quality of recovery and opioid consumption after ambulatory gynaecological surgery.

0.1mg/kg

De Oliveira GS Jr, Ahmad S, Fitzgerald PC, Marcus RJ, Altman CS, Panjwani AS, McCarthy

Arsenal disponible

Paracétamol
AINS

Kétamine (K)
Dexaméthasone (D)

Preméd
(Domicile)



Pre op

IV (D)



Perop

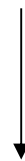
IV (K)



Sortie



J+1



J+2



Analgésiques Disponibles

DEUXIEME NIVEAU - PLUS PUISSANTS - SECOURS ou Non Effets secondaires pouvant retarder sortie

1- Codéine et Morphine à libération immédiate (Actiskenan®, Oxycodone®,...)

C=10mg **NVPO** vertiges, somnolence

2- Tramadol **Opiacé faible** de synthèse (inhibition recapture neuronale sérotonine et noréadraline)

=8mg M **NVPO** (N 40%;V 20%) ,vertiges, somnolence, sueurs

Broome IJ et al. Anesthesia 1999

3- Néfopam **Antalgique central non morphinique** (inhibition recapture monoamines)

=5-mg M **NVPO** (N 50%),vertiges, somnolence (30 %),confusion, tachycardie, sueurs

Peu adapté à l'Ambulatoire en relais (p.os ?)

Précautions: I Coronarienne, rénale et hépatocellulaire

Chauvin M. Evaluation et traitement de la douleur SFAR 1999

Arsenal disponible

Paracétamol
AINS

Kétamine
Dexaméthasone

Morphine pos

(Codeine pos)

Tramadol IV-pos

(Nefopam *iv)

NVPO

Somnolence
Vertiges

Sueurs*

Preméd
(Domicile)



Pre op



Perop

I.V^(T)



Sortie

p.os



J+1

p.os



J+2

p.os



Arsenal disponible

Paracétamol
AINS

Kétamine
Dexaméthasone

Morphine ?

Tramadol ?

← **Anesthésiques locaux** →
Infiltrations, Blocages tronculaires, ,IV

Preméd
(Domicile)

Pre op

Perop

Sortie

J+1

J+2



A Comparison of Regional Versus General Anesthesia for Ambulatory Anesthesia: A Meta-Analysis of Randomized Controlled Trials

(Anesth Analg 2005;101:1634-42)

Spencer S. Liu, MD*, Wyndam M. Strodtbeck, MD*, Jeffrey M. Richman, MD†, Christopher L. Wu, MD†

Departments of Anesthesiology, *Virginia Mason Medical Center and the University of Washington, Seattle, Washington;

†Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University, Baltimore, Maryland

Table 4. Effects of Peripheral Nerve Block Versus General Anesthesia on Ambulatory Surgical Patients

Outcome	n	Number of trials	Peripheral nerve block* (mean)	General anesthesia* (mean)	OR or WMD** (95% confidence interval)	P value
Anesthesia induction time (min)	329	6	19.6	8.8	8.1 (2.6 to 13.7)	0.0001
PACU time (min)	308	6	45.2	72	-24.3 (-36.3 to -12)	0.0001
VAS in PACU (mm)	359	7	9.6	35.8	-24.5 (-35.7 to -13.3)	0.0001
Nausea	319	6	6.8%	30%	0.17 (0.08 to 0.33)	0.0001
Phase 1 bypass	329	6	81%	315	14.3 (7.5 to 27.4)	0.0001
Need for postoperative analgesics	259	6	6.2%	42.3%	0.11 (0.03 to 0.43)	0.001
Time until discharge from ASU (min)	328	6	133.3	159.1	-29.7 (-75.3 to 15.8)	0.2
Excellent patient satisfaction	158	4	88%	72%	4.7 (1.8 to 12)	0.001

OR = odds ratio; WMD = weighted mean difference; * weighted by subject number; ** weighted by inverse variance; PACU = Postanesthesia care unit; ASU = ambulatory surgical unit; POD = postoperative day; VAS = visual analogue scale.

7 randomized controlled trials with 359 patients were included for meta-analysis.

Effect of local anesthetics on the postoperative inflammatory response

H. Beloeil *, J.-X. Mazoit

Annales Françaises d'Anesthésie et de Réanimation 28 (2009) 231–237

Département d'anesthésie-réanimation, hôpital de Bicêtre, AP-HP, université Paris-Sud,
78, avenue du Général-Leclerc, 94275 Le Kremlin-Bicêtre, France

L'intérêt des AL ne réside plus seulement dans leur capacité à bloquer les influx nociceptifs en bloquant les canaux sodiques. Un bloc nerveux périphérique aux AL inhibe l'inflammation neurogène locale et donc, les phénomènes de sensibilisation et de chronicisation de la douleur. Leurs propriétés anti-inflammatoires intrinsèques pourraient présenter un intérêt notamment lors de l'utilisation par voie systémique (lidocaïne).

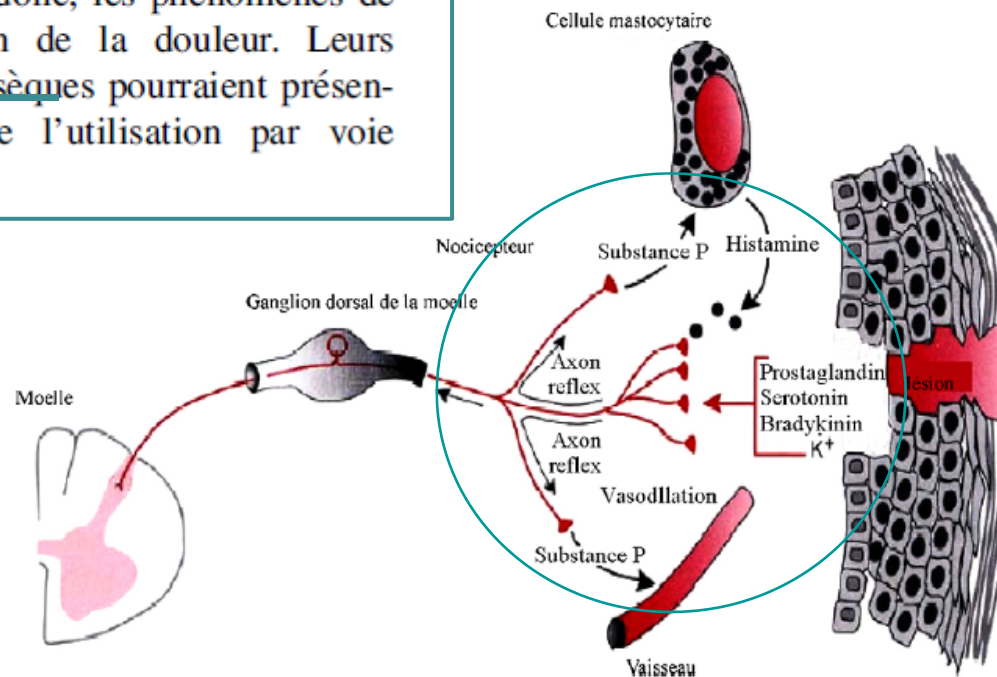


Fig. 1. Inflammation neurogène. Effets des impulsions antidromiques sur les afférences primaires. Une stimulation des fibres afférences primaires entraîne, à partir des terminaisons périphériques, une libération de médiateurs chimiques qui induisent vasodilatation, œdème et hyperalgésie (la triple réponse de Lewis).

Intérêt ALR

Infiltration

Cicatricielle

Tumescence

Intra/extra articulaire

Diffusion

Inter aponévrotique (TAP)

Intrapéritoneale

Réalisée

Si possible →

AVANT

Chirurgie

Périphérique (tronculaire, plexique)

Para Vertébral (BPV)



**APPORT++
ECHOGRAPHIE**
« le produit
au bon endroit »

Anesth Analg. 2012 Nov;115(5):1053-9. doi: 10.1213/ANE.0b013e318264ba33. Epub 2012 Sep 13.

Paravertebral blockade for day-case breast augmentation: a randomized clinical trial.

Gardiner S¹, Rudkin G, Cooter R, Field J, Bond M.

Anesth Analg. 2012 Sep;115(3):527-33. doi: 10.1213/ANE.0b013e318261f16e. Epub 2012 Jul 4.

The beneficial effect of transversus abdominis plane block after laparoscopic cholecystectomy in day-case surgery: a randomized clinical trial.

Petersen PL¹, Stjernholm P, Kristiansen VB, Torup H, Hansen EG, Mitchell AU, Moeller A, Rosenberg J, Dahl JB, Mathiesen O.

Cochrane Database Syst Rev. 2014 Mar 13;3:CD007337. doi: 10.1002/14651858.CD007337.pub3.

Intraperitoneal local anaesthetic instillation versus no intraperitoneal local anaesthetic instillation for laparoscopic cholecystectomy.

Gurusamy KS¹, Nagendran M, Guerrini GP, Toon CD, Zinnuroglu M, Davidson BR.



Systemic Lidocaine to Improve Postoperative Quality of Recovery After Ambulatory Laparoscopic Surgery

Gildasio S. De Oliveira, Jr., MD, MSCI,* Paul Fitzgerald, MS, RN,* Lauren F. Streicher, MD,†
R-Jay Marcus, MD,* and Robert J. McCarthy, PharmD*

Safe, inexpensive

1.5mg/kg bolus

2mg/k/h infusion

Less opioid consumption



Better quality of recovery

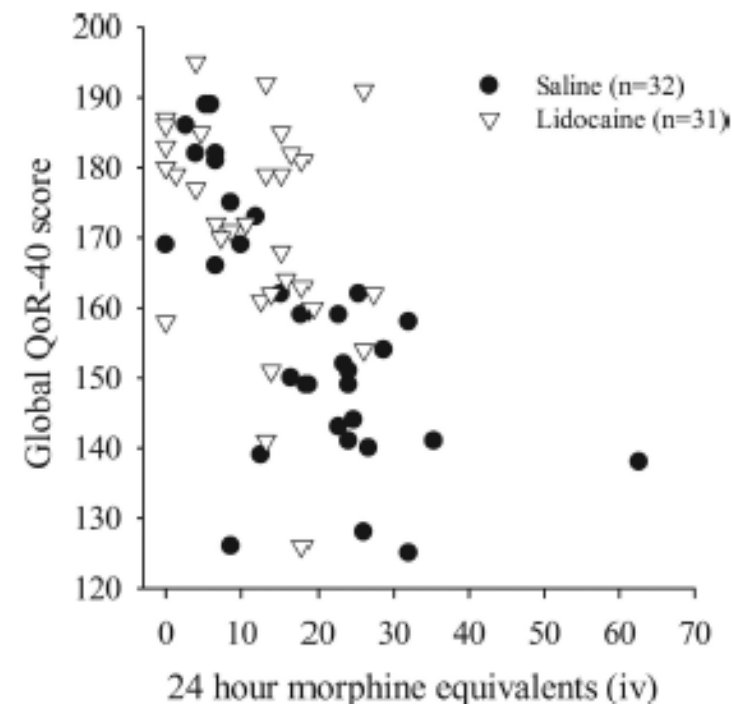


Figure 2. Scatterplot demonstrating inverse relationship between global Quality of Recover-40 (QoR-40) scores and 24-hour cumulative opioid consumption after surgery. Spearman ρ correlation, $\rho = -0.64$ ($P < 0.001$); removal of control subject with 24-hour IV morphine equivalent use of 63 mg resulted in correlation of $\rho = -0.62$.

Curr Opin Anaesthesiol. 2010 Dec;23(6):708-13. doi: 10.1097/ACO.0b013e32833f0dd7.

Wound infiltration with local anaesthetics in ambulatory surgery.

Gupta A.

Department of Anaesthesiology and Intensive Care, Örebro University Hospital, Örebro, Sweden.
anil.gupta@orebroll.se

Br J Anaesth. 2014 Jun 17. pii: aeu155. [Epub ahead of print]

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

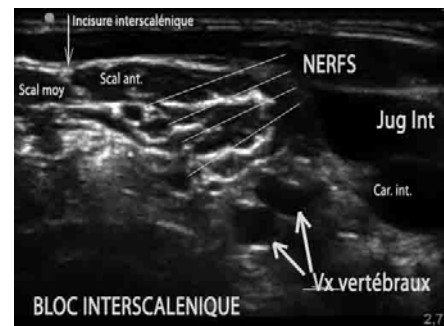
Andersen LO¹, Kehlet H².

Anesth Analg. 2010 Sep;111(3):617-23. doi: 10.1213/ANE.0b013e3181ea5f5d. Epub 2010 Aug 4.

A prospective clinical registry of ultrasound-guided regional anesthesia for ambulatory shoulder surgery.

Liu SS, Gordon MA, Shaw PM, Wilfred S, Shetty T, Yadeau JT.

Department of Anesthesiology, Hospital for Special Surgery, 535 East 70th St., New York, NY 10021, USA.
liusp@hss.ed



Durée?

Rodgers J, Cunningham K, Fitzgerald K, et al. Opioid consumption following outpatient upper extremity surgery. *J Hand Surg Am.* 2012;37(4):645–650.



Fingerman M. Regional anesthesia for outpatient hand surgery: ultrasound-guided peripheral nerve block. *J Hand Surg Am.* 2011; 36(3):532–534.

SCIENTIFIC ARTICLE

Efficacy and Safety of Ultrasound-Guided Distal Blocks for Analgesia Without Motor Blockade After Ambulatory Hand Surgery

Nicolas Dufeu, MD, Florence Marchand-Maillet, MD, Arthur Atchabahian, MD, Nicolas Robert, MD, Yasmine Ait Yahia, MD, Didier Milan, MD, Cyrille Robert, MD, Marine Coroir, MD, Marc Beaussier, MD, PhD

TABLE 2. Analgesic Distal Blocks and Duration of Analgesia

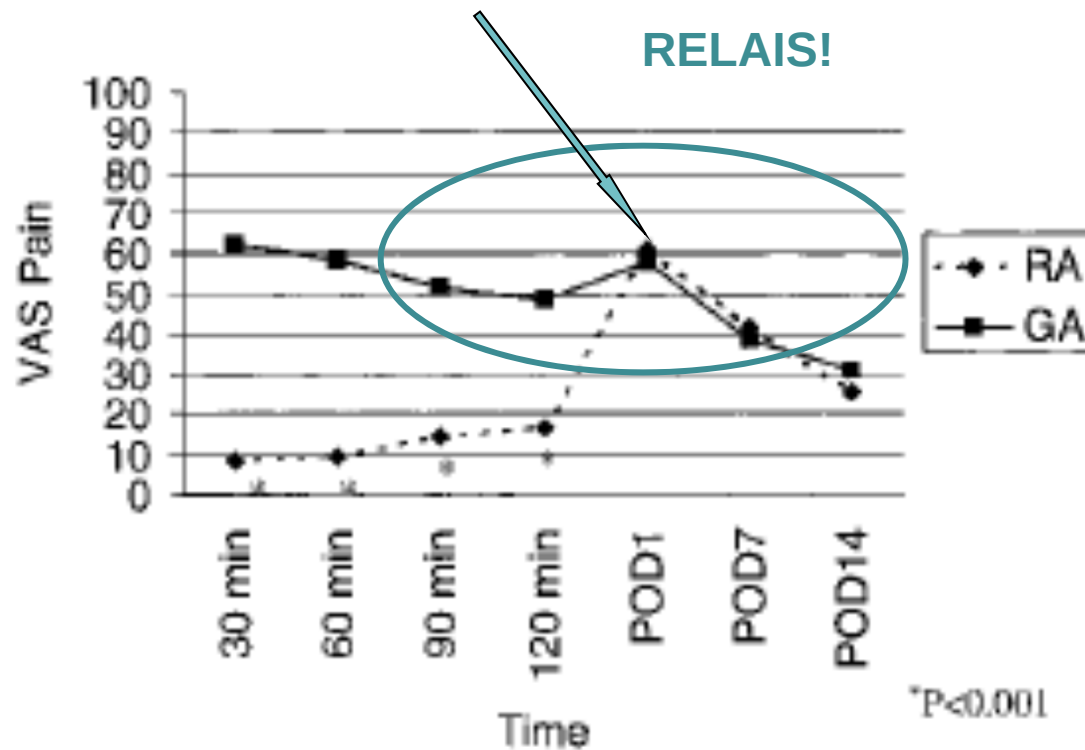
Nerves Blocked	n (%)	Effective	Ineffective
Median alone	4 (3)	4 (12 h 34 min (5 h 52 min))	0
Ulnar alone	21 (17)	2 (13 h 1 min (5 h 39 min))	1 (5%)
Radial alone	8 (6)	8 (12 h 16 min (4 h 46 min))	0
Median + ulnar	17 (14)	17 (11 h 19 min (2 h 51 min))	0
Median + radial	74 (59)	7 (12 h 7 min (3 h 24 min))	4 (5%)
Median + radial + ulnar	1 (1)	(11 h 0 min)	0
All	125 (100)	120 (11 h 44 min (4 h 13 min))	5 (4%)

Values are given as n (%) for number of blocks and hours and minutes (SD) for durations. Percentage values are rounded. Blocks were deemed effective when the duration of analgesia was greater than 6 hours and ineffective when NVS was greater than 3 and less than 6 hours after distal block performance.

Anesthesiology. 2004 Aug;101(2):461-7.

Early but no long-term benefit of regional compared with general anesthesia for ambulatory hand surgery.

McCartney CJ¹, Brull R, Chan VW, Katz J, Abbas S, Graham B, Nova H, Rawson R, Anastakis DJ,
von Schroeder H.



ANTICIPATION!

Arsenal disponible

Paracétamol
AINS

Kétamine
Dexaméthasone

Morphine?

Tramadol ?

← Anesthésiques locaux →
Infiltrations, Blocages tronculaires, ,IV

Preméd
(Domicile)

Pre op

Perop

Postop

J+1

J+2

NUIT !

Arsenal disponible

Paracétamol
AINS

Kétamine
Dexaméthasone

Morphine?

Tramadol ?

← Anesthésiques locaux →
Infiltrations, Blocages nerveux, IV

← Adjuvants ? →
Cathéter

Preméd
(Domicile)

Pre op

Perop

Postop

J+1

J+2



Eur J Anaesthesiol, 2010 Mar;27(3):285-8.

Dexamethasone with bupivacaine increases duration of analgesia in ultrasound-guided interscalene brachial plexus blockade.

14h → 24h

Vieira PA, Pulai I, Tsao GC, Manikantan P, Keller B, Connelly NR.

Department of Anesthesiology, Baystate Medical Center, Springfield, Massachusetts 01199, USA.

Bupi: 0.5% Dexamethazone 8mg 200,000 epinephrine clonidine 75 micro.

Br J Anaesth, 2011 Jun 14. [Epub ahead of print]

Effect of dexamethasone on the duration of interscalene nerve blocks with ropivacaine or bupivacaine.

→ 22h

Cummings KC 3rd, Napierkowski DE, Parra-Sanchez I, Kurz A, Dalton JE, Brems JJ, Sessler DI.

Department of Regional Practice Anesthesiology, Cleveland Clinic, Lakewood Hospital Department of Anesthesiology, 14519 Detroit Avenue, Lakewood, OH 44107, USA.

AL: 0.5% Dexamethazone 8mg

PAIN

I.V. and perineural dexamethasone are equivalent in increasing the analgesic duration of a single-shot interscalene block with ropivacaine for shoulder surgery: a prospective, randomized, placebo-controlled study

M. Desmet^{1*}, H. Braems², M. Reynvoet¹, S. Plasschaert¹, J. Van Cauwelaert³, H. Pottel⁴, S. Carlier¹, C. Missant² and M. Van de Velde²

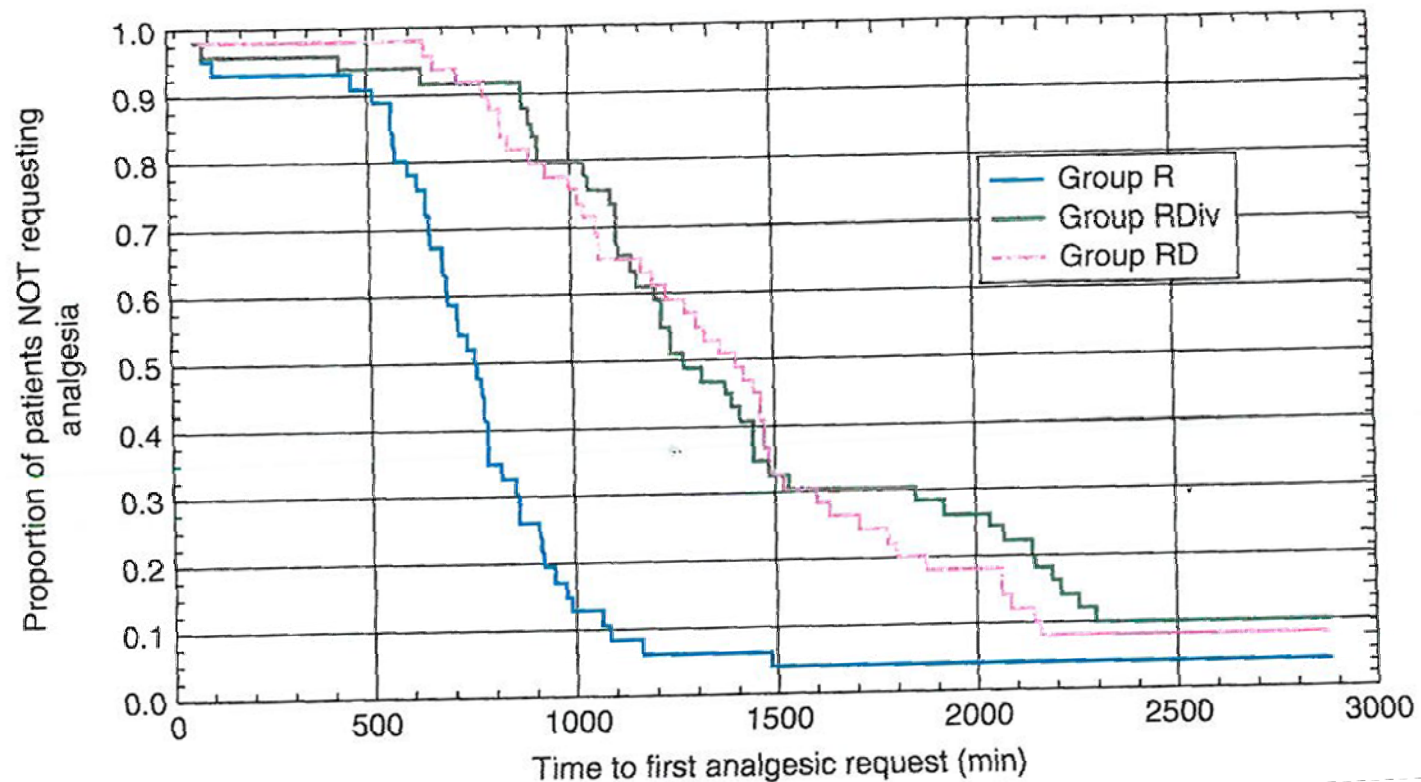
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Does Continuous Peripheral Nerve Block Provide Superior Pain Control to Opioids? A Meta-Analysis

Jeffrey M. Richman, MD*, Spencer S. Liu, MD†, Genevieve Courpas, BA*, Robert Wong, MD*, Andrew J. Rowlingson, BA*, John McGready, MSt, Seth R. Cohen, BSc, and Christopher L. Wu, MD*

Nineteen articles, enrolling 603 patients,

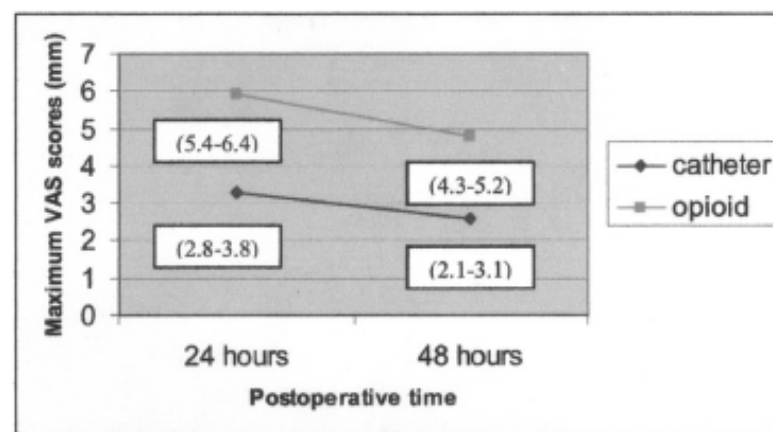
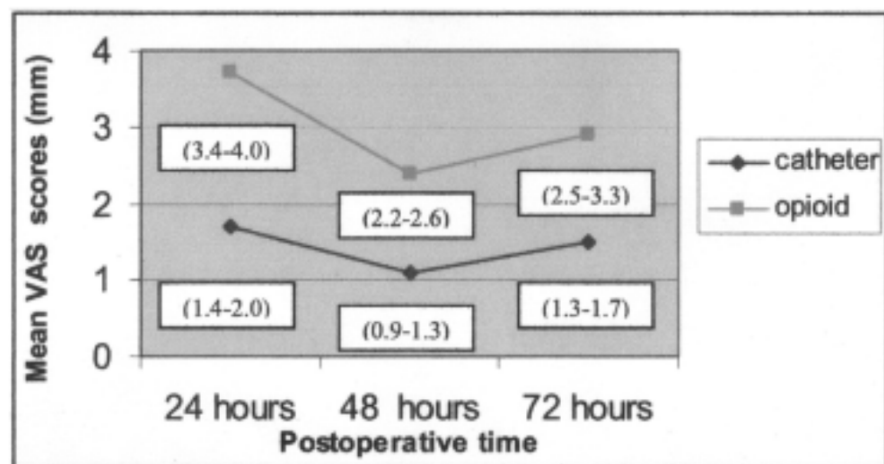


Table 6. Side Effects

Side effects	Catheter	Opioid	P value	Odds ratio
Nausea/vomiting	38/182 (20.9%)	95/195 (48.7%)	<0.001	0.28
Sedation	12/45 (26.7%)	23/44 (52.3%)	<0.012	0.33
Pruritus	11/113 (9.7%)	29/109 (26.6%)	<0.001	0.30
Sensory/motor block	22/70 (31.4%)	9/60 (15.0%)	<0.023	0.39

Outpatient Management of Continuous Peripheral Nerve Catheters Placed Using Ultrasound Guidance: An Experience in 620 Patients

Jeffrey D. Swenson, MD*

(Anesth Analg 2006;103:1436-43)

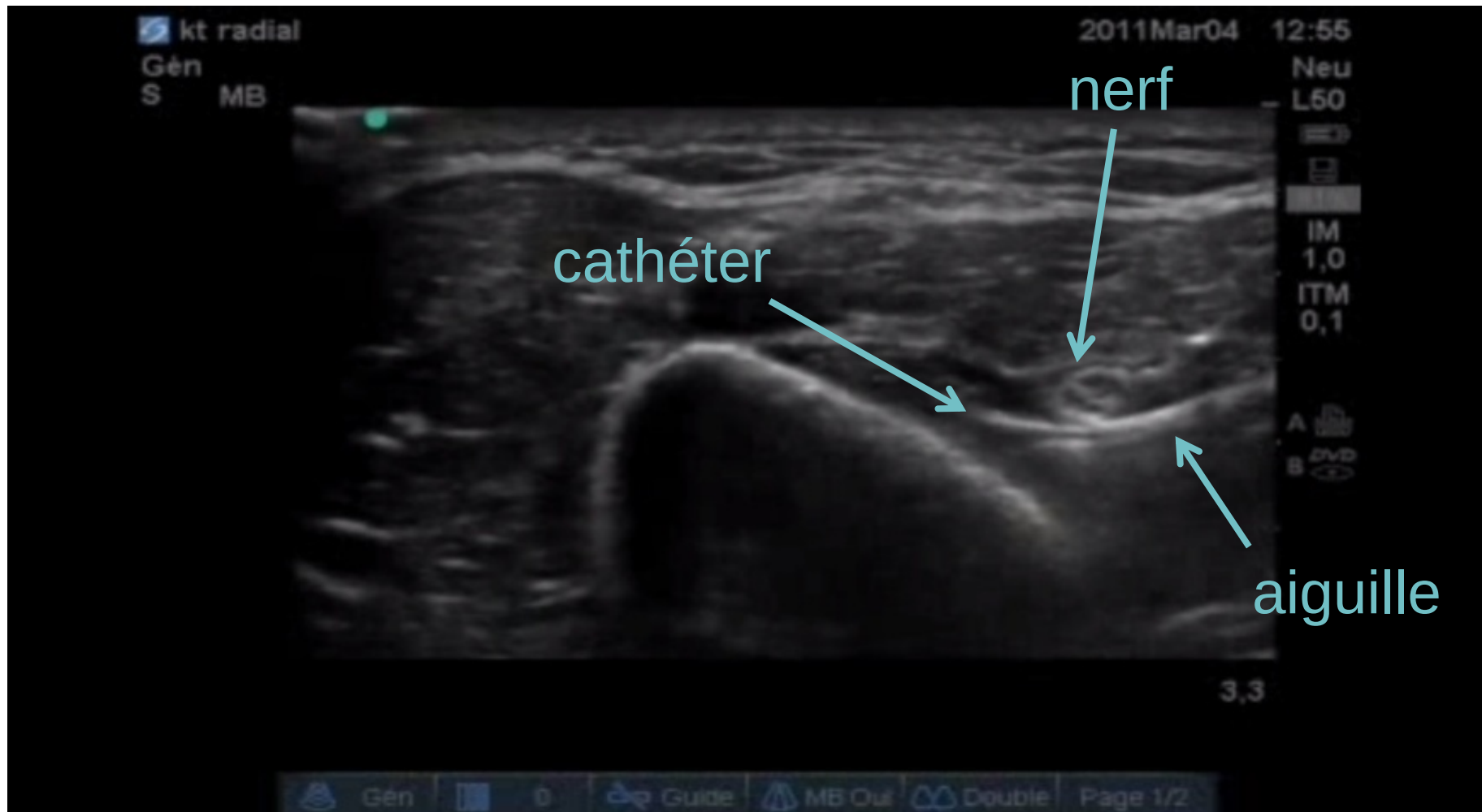
Procedures
Bankart repair
Clavicular/acromial procedures
Elbow arthroplasty
Shoulder arthroplasty
Labral repairs
Humerus procedures
Rotator cuff repair
Other procedures

Total interscalene catheters	190
Interventions	
Patient education issues ^a	3
Equipment malfunction ^a	2
Inadequate pain control ^a	8
<i>Total interventions</i>	13
Complications	0
Infection	0
Toxicity (seizures, perioral numbness)	0
Nerve injury	0
<i>Total complications</i>	0

Procedures
Achilles tendon repair/lengthen
Ankle fracture reduction
Ankle fusion
Below the knee amputation
Calcaneal osteotomies or fractures
Tarsal/metatarsal fixation
Tarsal/metatarsal osteotomies
Fixation of the tibia/fibula
Ankle tendon reconstructions
Other popliteal fossa catheters
<i>Totals</i>

Total sciatic nerve catheters	224
Interventions	
Patient education issues ^a	1
Equipment malfunction ^a	1
Inadequate pain control ^a	3
<i>Total interventions</i>	5
Complications	
Infection	0
Toxicity (seizures, perioral numbness)	0
Nerve Injury	2
<i>Total complications</i>	2

Cathéter en place (Echographie) = analgésie efficace



Cathétérisme du nerf radial au dessus du coude

Image N.Dufeu

Anesth Analg. 2013 Dec;117(6):1485-92. doi: 10.1213/01.ane.0000436607.40643.0a.

Continuous interscalene block in patients having outpatient rotator cuff repair surgery: a prospective randomized trial.

Salviz EA¹, Xu D, Frulla A, Kwofie K, Shastri U, Chen J, Shariat AN, Littwin S, Lin E, Choi J, Hobeika P, Hadzic A.

CONCLUSION: The analgesic benefits of CISB found in the PACU and immediately after discharge extend through the intermediate recovery period ending on postoperative day 7.

0.2% ropivacaine at 5mL/h bolus 5mL /h pendant 48h

Durée séjour PACU

Délai de sortie

Score DPO

Consommation morphinique moindre

Moindre/AG

Délai apparition DPO

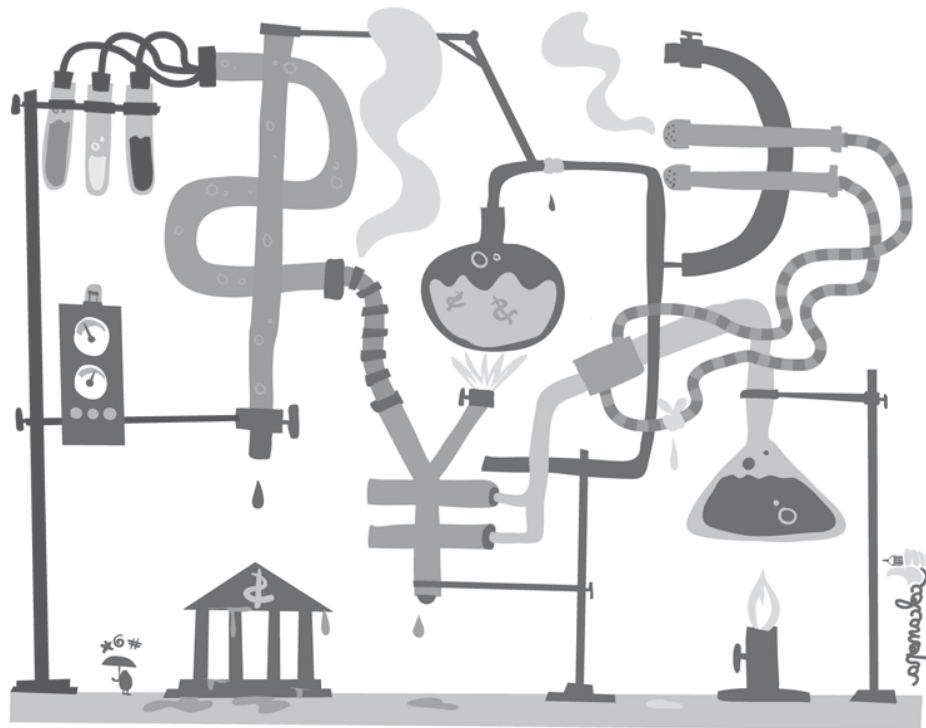
Durée de sommeil

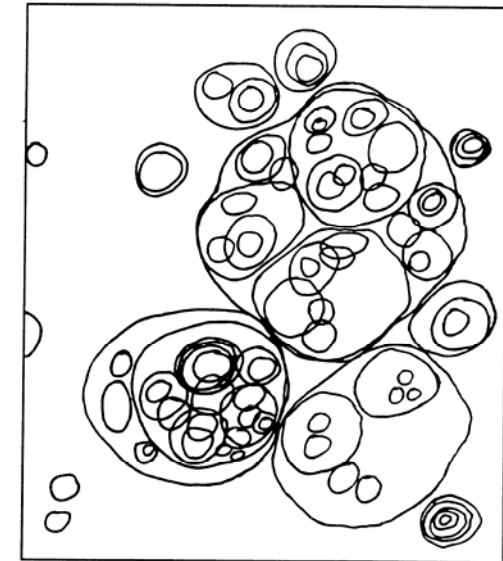
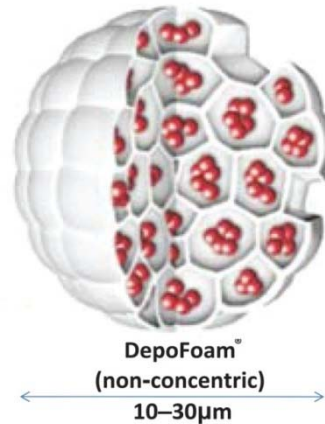
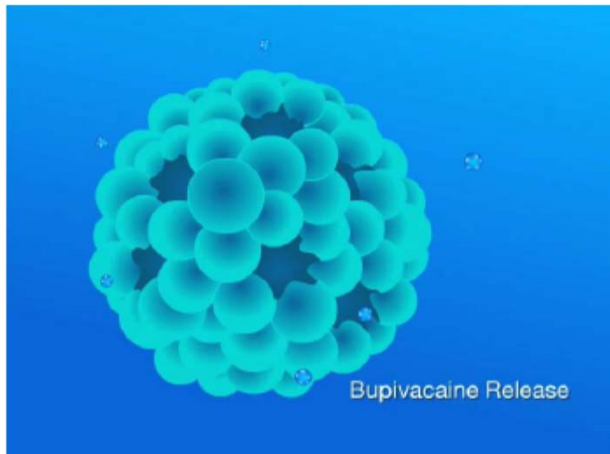
Augmentée /AG

Reg Anesth Pain Med. 2012 Jan-Feb;37(1):72-8. doi: 10.1097/AAP.0b013e31823ba9d2.

**American Society of Regional Anesthesia and Pain Medicine 2010
Gaston Labat Lecture: Perineural catheter analgesia as a routine
method after ambulatory surgery--effective but unrealistic.**

Rawal N.





LIPOSOME

Vésicule lipidique artificielle (membrane constituée d'une ou plusieurs bicouches de lipides) qui possède la capacité à encapsuler et protéger, par exemple, des protéines ou du matériel génétique.



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(bupivacaine liposome injectable suspension)

1.3%
266 mg / 20 mL (13.3 mg/mL)

**For Infiltration Only.
Not For Any Other Route of Administration**

STERILE Rx Only

PROTECT FROM FREEZING.
REFRIGERATE 2° TO 8°C (36° to 46°F).
See package insert for additional
storage information.
DO NOT FILTER.

Single Use Vial, discard
any unused portion.
Store vial in outer carton.

Dosage: See package insert.

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San Diego, CA 92121

PCR-800-06350

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product 30 days after this date or labeled expiration date (whichever
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EXPAREL (bupivacaine liposome injectable suspension)



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(bupivacaine liposome injectable suspension)

1.3%

266 mg/20 mL (13.3 mg/mL)

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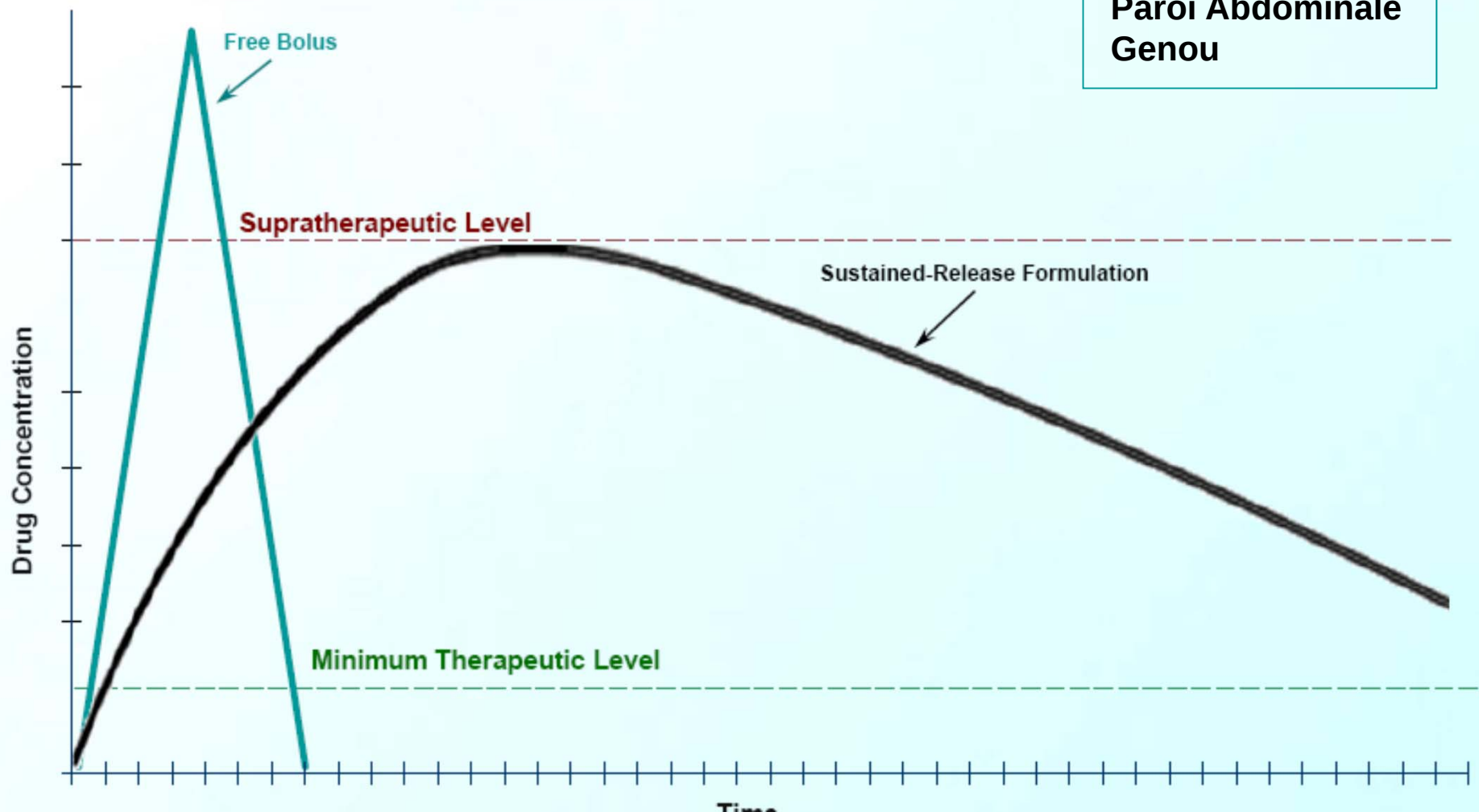
WAC cost per vial:

\$285

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Cryothérapie



Retour à domicile après la chirurgie Quels enjeux pour l'analgésie



CONCLUSIONS

- Anticipation
- Multimodale
- Epargne Morphinique
- AL ++
- Observance
- Evaluation



FIN