25 ans après

Que reste t'il des cathéters péri-nerveux?

Xavier Capdevila M.D , Ph.D, Denis Jochum M.D

Professor of Anesthesiology and Critical Care Medicine

Head of Department

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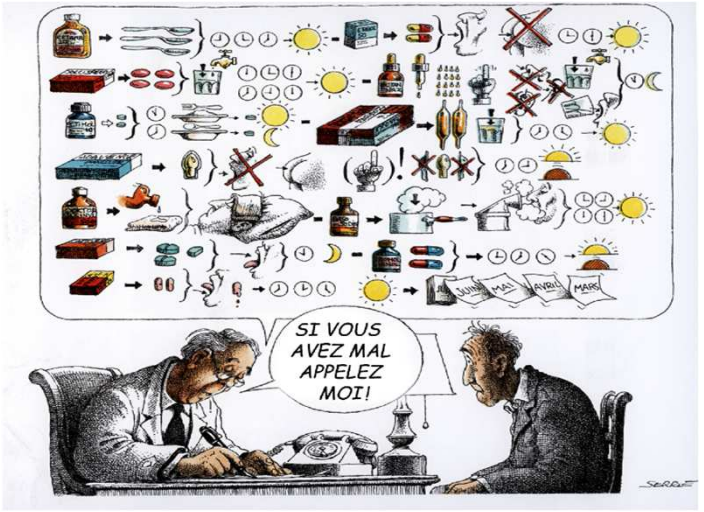
Lapeyronie University Hospital

Montpellier - France



La mort annoncée du cathéter périnerveux …

EDITORIAL

Tripping Over Perineural Catheters

Dorothea H. Morfey, BSc, MBBS, FRCA,* Vincent W. S. Chan, MD, FRCPC,† and Richard Brull, MD, FRCPC†

Anesthesia Analgesia 2011

Local Infiltration Analgesia for Pain After Total Knee Replacement Surgery: A Winner or Just a Strong Runner-Up?

Johan C. Raeder, PhD, MD

Anesthesia Analgesia October 2011

EDITORIAL

We're on the Road to Depo-Local Anesthetics, But We Aren't There Yet

John C. Rowlingson, MD Anesthesia Analgesia November 2013

Adjuvant Dexamethasone: Innovation, Farce, or Folly?

Christopher D. Noss, MD, Lindsay D. MacKenzie, MD, and Mark A. Kostash, MD

Regional Anesthesia and Pain Medicine November-December 2014

EDITORIAL VIEWS

Site-1 Sodium Channel Blockers as Local Anesthetics

Will Neosaxitoxin Supplant the Need for Continuous Nerve Blocks?

Laura A. Lahaye, M.D., John F. Butterworth IV, M.D.

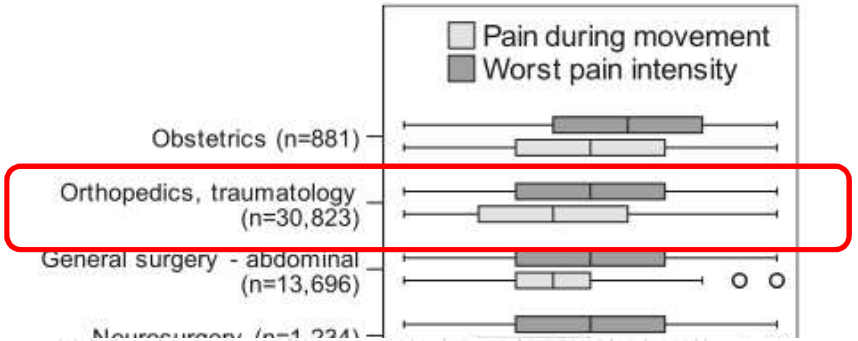
Anesthesiology October 2015

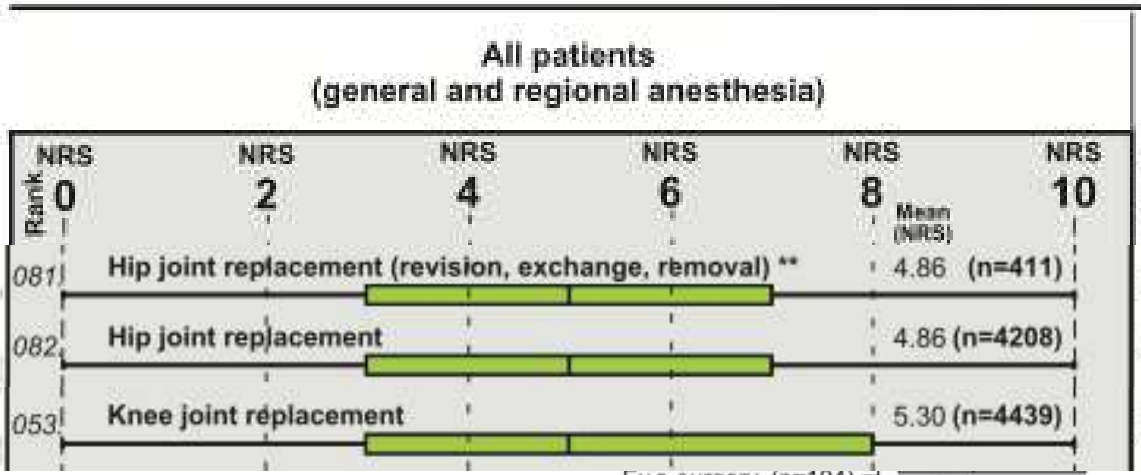
Anesthesiology 2013; 118:934-44

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.#



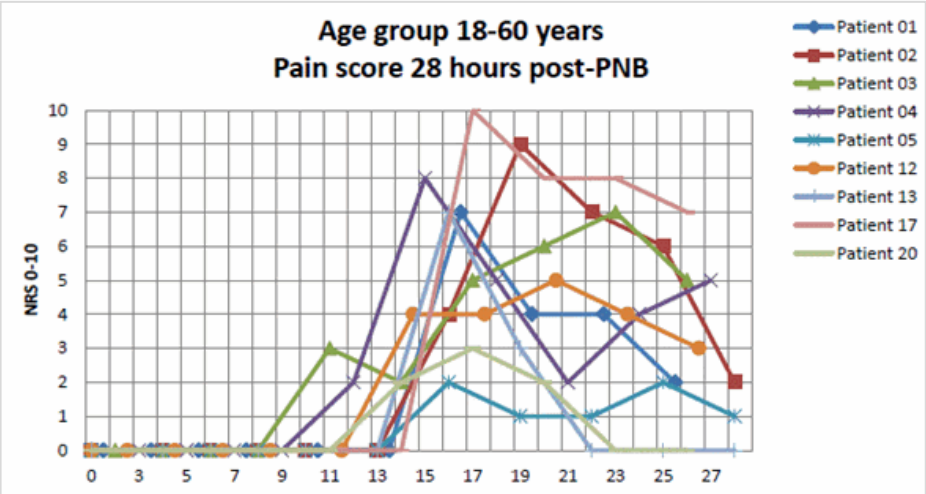


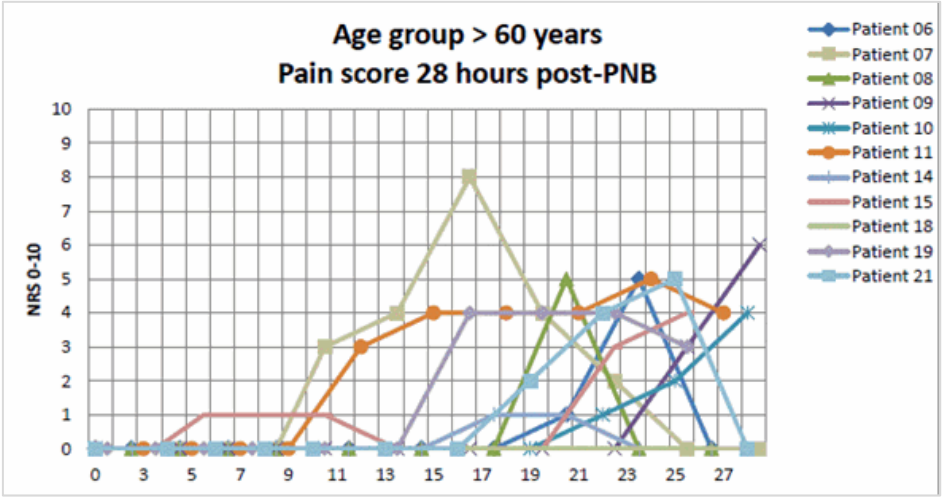
Rank	General anesthesia only: NRS Median (IQR)	n	Morphine equivalent mg (mean) (SD)	Regional-anesthesia w or w/o general anesthesia: NRS Median	n	No. of hospitals
84.	5.0 (3-7)	329	26 (36)	5.0 (2-7.5)	44	60
82.	5.0 (3-7)	2725	26 (36)	5.0 (2-7)	511	76
51.	5.0 (4-8)	1233	32 (33)	5.0 (3-8)	1336	75

Rebound Pain in Peripheral Nerve Block Anesthesia for Ankle Fracture Surgery - An Age Issue?

Rune Sort, M.D., Stig Brorson, M.D.,Ph.D., Ismail Gögenür, M.D.,Ph.D., Lasse L. Olsen, Student, Heidi Kruse, Student, Ann M. Møller, M.D.,Ph.D.
Herlev Hospital, Copenhagen University, Herlev, Denmark

- Popliteal block and a mid-femoral saphenal block with ropivacaine 7,5mg/mL 20mL + 5mL





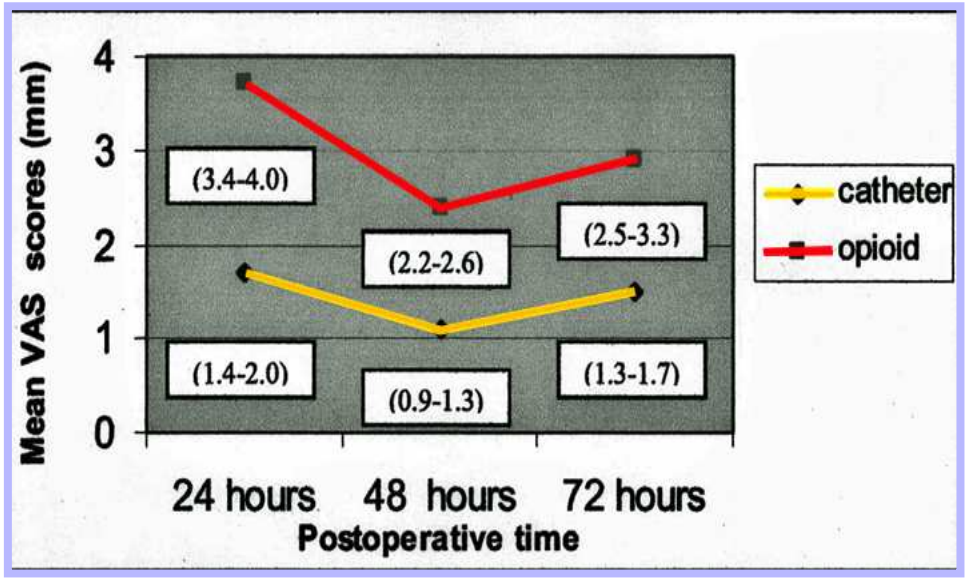
Rebound pain following peripheral nerve block anesthesia for ankle fracture surgery may pose a clinically relevant problem in younger patients.

Efficacité

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

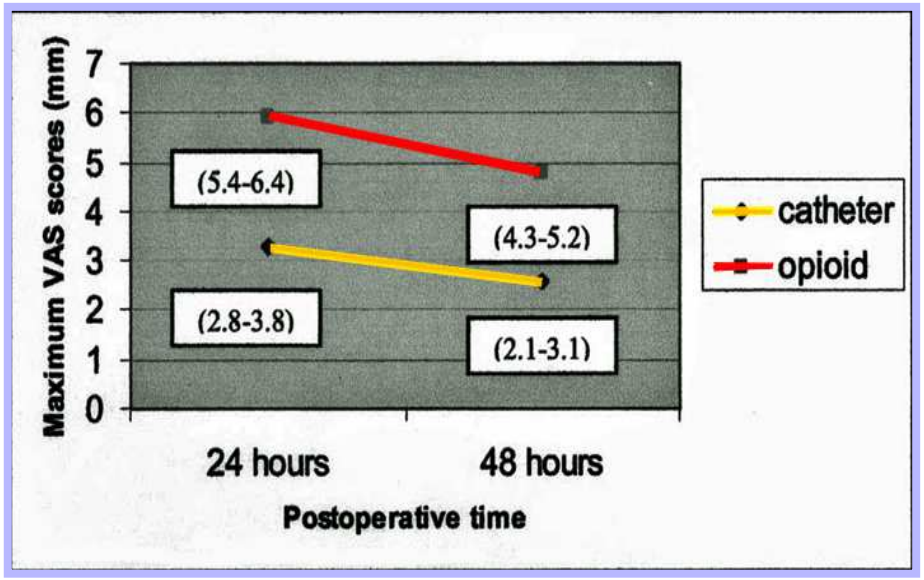
Jeffrey M. Richman, MD*, Spencer S. Liu, MD‡, Genevieve Courpas, BA*, Robert Wong, MD*, Andrew J. Rowlingson, BA*, John McGready, MS†, Seth R. Cohen, BS§, and Christopher L. Wu, MD*

Anesth Analg 2006;102:248–57



Characteristics of Included Studies

Surgical site	
Lower extremity	12 [360] (60%)
Upper extremity	7 [243] (40%)
Location of catheter	
Femoral/lumbar plexus	10 [310] (51%)
Interscalene	6 [213] (35%)
Other	0
Infraclavicular	1 [30] (5%)
Popliteal	2 [50] (8%)

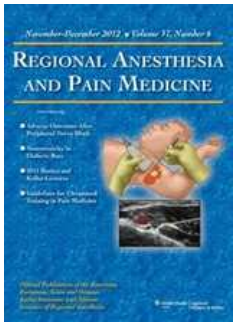


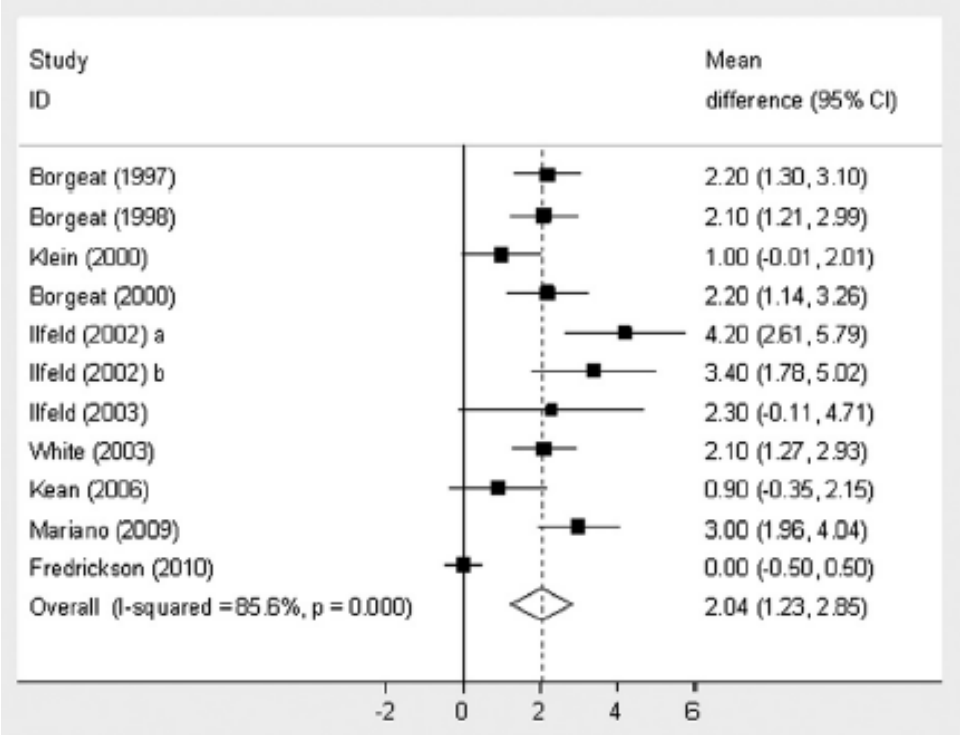
Regional Anesthesia and Pain Medicine • Volume 37, Number 6, November-December 2012

Continuous Peripheral Nerve Block Compared With Single-Injection Peripheral Nerve Block

A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Ann E. Bingham, MD, Rochelle Fu, PhD,† Jean-Louis Horn, MD,† and Matthew S. Abrahams, MD†*





Patient Satisfaction

Conclusions: Compared with siPNBs, cPNBs were associated with improved pain control, decreased need for opioid analgesics, less nausea, and greater patient satisfaction. The effect of cPNBs on other clinically relevant outcomes, such as complications, long-term functional outcomes, or costs, remains unclear.

Femoral nerve blocks for acute postoperative pain after knee replacement surgery (Review)

2016

Chan EY, Fransen M, Parker DA, Assam PN, Chua N

THE COCHRANE COLLABORATION®

Analysis 4.4. Comparison 4 Continuous FNB versus single-shot FNB, Outcome 4 Pain at rest 48 hours.

Review: Femoral nerve blocks for acute postoperative pain after knee replacement surgery

Comparison: 4 Continuous FNB versus single-shot FNB

Outcome: 4 Pain at rest 48 hours

Study or subgroup	Continuous FNB N	Mean(SD)	Single-shot FNB N	Mean(SD)	Std. Mean Difference IV,Random,95% CI	Weight	Std. Mean Difference IV,Random,95% CI
Chan 2013	65	0.39 (0.9)	69	0.66 (1.1)		29.1 %	-0.27 [-0.61, 0.07]
Hirst 1996	11	1.4 (2.3216)	11	2.8 (2.3216)		21.8 %	-0.58 [-1.44, 0.28]
Park 2010	60	2.4 (1.342)	20	4.2 (1.7)		26.5 %	-1.24 [-1.78, -0.70]
Salinas 2006	18	0.9 (1.3)	18	3.2 (1.1)		22.7 %	-1.87 [-2.66, -1.07]
Total (95% CI)	**154**		**118**			**100.0 %**	**-0.96 [-1.69, -0.22]**

Heterogeneity: Tau² = 0.45; Chi² = 18.34, df = 3 (P = 0.00038); I² =84%

Test for overall effect: Z = 2.56 (P = 0.010)

Test for subgroup differences: Not applicable

Analysis 4.11. Comparison 4 Continuous FNB versus single-shot FNB, Outcome 11 Opioid consumption 24 hours (mg).

Review: Femoral nerve blocks for acute postoperative pain after knee replacement surgery

Comparison: 4 Continuous FNB versus single-shot FNB

Outcome: 11 Opioid consumption 24 hours (mg)

Study or subgroup	Continuous FNB N	Mean(SD)	Single-shot FNB N	Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
Chan 2013	65	2.7 (2.6)	69	21.2 (14.9)		42.2 %	-18.50 [-22.07, -14.93]
Hirst 1996	11	24 (16.5831)	11	42 (26.533)		16.5 %	-18.00 [-36.49, 0.49]
Park 2010	60	6.67 (9.04)	20	14 (8)		41.3 %	-7.33 [-11.52, -3.14]
Total (95% CI)	**136**		**100**			**100.0 %**	**-13.81 [-23.27, -4.35]**

Heterogeneity: Tau² = 51.87; Chi² = 16.02, df = 2 (P = 0.00033); I² =88%

Test for overall effect: Z = 2.86 (P = 0.0042)

Test for subgroup differences: Not applicable

Guidelines on the Management of Postoperative Pain

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

Chou et al. The Journal of Pain, Vol 17, No 2 (February), 2016: pp 131-157

American Pain Society

Use of Peripheral Regional Anesthesia

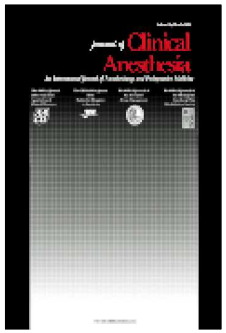
Recommendation 24

- The panel recommends that clinicians use continuous, local anesthetic–based peripheral regional analgesic techniques when the need for analgesia is likely to exceed the duration of effect of a single injection (strong recommendation, moderate-quality evidence).

Journal of Clinical Anesthesia (2015) 27, 566–573

Factors associated with hospital admission after rotator cuff repair: the role of peripheral nerve blockade

Thomas Danninger MD[a,b], Ottokar Stundner MD[a,b], Rehana Rasul MPH, MA[c], Chad M. Brummett MD[d], Madhu Mazumdar PhD, MA, MS[c], Peter Gerner MD[b], Stavros G. Memtsoudis MD, PhD[a,b,*]



Database entre janvier 2007 et septembre 2011

400 Hôpitaux aux Etats-Unis

27201 patients opérés d'une réparation de la coiffe des rotateurs: 89 % en ambulatoire et 11 % hospitalisés

15,4 % des patients sous AG + BPN et 84,6 % sous AG seule

Coûts d'hospitalisation ($p < 0,001$)

En ambulatoire : 5156 $ [IQR, 3880 - 6931]

Avec une nuit d'hospitalisation : 10,339 $ [IQR, 6965 - 15046]

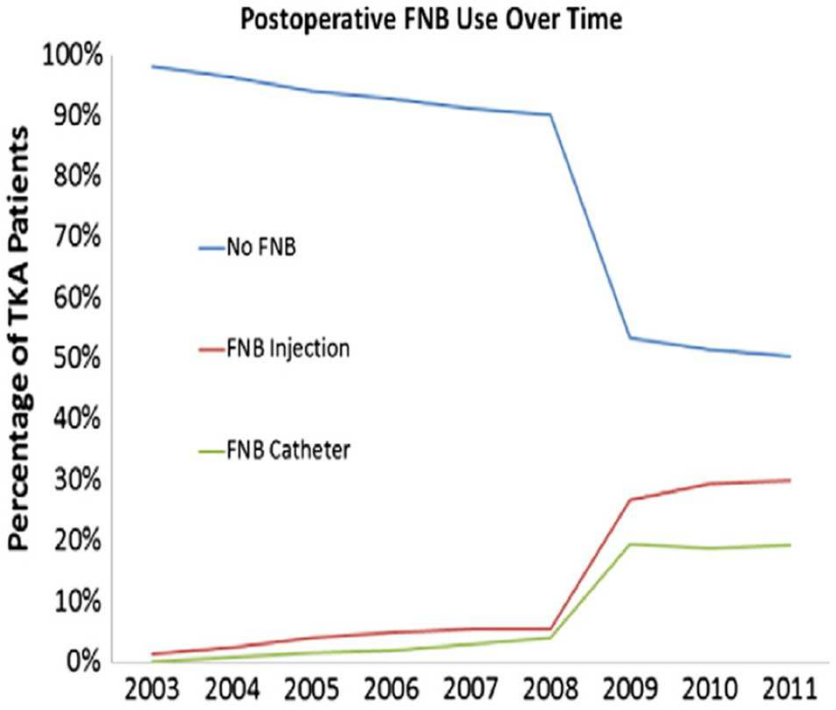
Réduction de 18 % du risque d'hospitalisation avec un BPN associé

Risque Relatif [RR] = 0,82 ; IC 95 %, 0,74 – 0,91 ; P = 0,0003

Readmission and Complications for Catheter and Injection Femoral Nerve Block Administration After Total Knee Arthroplasty in the Medicare Population

The Journal of Arthroplasty 30 (2015) 2076–2081

Scott T. Lovald, PhD [a], Kevin L. Ong, PhD [b], Edmund C. Lau, MS [a], Girish P. Joshi, MD [c], Steven M. Kurtz, PhD [b], Arthur L. Malkani, MD [d]



Better Better NS

		Hospitalization		Revision		Falls		Dislocation	
		HR	p	HR	p	HR	p	HR	p
FNB (30 Days)	None	1.00	.	1.00	.	1.00	.	1.00	.
	Injection	0.49	<.001	1.83	0.015	1.60	0.090	0.27	0.016
	Catheter	0.43	<.001	1.12	0.781	1.24	0.587	0.79	0.642
FNB (90 Days)	None	1.00	.	1.00	.	1.00	.	1	.
	Injection	0.40	<.001	1.47	0.061	1.28	0.178	0.47	0.039
	Catheter	0.35	<.001	1.22	0.459	0.99	0.977	1.08	0.817
FNB (365 Days)	None	1.00	.	1.00	.	1.00	.	1	.
	Injection	0.59	<.001	1.24	0.142	1.19	0.084	0.72	0.132
	Catheter	0.54	<.001	0.94	0.747	1.01	0.963	0.96	0.866

Continuous Interscalene Block in Patients Having Outpatient Rotator Cuff Repair Surgery: A Prospective Randomized Trial

(Anesth Analg 2013;117:1485–92)

Emine Aysu Salviz, MD,* Daquan Xu, MD,* Ashton Frulla,* Kwesi Kwofie, MD, FRCPC,* Uma Shastri, MD, FRCPC,* Junping Chen, MD,* Ali Nima Shariat, MD,* Sanford Littwin, MD,* Emily Lin, MD, PhD,* Jason Choi, MD,* Paul Hobeika, MD,† and Admir Hadzic, MD, PhD*

Postoperative Experience on Postoperative Days 1, 2, 3, and 7 of 63 Patients Given in 3 Study Groups

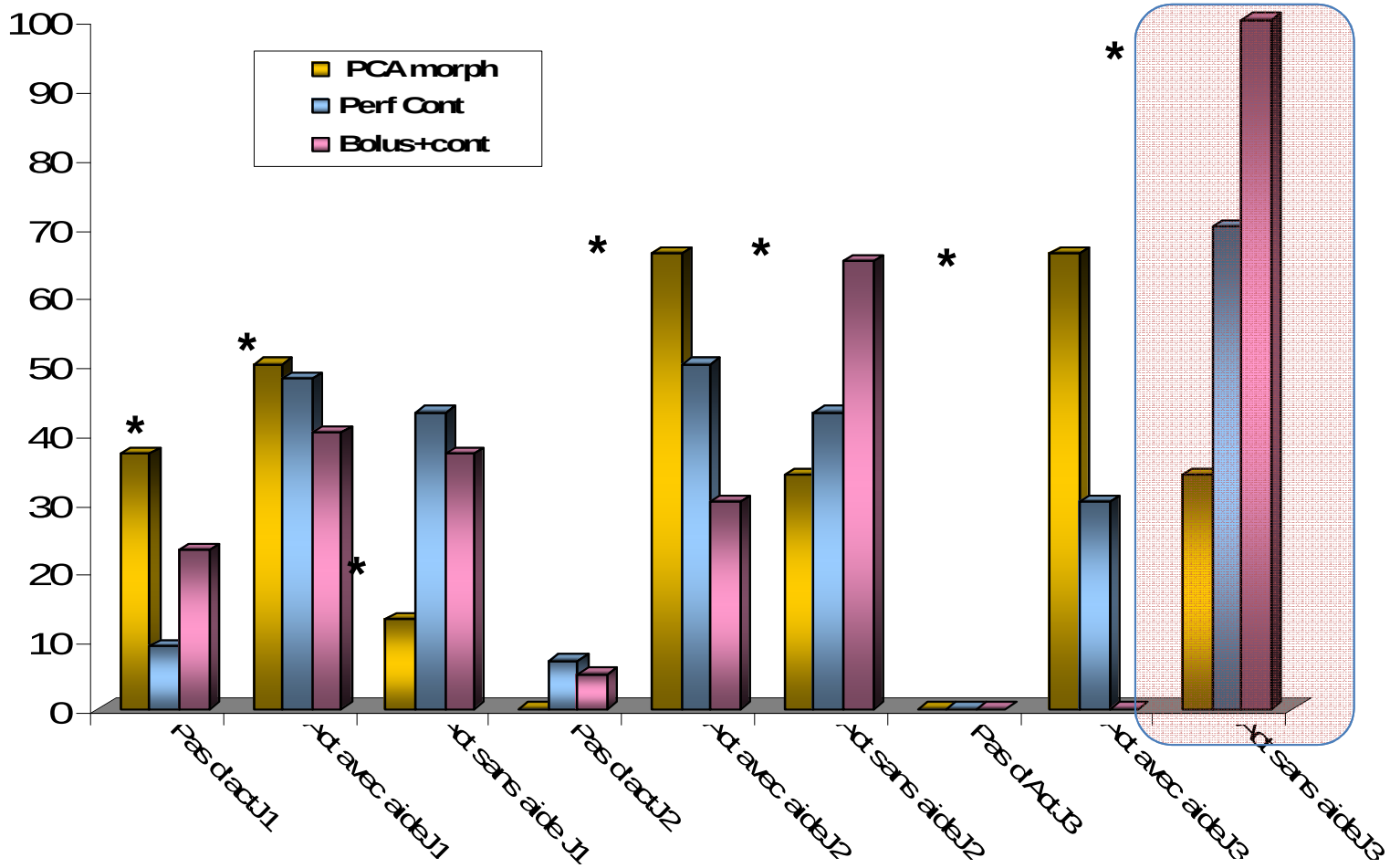
	CISB (*n* = 20)	SISB (*n* = 23)	GA (*n* = 20)
≥1 dose of analgesics			
Day 1[a]	12 (60 %)	22 (96%)	18 (90%)
Day 2[a]	13 (65%)	22 (96%)	19 (95%)
Day 3	17 (85%)	21 (91%)	19 (95%)
Day 7[b]	12 (63%)	16 (70%)	13 (72%)
Incidence of PONV			
Day 1	2/15 (13%)	8/15 (53%)	4/10 (40%)
Day 2	1/15 (7%)	6/15 (40%)	3/10 (30%)
Day 3	4/15 (27%)	5/15 (33%)	4/10 (40%)
Day 7	0/18 (0%)	5/19 (26%)	2/16 (13%)
Total hours of sleep (h)			
Day 1[c]	5 ± 2	2 ± 2	4 ± 2
Day 2[d]	6 ± 2	3 ± 2	5 ± 3
Day 3	5 ± 1	4 ± 2	5 ± 2
Day 7	7 ± 1	5 ± 2	6 ± 2
Day 1 NRS			
0–3	11 (55%)	1 (4%)	2 (10%)
4–7	6 (30%)	4 (17%)	10 (50%)
8–10	3 (15%)	18 (78%)	8 (40%)
Day 2 NRS			
0–3	11 (55%)	2 (9%)	3 (15%)
4–7	7 (35%)	13 (56%)	10 (50%)
8–10	2 (10%)	8 (35%)	7 (35%)
Day 3 NRS			
0–3	7 (35%)	4 (17%)	4 (20%)
4–7	9 (45%)	14 (61%)	11 (55%)
8–10	4 (20%)	5 (22%)	5 (25%)
Day 7 NRS[e]			
0–3	14 (74%)	4 (17%)	8 (42%)
4–7	4 (21%)	16 (70%)	7 (37%)
8–10	1 (5%)	3 (13%)	4 (21%)

Effect of Patient-controlled Perineural Analgesia on Rehabilitation and Pain after Ambulatory Orthopedic Surgery

Anesthesiology 2006; 105:566–73

A Multicenter Randomized Trial

Xavier Capdevila, M.D., Ph.D., Christophe Dadure, M.D.,† Sophie Bringuier, Pharm.D., M.Sc.,‡ Nathalie Bernard, M.D.,† Philippe Biboulet, M.D.,† Elisabeth Gaertner, M.D.,§ Philippe Macaire, M.D.‖*



The time for the 10-minutes walking test: PCA morphine group: 40.5(16-44) h, continuous infusion group: 20.5 (17-42)h, and basal-bolus group: 12.5 (4.5-20)h respectively

Treatment of Postmastectomy Pain With Ambulatory Continuous Paravertebral Nerve Blocks

A Randomized, Triple-Masked, Placebo-Controlled Study

Brian M. Ilfeld, MD, MS, Sarah J. Madison, MD,* Preetham J. Suresh, MD,* NavParkash S. Sandhu, MD, MS,* Nicholas J. Kormylo, MD,* Nisha Malhotra, MD,* Vanessa J. Loland, MD,* Mark S. Wallace, MD,* James A. Proudfoot, MSc,† Anya C. Morgan, MA, CCRC,‡ Cindy H. Wen, BS,‡ and Anne M. Wallace, MD§*

Regional Anesthesia and Pain Medicine March-April 2014

60 subjects

Paravertebral perineural catheter

Initial bolus of ropivacaine 0.5 % (15 mL) via the catheter

Either perineural ropivacaine 0.4 % or normal saline (5 mL/h)

Average pain on POD 1

Perineural ropivacaine (n = 30)

Median (interquartile) = 2 (0 – 3)

Saline (n = 30)

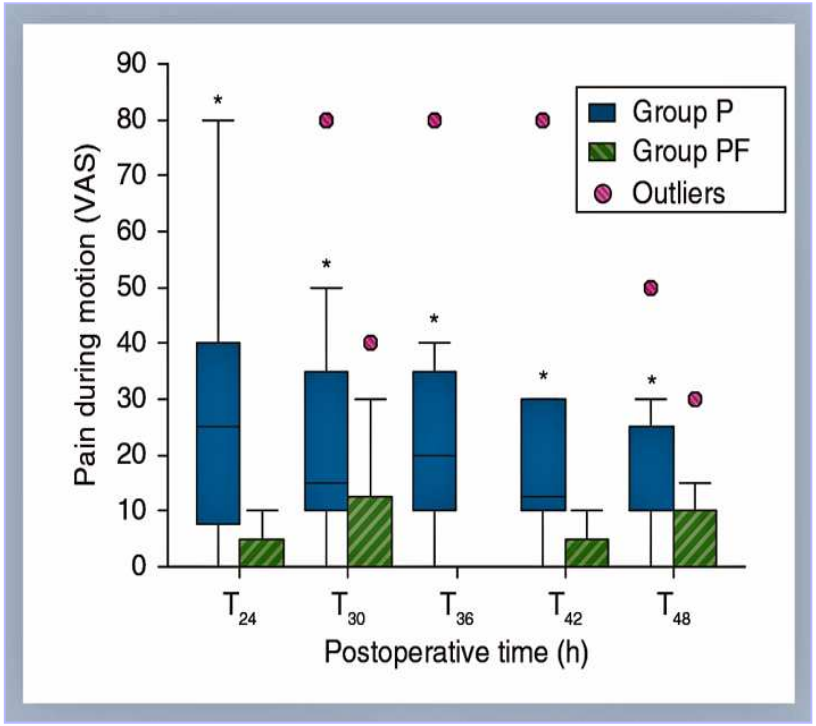
Median (interquartile) = 4 (1 – 5)

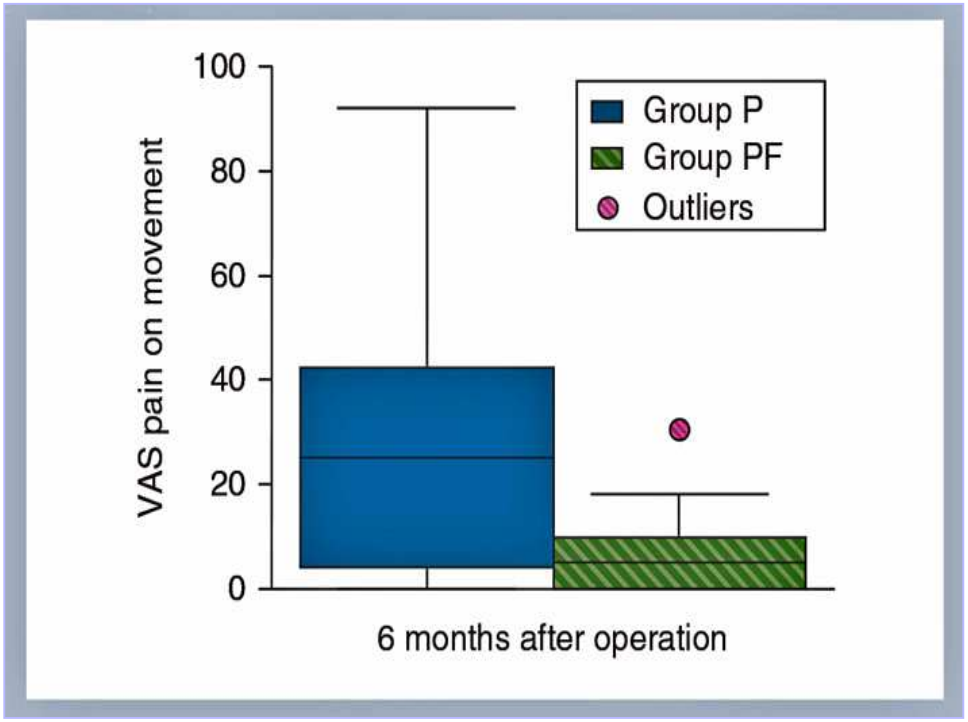
Brief Pain Inventory During the Perineural Infusion

	1		
POD	**Ropivacaine**	**Placebo**	***P***
Pain (0–10 NRS)			
Worst	5 (3–6)	7 (5–8)	0.046
Average	2 (0–3)	4 (1–5)	0.021
Least	0 (0–2)	2 (0–3)	0.053
Current	1 (0–4)	4 (0–5)	0.050
Pain subscale total (0–40)	9 (4–13)	16 (7–21)	0.021
Relief provided by analgesics (%)	90 (60–100)	50 (30–100)	0.060
Interference with (0–10; 0, none)			
General activity	1 (0–5)	6 (0–8)	0.052
Mood	0 (0–2)	3 (0–6)	0.038
Walking	0 (0–2)	3 (0–5)	0.046
Work (inside/outside of home)	0 (0-4)	5 (0–8)	0.017
Relationships	0 (0–1)	3 (0–6)	0.017
Sleep	0 (0–2)	3 (0–8)	0.034
Enjoyment of life	0 (0–5)	5 (0–8)	0.049
Interference subscale total (0–70)	3 (0–24)	33 (0–44)	0.035
Brief Pain Inventory total (0–120)	14 (4–37)	57 (8–67)	0.012

Additional femoral catheter in combination with popliteal catheter for analgesia after major ankle surgery BJA 2011

S. Blumenthal[1†], A. Borgeat[1*†], C. Neudörfer[1], R. Bertolini[1], N. Espinosa[2] and J. Aguirre[1]





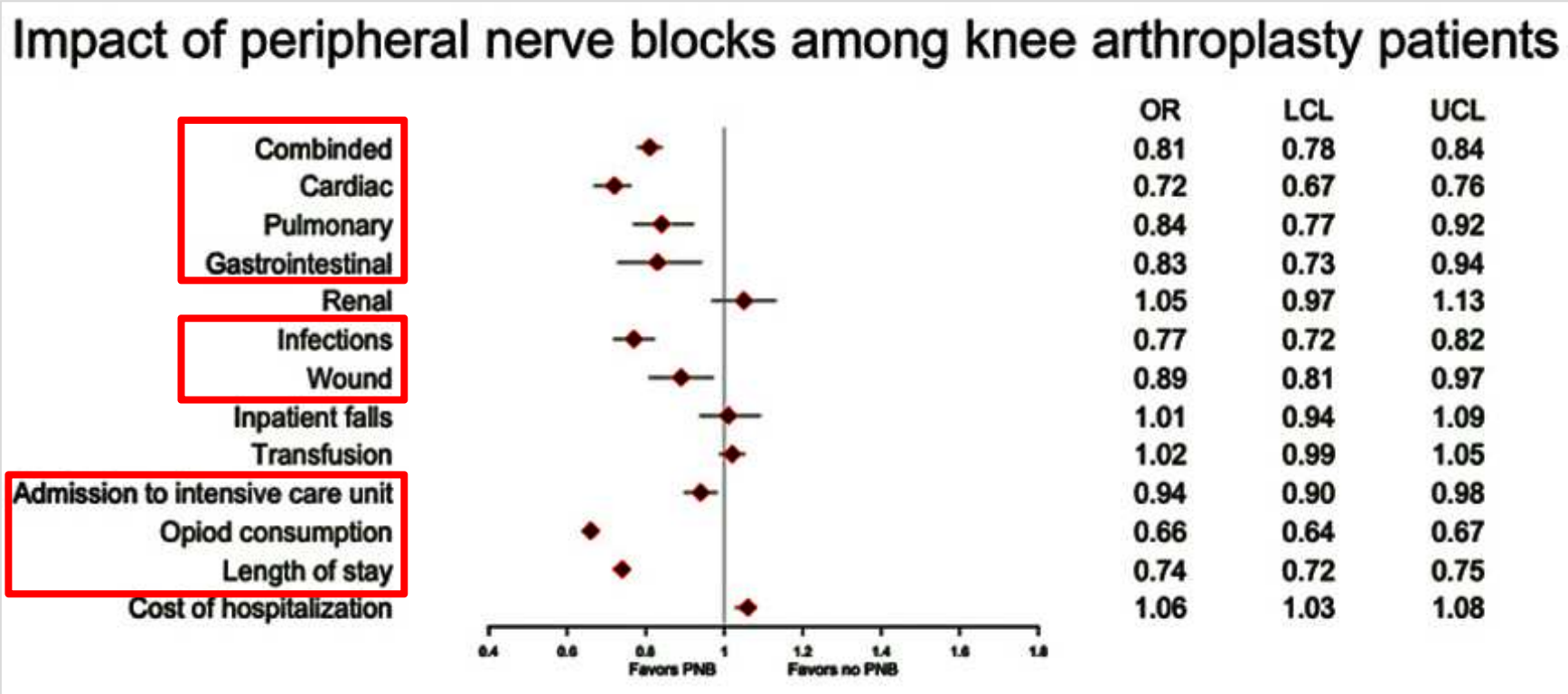
Time period	Group P	Group PF
0–24 h	25 (10)	6 (5)*
24–48 h	24 (11)	9 (5)*

Postoperative morphine consumption (mg).

Effect still present 6 months after surgery

PNB and postoperative complications

- **Cohort :** Elective hip/knee arthroplasty patients from 2006-2013 (n=1,062,152; 540 hospitals)
- Utilisation des BNP = 17,9 %



Regional Versus General Anesthesia - What Do We Know So Far?
Memtsoudis SG - Regional Anesthesia is Safer - Outcome Studies Update
Is All Regional Anesthesia Equal? – ASA 2015

Risques

Continuous Peripheral Nerve Blocks : A Review of the Published Evidence Ilfeld B Anesth Analg 2011

Continuous peripheral nerve blocks in the ambulatory setting : an update of the published evidence Machi A and Ilfeld B Curr Opin Anesthesiol 2015

Minor complications

- Inaccurate catheter tip placement
- Catheter dislodgement or obstruction
- Infusion pump malfunction
- Disconnection
- Fluid leakage at the catheter site
- CPNB - induced insensate extremity

Serious adverse events

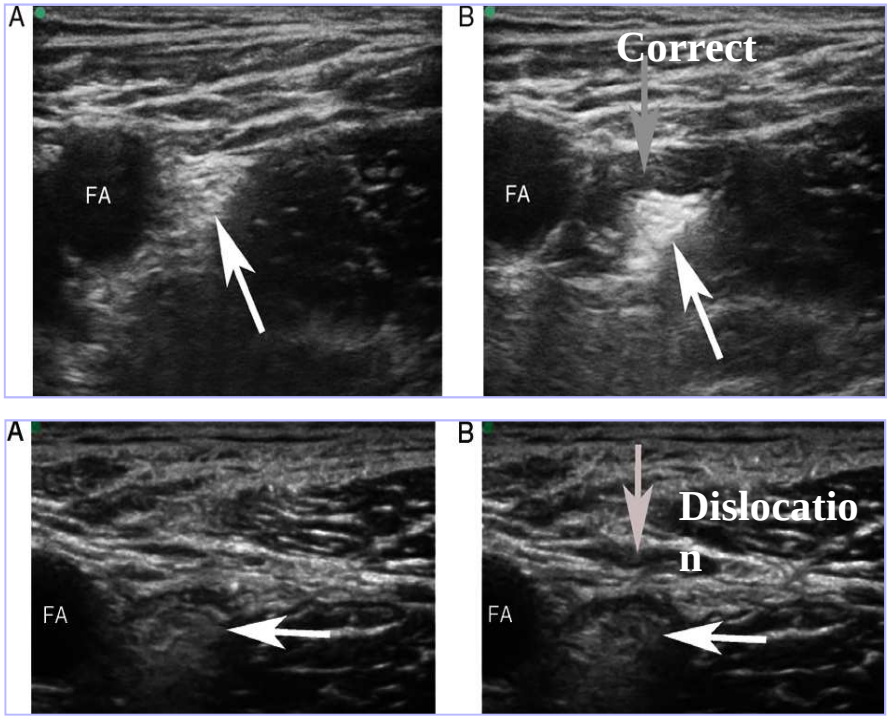
- Infection
- Bleeding
- Nerve injury
- Local anesthetic toxicity
- Inappropriate catheter placement

Dislocation rates of perineural catheters: a volunteer study

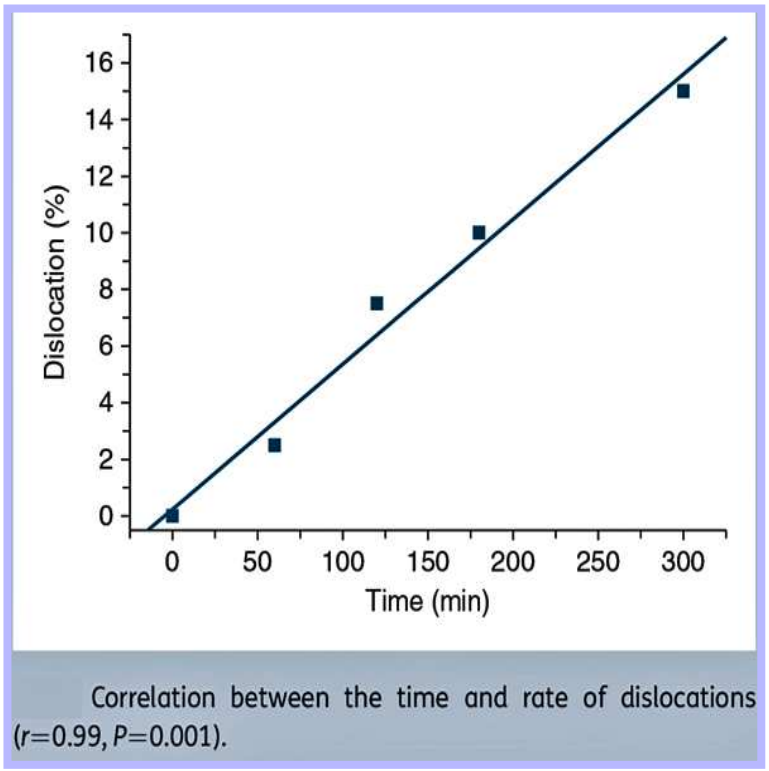
D. Marhofer[1,2], P. Marhofer[3*], L. Triffterer[2], M. Leonhardt[4], M. Weber[1] and M. Zeitlinger[1] BJA 2013

Twenty volunteers
Standardized physical exercises in regular inte

Overall dislocation rate of 15 %
5 % for interscalene catheters
25 % for femoral nerve catheters



Before (A) and after administration of 5 ml fluid (B)



Correlation between the time and rate of dislocations (r=0.99, P=0.001).

A retrospective analysis of 509 consecutive interscalene catheter insertions for ambulatory surgery

Anaesthesia 2015, 70, 41–46

P. Marhofer,[1] W. Anderl,[2] P. Heuberer,[3] M. Fritz,[4] O. Kimberger,[1] D. Marhofer,[5] W. Klug[5] and J. Blasl[6]

509 interscalene catheters inserted during ambulatory shoulder surgery

Adverse event		Description
Insufficient postoperative analgesia – catheter re-inserted	9 (1.8%)	Mild adverse event after surgery
Insufficient analgesia at home without catheter dislocation	9 (1.8%)	Five patients were re-admitted during the first 12 postoperative hours
Insufficient analgesia at home with catheter dislocation	2 (0.4%)	Two patients were re-admitted during the first 12 postoperative hours, one catheter was reinserted
Catheter dislocation at home with no significant pain	7 (1.4%)	Diagnosis of catheter dislocation after 24 h
Pain at catheter insertion site	1 (0.2%)	
Distal disconnection of catheter at home	2 (0.4%)	In both cases the patients reported mild to moderate pain
Pneumothorax	1 (0.2%)	No invasive intervention required
Subjective dyspnoea at home	3 (0.6%)	Two patients were re-admitted during the first 12 postoperative hours and interscalene infusion was stopped
Total	34 (6.7%)	

An analysis of 1505 consecutive patients receiving continuous interscalene analgesia at home: a multicentre prospective safety study

Anaesthesia 2016

M. J. Fredrickson,[1,2] P. Leightley,[2] A. Wong,[2] M. Chaddock,[2] A. Abeysekera[2] and C. Frampton[3]

Day of home discharge	
0	88 (6%)
1	1239 (86%)
2	47 (3%)
3	64 (4%)
> 3	11 (0.7%)
Elastomeric pump/electronic pump	720 (48%)/738 (52%)
Median pain score during infusion	2 (0–4 [0–10])
Oral analgesia consumption	
Paracetamol	1180 (82%)
NSAID	811 (56%)
Tramadol	549 (38%)
Other oral opioid	169 (12%)
Medical advice sought at home	174 (12%)
Pump or tubing technical issues	29 (2%)
Catheter leakage	111 (8%)
Catheter dislodgement	22 (1.5%)
Postoperative day of catheter removal	
1	6 (0.4%)
2	100 (7%)
3	763 (53%)
4	437 (30%)
> 4	137 (9%)

Recovery area (n = 1505)	
Respiratory failure*	2 (0.1%)
Dyspnoea	11 (0.7%)
Hoarseness	7 (0.5%)
Early (at home during infusion) (n = 1458)	
Nausea	
None	1065 (71%)
Mild	244 (17%)
Moderate	91 (6%)
Severe	45 (3%)
Dyspnoea	384 (27%)
Duration; days	3 (2–3 [1–8])
Hoarseness	193 (13%)
Duration; days	2 (2–3 [1–7])
Dysphagia	103 (7%)
Duration; days	2 (2–4 [1–7])
Late (> 1 week) (n = 1444)	
Catheter redness/pain/discharge	125 (8.5%)
Numbness/tingling (neck, arm or hand)	204 (14%)
Mild	151 (10%)
Moderate	46 (3%)
Severe	6 (0.4%)
Hand weakness	74 (5%)
Mild	48 (3%)
Moderate	24 (2%)
Severe	2 (0.1%)
Pain (forearm, wrist or hand)	171 (12%)

*Defined as requiring several hours oxygen > 4 $l.min^{-1}$ or CPAP to maintain SpO_2 > 94%.

Inpatient Falls after Total Knee Arthroplasty

The Role of Anesthesia Type and Peripheral Nerve Blocks

Stavros G. Memtsoudis, M.D., Ph.D., F.C.C.P., Thomas Danninger, M.D.,
Rehana Rasul, M.P.H., M.A., Jashvant Poeran, M.D., Ph.D., Philipp Gerner, B.S.,
Ottokar Stundner, M.D., Edward R. Mariano, M.D., M.A.S., Madhu Mazumdar, Ph.D., M.A., M.S.

ANESTHESIOLOGY 2014; 120:551-63

	Fall (N = 3,042)	No fall (N = 188,528)	
PNB			*P*
No block	2666 (87.6 %)	165,669 (87.9 %)	0.6933
Block	376 (12.4 %)	22,859 (12.1 %)	

What This Article Tells Us That Is New

- Review of more than 190,000 records from 400 hospitals in an administrative database showed an incidence of inpatient falls of 1.6% in this patient group, associated with morbidity and mortality
- Peripheral nerve block did not alter the risk of inpatient fall, whereas use of neuraxial anesthesia reduced the risk by 30% compared with general anesthesia

Facteurs de risque d'infection liée au cathéter périnerveux

Facteurs de risque	Odds ratio	Intervalle de confiance 95 %
Durée d'utilisation du cathéter ≥ 4 jours	6,44 6,32	5,20 – 7,98 5,05 – 7,91
Durée d'utilisation du cathéter > 48 heures	4,61	1,57 – 15,9
Localisation axillaire ou fémorale	3,39	1,48 – 7,79
Fréquents changements de pansement	2,12	1,37 – 3,29
Score ASA 4	2,05	1,23 – 3,41
Absence d'antibioprophylaxie	1,92	1,03 – 3,9
Obésité	1,69	1,25 – 2,28
Infection préopératoire	1,49	1,01 – 2,19
Ponction cutanée multiple	1,52 1,43	1,29 – 1,79 1,20 – 1,71
Diabète	1,50 1,26	1,23 – 1,83 1,02 – 1,55
Sexe masculin	1,64	1,42 – 1,89
Age	1,01	1,01 – 1,02

Editorial

Pawa et al. Anaesthesia 2016

Interscalene catheters - should we give them the cold shoulder?

« They argue that continuous interscalene infusion following shoulder surgery should be the gold standard for pain relief in these patients and believe that their outcome data will persuade others that this technique is safe and effective »

Why don't we send patients home with nerve catheters ?

- Skill mix
- Who will troubleshoot ?
- Discharge on day of surgery
- Safety
- Economic

➔ **Future developments as alternatives to interscalene catheters for shoulder surgery**

Facteurs limitants

Contraintes organisationnelles

Salle d'ALR dédiée

Techniques prenant du temps

Mise en place nécessaire d'une convention pour la prise en charge en ambulatoire

Contraintes financières

Pas de cotation spécifique pour la pose d'un cathéter périnerveux

➔ **Implication, adaptation, volontariat**

Facteurs limitants - NGAP

SOINS INFIRMIERS
CHAPITRE II - SOINS SPÉCIALISÉS
Article 3 – Perfusions
La séance de perfusion permet d'administrer chez un patient des solutés et / ou des médicaments de façon continue ou discontinue par voie veineuse ou par voie sous cutanée ou par voie endorectale

SURVEILLANCE A DOMICILE

Médecin anesthésiste et chirurgien peuvent être contactés par téléphone 24h/24h. Le médecin anesthésiste doit avoir à disposition un document précisant le geste chirurgical, le type de cathétérisme péri-nerveux réalisé et le protocole mis en œuvre.

L'infirmier(e) qui prend en charge le patient doit être formé(e) spécifiquement pour la surveillance d'une analgésie continue par cathéter péri-nerveux. Il prend contact avec le patient le jour même ou le lendemain du retour au domicile, puis effectue une surveillance quotidienne ou biquotidienne.

La surveillance comprend :

Les paramètres communs à tous les blocs :

- constantes hémodynamiques, température
- efficacité analgésique
- évaluation à la recherche d'un bloc moteur
- points d'appui ou de compression
- signes de surdosage (signes neurologiques)
- site d'insertion du cathéter
- bon fonctionnement du système de perfusion : volume d'anesthésique local perfusé.

Une surveillance spécifique selon le bloc réalisé :

- par exemple, dépistage d'un bloc phrénique avec le bloc interscalénique, bloc moteur d'un membre inférieur nécessitant un béquillage Ces éléments faisant partie de l'information au patient.

Le retrait du cathéter est réalisé à H48 ou H72 par l'infirmier(e) à domicile sur prescription médicale.

Protocole d'utilisation à domicile de ropivacaïne 2 mg/ml, solution injectable en poche dans le cadre de l'analgésie postopératoire par cathéter perinerveux

2012

Alternatives

… searching for the "magic bullet" to be injected somewhere near a nerve, or infiltrated into tissue, that will eliminate a patient's acute or perioperative pain for as long as the pain lasts without unwanted side effects

… combining different drugs and developing new presentations of drugs

Adding dexamethasone has been met with enthusiasm
The question, therefore, was whether dexamethasone, if injected perineurally, could add any value without adding neurotoxicity

A further attempt at finding the "magic bullet" has been to engineer slow-release local anesthetic agents, for example, in liposomal spheres (Exparel), or in an organic matrix of sucrose acetate isobutyrate (Posidur [SABER - Bupivacaine])

… despite decades of research, the manufacture of products and the creation of techniques, the treatment of pain remains a major issue, which means no clear winner has emerged

Combination of dexamethasone and local anaesthetic solution in peripheral nerve blocks

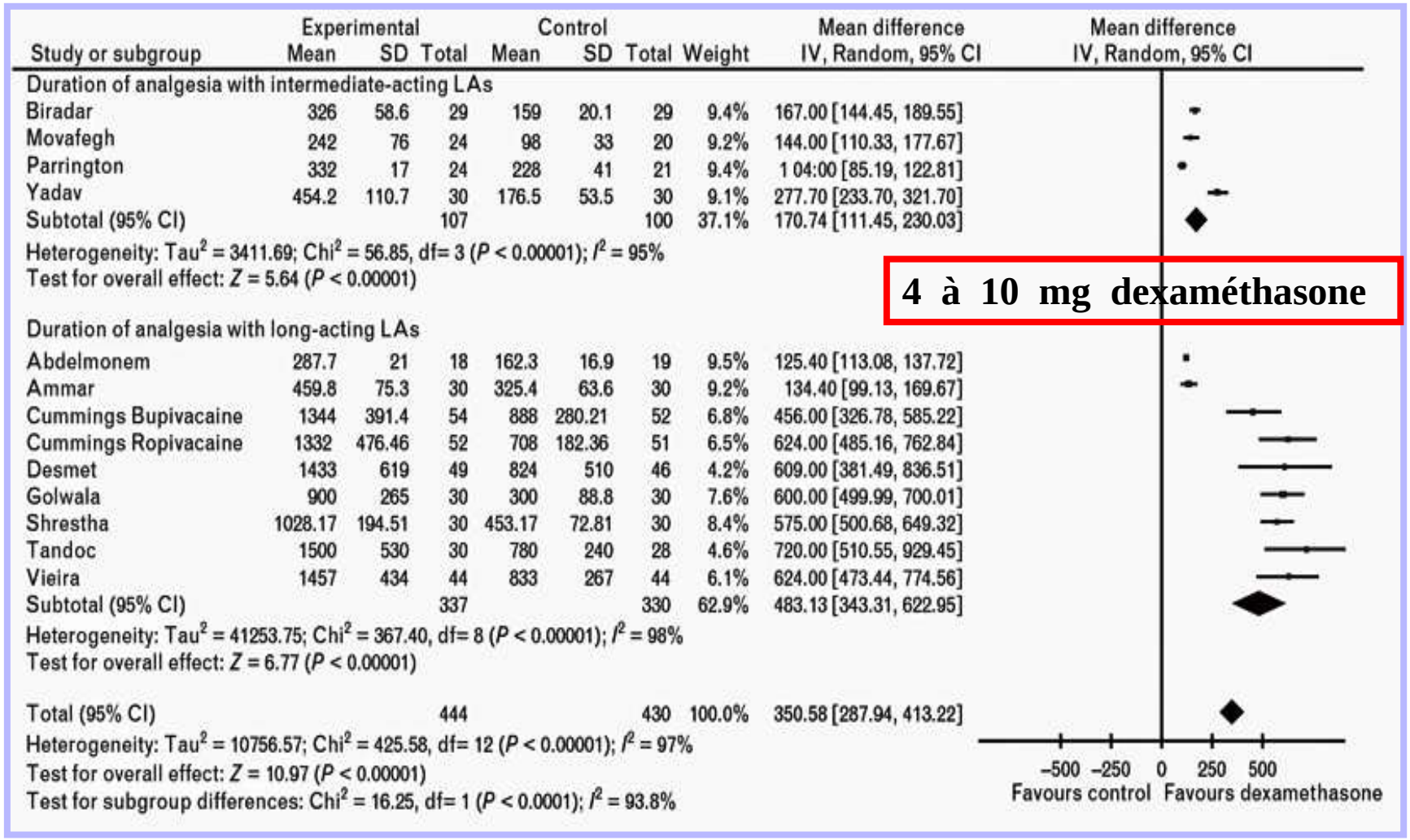
A meta-analysis of randomised controlled trials

Thi Mum Huynh, Emmanuel Marret and Francis Bonnet *Eur J Anaesthesiol* 2015; **32:**1–8

Twelve trials

1054 patients

512 perineural dexamethasone



Dexamethasone approximately doubled the duration of postoperative analgesia

Dose-dependency of dexamethasone on the analgesic effect of interscalene block for arthroscopic shoulder surgery using ropivacaine 0.5%

A randomised controlled trial *Eur J Anaesthesiol* 2015; **32:**650–655

Jae Hee Woo, Youn Jin Kim, Dong Yeon Kim and Sooyoung Cho

SISB

12 ml of ropivacaine 0.5 %

0.9 % saline (control group)

Dexamethasone 2.5, 5.0 or 7.5 mg

Time to first analgesic request

Saline

11.0 (8.2 to 14.4) h

Dexamethasone 2.5 mg

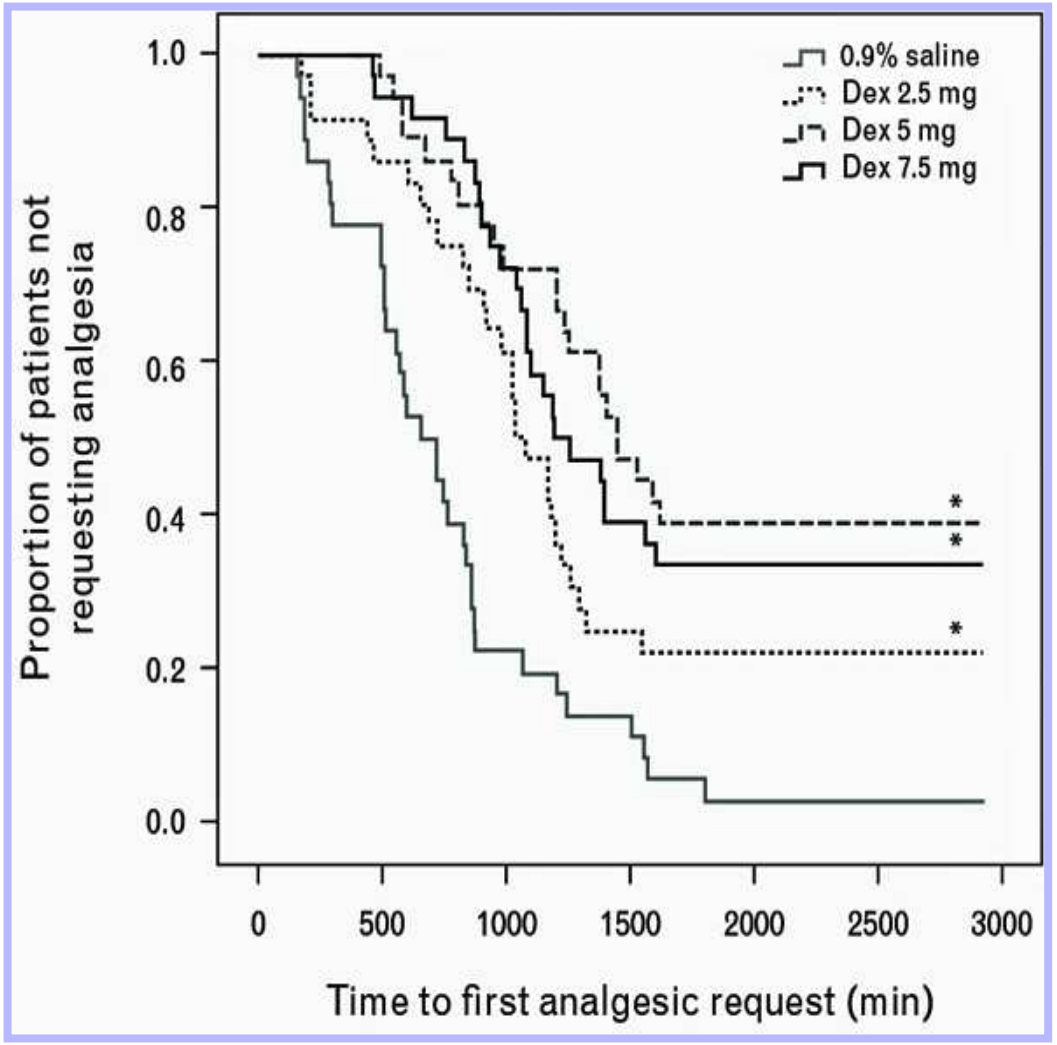
17.3 (12.2 to 22.0) h*

Dexamethasone 5.0 mg

24.2 (15.8 to 49.8) h*

Dexamethasone 7.5 mg

19.9 (15.5 to 49.6) h*

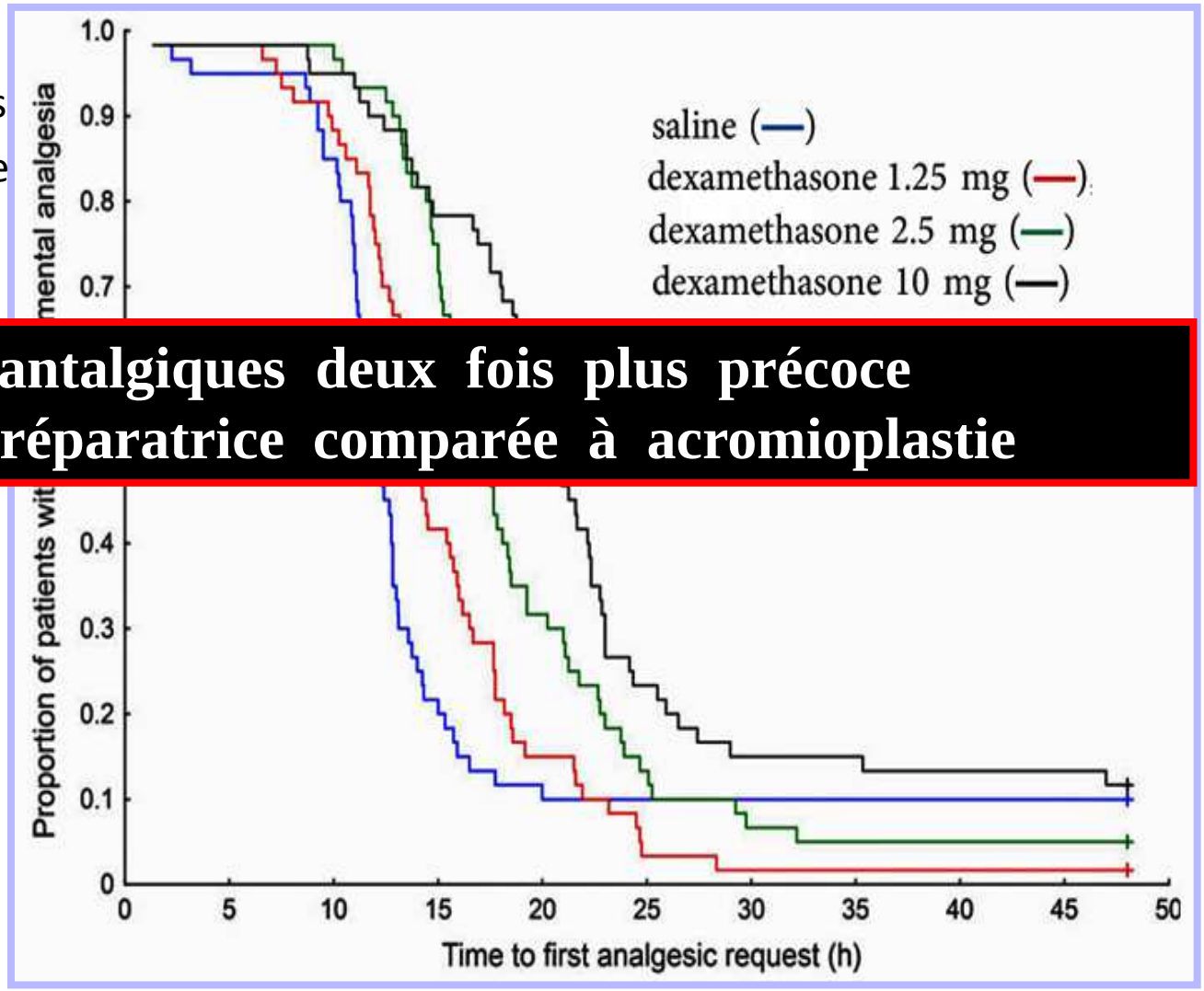


A randomised controlled trial of intravenous dexamethasone combined with interscalene brachial plexus blockade for shoulder surgery*

Anaesthesia 2015

M. Desmet,[1] B. Vanneste,[2] M. Reynvoet,[1] J. Van Cauwelaert,[3] L. Verhelst,[3] H. Pottel,[4] C. Missant[5] and M. Van de Velde[5]

Interscalene brachial plexus blockade 30 ml ropivacaine 0.5 %



Prise d'antalgiques deux fois plus précoce si chirurgie réparatrice comparée à acromioplastie

12.2 (11.0–14.1 [1.8–48]) h

Dexamethasone 1.25 mg

14.0 (12.1–17.7 [2.1–48]) h

Dexamethasone 2.5 mg

17.4 (14.9–21.5 [7.2–48]) h*

Dexamethasone 10 mg

20.1 (17.2–24.3 [1.3–48]) h*

The Effects of Perineural Versus Intravenous Dexamethasone on Sciatic Nerve Blockade Outcomes: A Randomized, Double-Blind, Placebo-Controlled Study

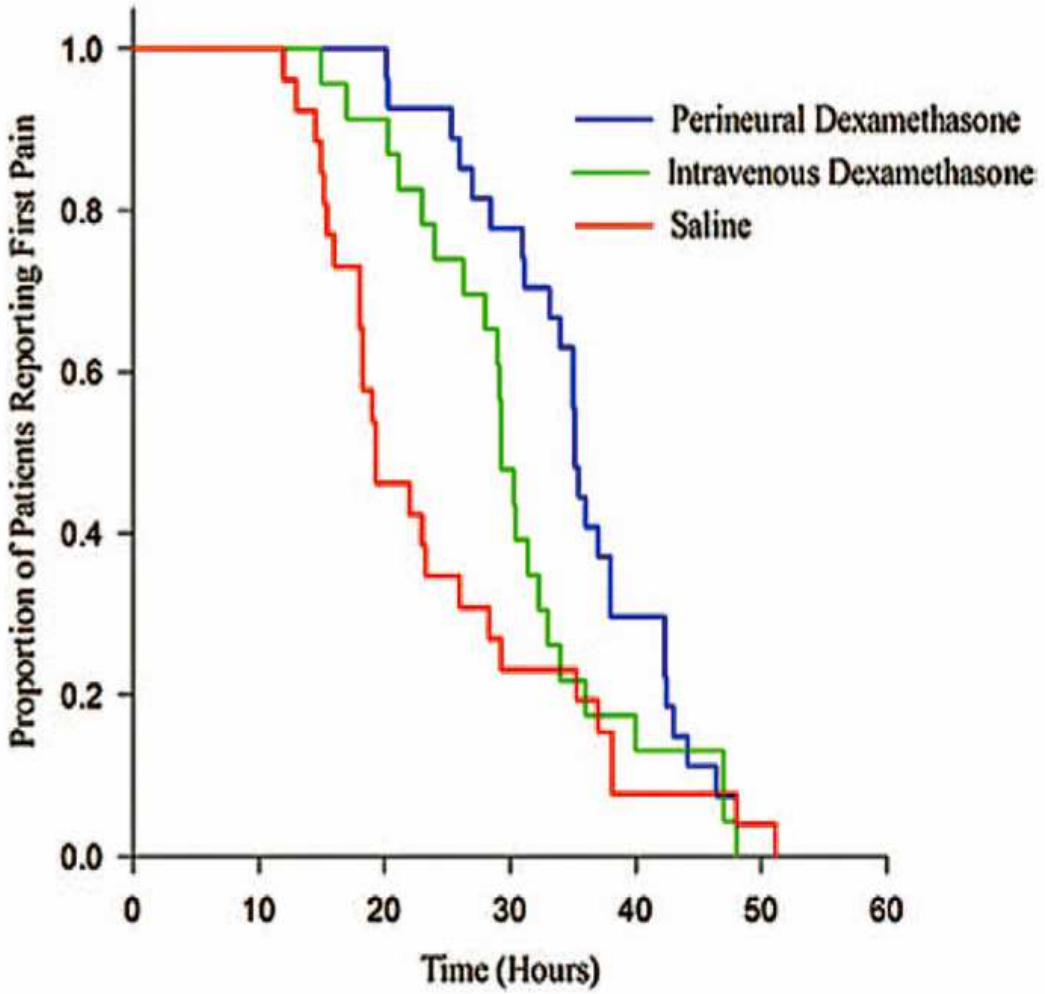
Rohit Rahangdale, MD, Mark C. Kendall, MD, Robert J. McCarthy, PharmD, Luminita Tureanu, MD, Robert Doty Jr, MD, Adam Weingart, MD, and Gildasio S. De Oliveira Jr, MD, MSCI Anesth Analg 2014

Ultrasound-guided sciatic nerve block
0.5 % bupivacaine with epinephrine 1:300,000 (0.45 mL/kg)

78 patients, 3 groups
Group 1 = perineural dexamethasone 8 mg with IV normal saline
Group 2 = perineural saline with IV 8 mg dexamethasone
Group 3 = perineural saline with IV normal saline

Global score in the quality of recovery (QoR-40) not improve
No decrease opioid consumption

➔ **Lack of clinical benefit**



A randomised controlled trial of perineural vs intravenous dexamethasone for foot surgery

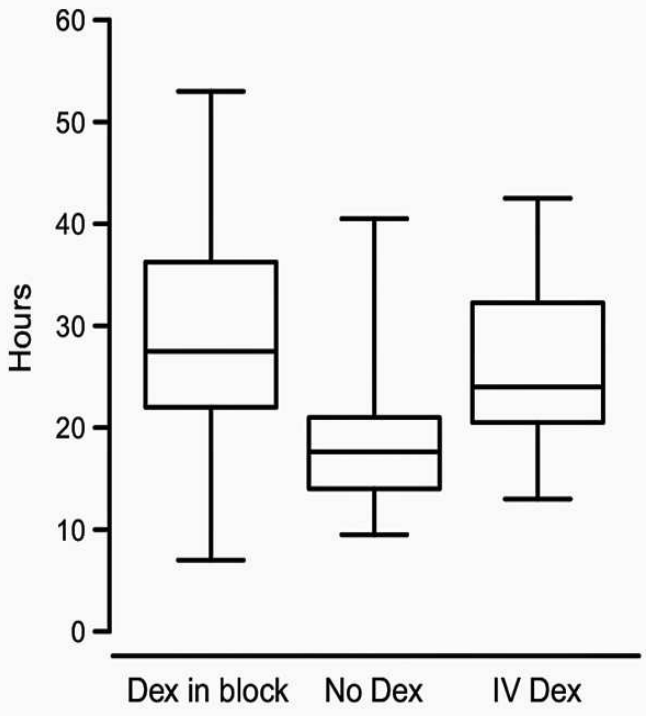
Anaesthesia

R. L. Dawson, D. H. McLeod, J. P. Koerber, J. L. Plummer and G. C. Dracopoulos

20 ml ropivacaine 0.75% for ankle blocks before foot surgery
90 patients
Dexamethasone 8 mg perineural or IV or placebo

Median (IQR [range]) time for the return of normal neurology

17.6 (14.0–21.0 [9.5–40.5]) h with saline
27.5 (22.0–36.3 [7.0–53.0]) h when given perineurally (p = 0.00016)
24.0 (20.5–32.3 [13.0–42.5]) h when given intravenously (p = 0.0022)



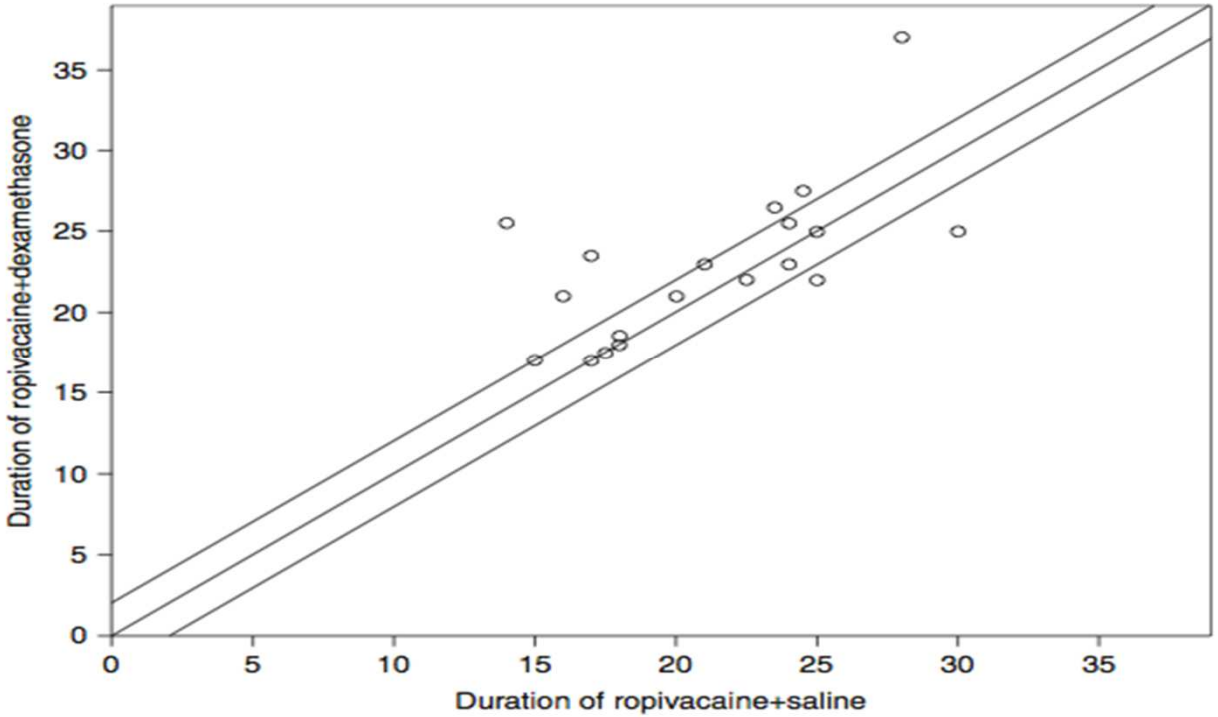
Dexamethasone did not affect the rates of block success, postoperative pain scores, analgesic use, or nausea and vomiting
The route of dexamethasone administration did not alter its effects

Does dexamethasone have a perineural mechanism of action? A paired, blinded, randomized, controlled study in healthy volunteers

British Journal Of Anaesthesia, 117 (5): 635–41 (2016)

P. Jæger[1,*], U. Grevstad[2,†], Z. J. Koscielniak-Nielsen[1], A. R. Sauter[3,4], J. K. Sørensen[2] and J. B. Dahl[5]

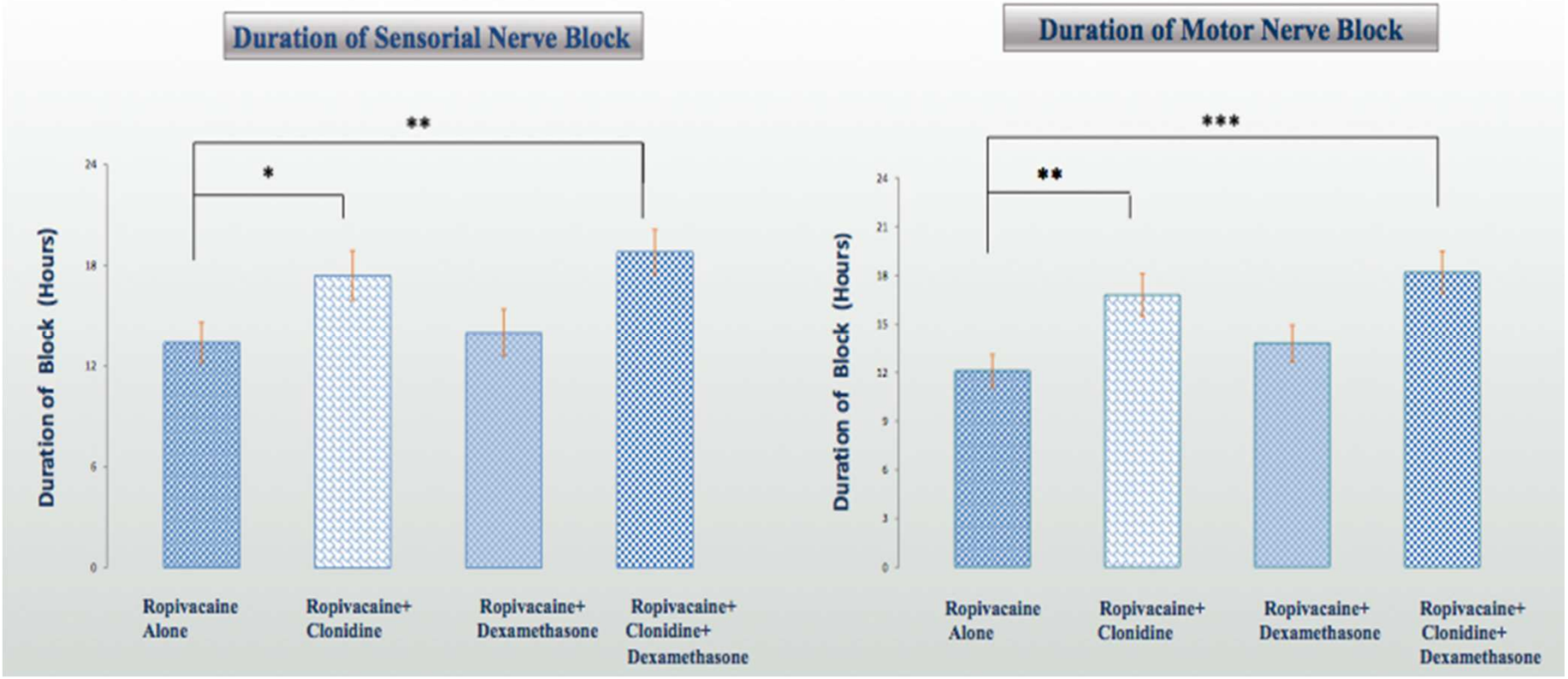
All subjects received bilateral blocks. We injected ropivacaine 0.5%, 20 ml plus isotonic saline, 0.5 ml in one leg (ROPI-SAL treatment) and ropivacaine 0.5%, 20 ml plus dexamethasone 4 mg ml^{-1}, 0.5 ml in the opposite leg (ROPI-DEX treatment), according to randomization.



A Comparison of Ropivacaine Alone versus Ropivacaine with Dexamethasone or Clonidine versus a Combination of all of them for Supraclavicular Brachial Plexus Block: A Randomized, Observer-blinded Prospective Trial to Determine the Duration of the Block

Dawood Nasir[1], MD, Jo Howard [2] B.S.N, Irina Gasanova[1], MD, PhD, Shaina Drummond[1], MD, John C Alexander[1], MD, Jose E. L. Garcia[1], MD, Girish P Joshi[1] MD, Gary E. Hill[1], MD, Babatunde Ogunnaike[1], MD, Charles W. Whitten[1], MD.

ASA 2016



Does Dexmedetomidine Have a Perineural Mechanism of Action When Used as an Adjuvant to Ropivacaine?

A Paired, Blinded, Randomized Trial in Healthy Volunteers

Jakob H. Andersen, M.D., Ulrik Grevstad, M.D., Ph.D., Hanna Siegel, M.D.,
Jørgen B. Dahl, M.D., D.M.Sc, M.B.Aex, Ole Mathiesen, M.D., Ph.D., Pia Jæger, M.D., Ph.D.

ANESTHESIOLOGY 2017; 126:00-00

Table 2. Results—Duration of Nerve Blocks

Sensory Test	$Block_{Ropivac + Dex}$ Mean Duration (h)	$Block_{Ropivac + Placebo}$ Mean Duration (h)	Mean Difference (h)	95% CI of the Difference	*P* Value
Temperature sensation (alcohol swab)	22	20	2	1–3	0.001
Pinprick	23	20	3	1–3	< 0.001
Pain during tonic heat stimulation	22	20	2	0–3	0.005
Warmth detection threshold	23	21	2	0–3	0.024
Heat pain detection threshold	21	20	1	0–2	0.068

$Block_{Ropivac + Dex}$ = saphenous nerve block with ropivacaine and dexmedetomidine; $block_{Ropivac + Placebo}$ = saphenous nerve block with ropivacaine and placebo (saline).

What This Article Tells Us That Is New

- In 21 volunteers receiving bilateral saphenous nerve blocks with ropivacaine, adding dexmedetomidine (100 μg) on one side and saline on the other statistically significantly increased the duration of sensory blockade on the side with dexmedetomidine although the magnitude of effect was not clinically relevant
- The effect of perineural dexmedetomidine may be peripheral

Adjuvant Dexamethasone: Innovation, Farce, or Folly?

Christopher D. Noss, MD, Lindsay D. MacKenzie, MD, and Mark A. Kostash, MD

Regional Anesthesia and Pain Medicine November-December 2014

Limites de l'utilisation en périnerveux

- **Définition imprécise de la durée d'analgésie**
- **Nécessité d'études rigoureuses de doses**
- **Bloc moteur associé**
- **Sécurité non établie**

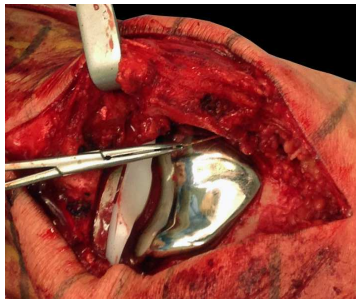
DEXAMETHASONE MYLAN 4 mg / 1 ml
Excipients à effet notoire :
p-hydroxybenzoate de méthyle, sodium, sodium disulfite, p-hydroxybenzoate de propyle

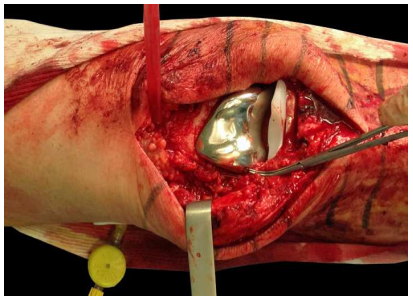
Aucune étude comparant bloc en injection unique associé à de la dexaméthasone versus cathéter périnerveux

Local anaesthetic infiltration for peri-operative pain control in total hip and knee replacement: systematic review and meta-analyses of short- and long-term effectiveness

BMC 2014 Musculoskeletal Disorders

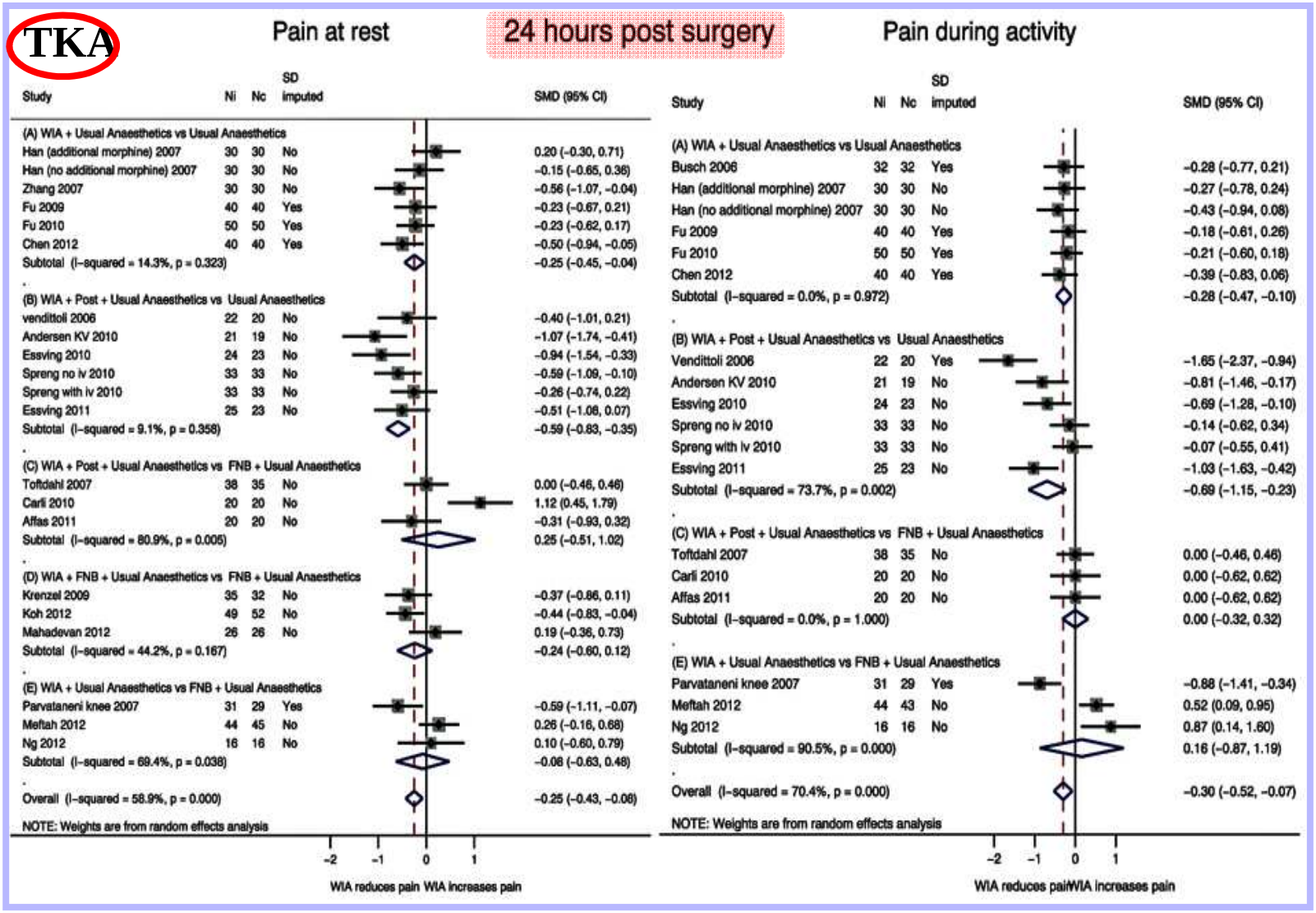
Elsa MR Marques[1*], Hayley E Jones[1], Karen T Elvers[2], Mark Pyke[3], Ashley W Blom[2] and Andrew D Beswick[2]





TKA

24 hours post surgery

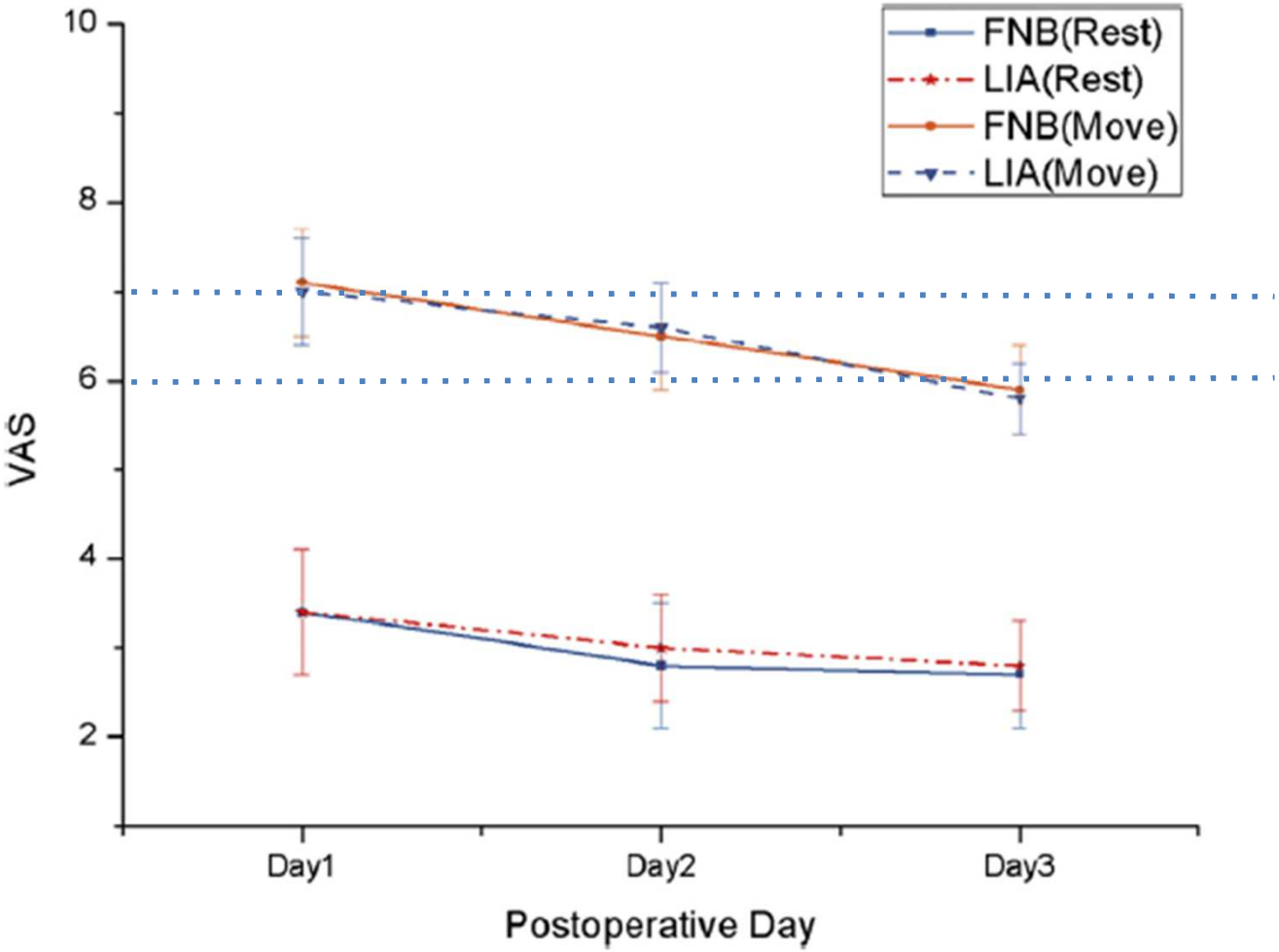


Comparison of Local Infiltration Analgesia With Femoral Nerve Block for Total Knee Arthroplasty: A Prospective, Randomized Clinical Trial

Lin Fan, MD [a, 1], Xiao Yu, MD [b, 1], Pengfei Zan, MD [a, 1], Jin Liu, MD [b], Tongxiang Ji, MD [a], Guodong Li, MD, PhD [a, *]

The Journal of Arthroplasty xxx (2016) 1–5

FNB : Injection Unique



Raisonnable?

Analgesia and functional outcome after total knee arthroplasty: periarticular infiltration *vs* continuous femoral nerve block

BJA 2010

F. Carli[1]*, A. Clemente[1], J. F. Asenjo[1], D. J. Kim[1], G. Mistraletti[3], M. Gomarasca[3], A. Morabito[4] and M. Tanzer[2]

Continuous femoral nerve catheter (48 hours) : Ropivacaine 0.2 % vs saline
Infiltration of the posterior capsule of the knee to cover popliteal pain
Periarticular and intra-articular infiltration : Ropivacaine 0.2 % vs saline
Intra-articular catheter : At 24 h, 50 ml of ropivacaine 0.5 % vs saline

Variables	Periarticular infiltration ($n=20$)	Femoral block ($n=20$)	*P*-value between groups
6 min walk test (m)			
Preoperative	229.0 (89.3)	231.6 (81.3)	*0.93*
6 weeks	248.0 (87.4)	267.5 (82.3)	*0.48*
P-value within groups	0.38	0.01	
WOMAC			
Preoperative	53.7 (14.7)	52.0 (13.6)	0.71
6 weeks	28.0 (14.2)	19.7 (10.6)	0.04
P-value within groups	<0.01	<0.01	

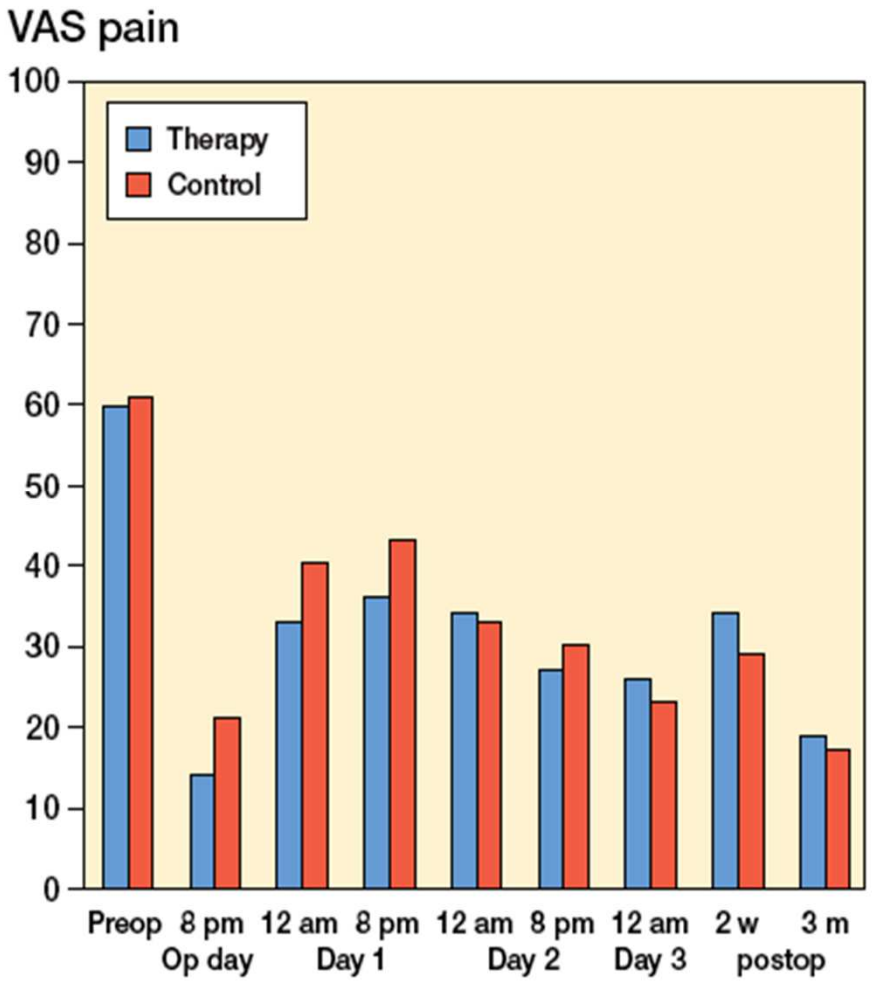
Conclusions. Femoral block is associated with lower opioid consumption and a better recovery at 6 weeks than periarticular infiltration. Early postoperative activity measures (2MWT and walking time) were proved to be possible indicators of knee function recovery at 6 weeks after surgery.

Doubtful effect of continuous intraarticular analgesia after total knee arthroplasty

Acta Orthopaedica 2015; 86 (3): 373–377

A randomized, double-blind study of 200 patients

Abdulemir ALI, Martin SUNDBERG, Ulrik HANSSON, Johan MALMVIK, and Gunnar FLIVIK



Variables	Therapy group (n = 97)	Control group (n = 95)
VAS preop. (0–100)	60 (16)	61 (15)
VAS on op. day, 8 p.m.	14 (20)	21 (25)
VAS on day 1, 12 noon	33 (24)	40 (22)
VAS on day 1, 8 p.m.	36 (24)	43 (21)
VAS on day 2, 12 noon	34 (24)	33 (25)
VAS on day 2, 8 p.m.	27 (20)	30 (22)
VAS on day 3, 12 noon	26 (19)	23 (20)
VAS 2 weeks postop.	34 (24)	29 (19)
VAS 3 months postop.	19 (21)	17 (19)
ROM preop., degrees	112 (16)	109 (23)
ROM on day 3 postop.	82 (16)	84 (12)
ROM 3 months postop.	113 (12)	110 (13)
Dressing change	0.5 (0.9)	0.7 (1.1)
Postop. stay, days	4.1 (0.9)	4.1 (1.0)
Nausea/vomiting	0.8 (1.4)	1.1 (2.0)
Leg-raising ability preop. [a]	96	93
Leg-raising ability on day 3 [a]	93	92
Total additional oxycodone, 5 mg	4 (5)	5 (6)

Quelle infiltration intra-articulaire pour PTG ?

Does Extended-Release Liposomal Bupivacaine Better Control Pain Than Bupivacaine After Total Knee Arthroplasty (TKA)? A Prospective, Randomized Clinical Trial

The Journal of Arthroplasty 30 Suppl. 1 (2015) 64–67

William C. Schroer, MD, Paul G. Diesfeld, PA, Angela R. LeMarr, RN, Diane J. Morton, MS, Mary E. Reedy, RN

111 primary TKAs

58 patients received 266 mg (20 cc) liposomal bupivacaine mixed with 75 mg (30 cc) 0.25% bupivacaine

53 patients received 150 mg (60 cc) 0.25% bupivacaine

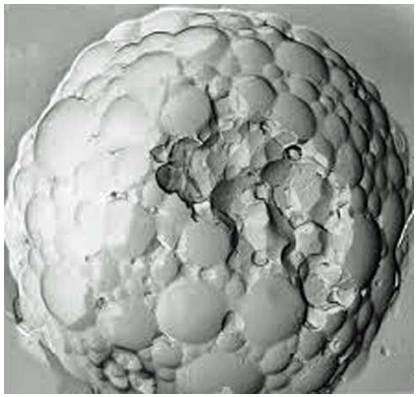
No pain score differences between study and control patients

Day 1 : 4.5 / 4.6 (P = 0.73)

Day 2 : 4.4 / 4.8 (P = 0.27)

Day 3 : 3.5 / 3.7 (P = 0.58)

Narcotic use similar during hospitalization



This finding does not justify the routine use of liposomal bupivacaine

Liposome Bupivacaine Femoral Nerve Block for Postsurgical Analgesia after Total Knee Arthroplasty

Admir Hadzic, M.D., Harold S. Minkowitz, M.D., Timothy I. Melson, M.D., Richard Berkowitz, M.D., Anna Uskova, M.D., Forrest Ringold, M.D., Janice Lookabaugh, M.P.H., Brian M. Ilfeld, M.D., M.S.

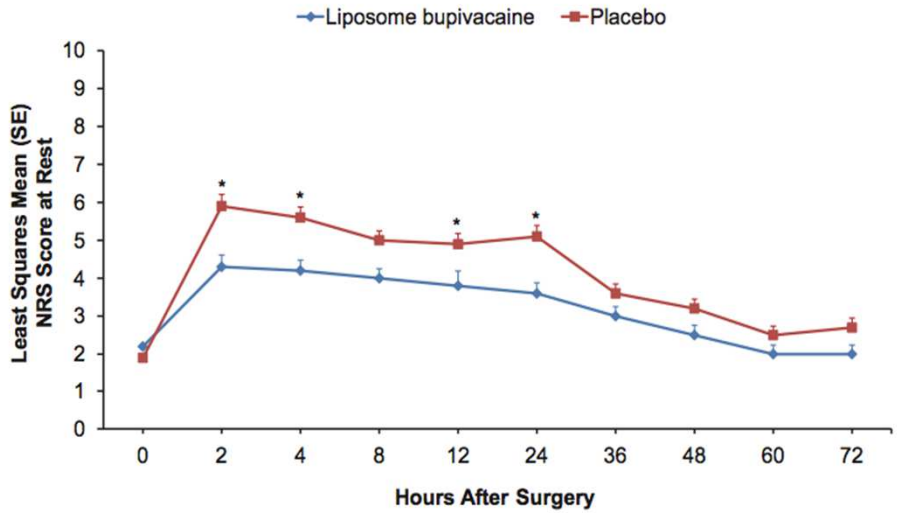
ANESTHESIOLOGY 2016; 124:1372-83

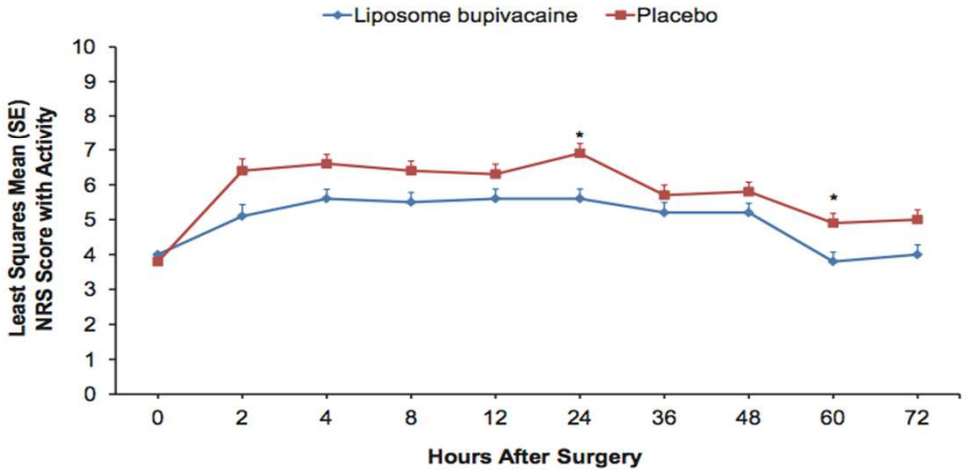
What We Already Know about This Topic

- Liposome bupivacaine is approved for administration into the surgical site but not for peripheral nerve blocks

What This Article Tells Us That Is New

- In a two-part clinical study designed to meet the U.S. Food and Drug Administration standard for approval of analgesic agents, femoral nerve block with liposome bupivacaine after total knee arthroplasty resulted in modestly reduced average pain and opioid use in the first 72 h after surgery compared with placebo
- Side effects were similar in both groups, supporting further investigation





Alors on fait comment pour une analgésie post-opératoire moderne chez Mamy?

Ambulatory Continuous Peripheral Nerve Blocks and the Perioperative Surgical Home

Brian M. Ilfeld, M.D., M.S., Matthew J. Meunier, M.D., Alex Macario, M.D., M.B.A.

Anesthesiology 2015; 123:1224-6

"One can imagine a well-functioning acute regional service that delivers state-of-the-art outpatient analgesia as a component for the promise of the perioperative surgical home to be fully realized."

An Expedited Care Pathway with Ambulatory Brachial Plexus Analgesia Is a Cost-effective Alternative to Standard Inpatient Care after Complex Arthroscopic Elbow Surgery

A Randomized, Single-blinded Study

ANESTHESIOLOGY 2015; 123:1256-66

Hillenn Cruz Eng, M.D., Sheila Riazi, M.Sc., M.D., F.R.C.P.C., Christian Veillette, M.D., F.R.C.S.C., Noam Ami, B.Sc., Ahtsham U. Niazi, M.B.B.S., F.C.A.R.C.S.I., F.R.C.P.C., Ki Jinn Chin, M.D., F.R.C.P.C., Vincent W. S. Chan, M.D., F.R.C.P.C., Anahi Perlas, M.D., F.R.C.P.C.

Table 4. Pain and Satisfaction Scores

	Control Group (n = 19), Mean ± SD	Expedited Care Pathway Group (n = 19), Mean ± SD	*P* Value*
Pain scores (NRS)			
Baseline	3.9±3.2	2.3±2.5	0.6048
PACU	2.2±2.3	2.5±2.6	> 0.99
POD 1	3.2±3.1	3.5±2.9	> 0.99
POD 2	3.2±3.4	2.4±1.4	> 0.99
POD 3	2.4±2.3	2.4±1.5	> 0.99
POD 4	3.6±2.3	2.0±1.0	0.315
Patient satisfaction with perioperative care			
2 weeks	9.4±0.8	9.3±1.3	> 0.99
6 weeks	9.4±0.8	9.3±1.2	> 0.99
3 months	9.4±0.9	9.6±0.7	> 0.99

Table 7. Itemized Cost in Canadian Dollars

	Control Group (n = 18)	Expedited Care Pathway Group (n = 17)	*P* Value
Surgical, anesthetic, and PACU cost	4,053±1,123	4,390±952	0.345
Admission/nursing unit cost	2,068±260	961±461	0.000
Pharmacy cost	445±260	210±179	0.004
Other cost	80±40	114±72	0.091
Total cost	6,646±1,354	5,675±1,232	0.034

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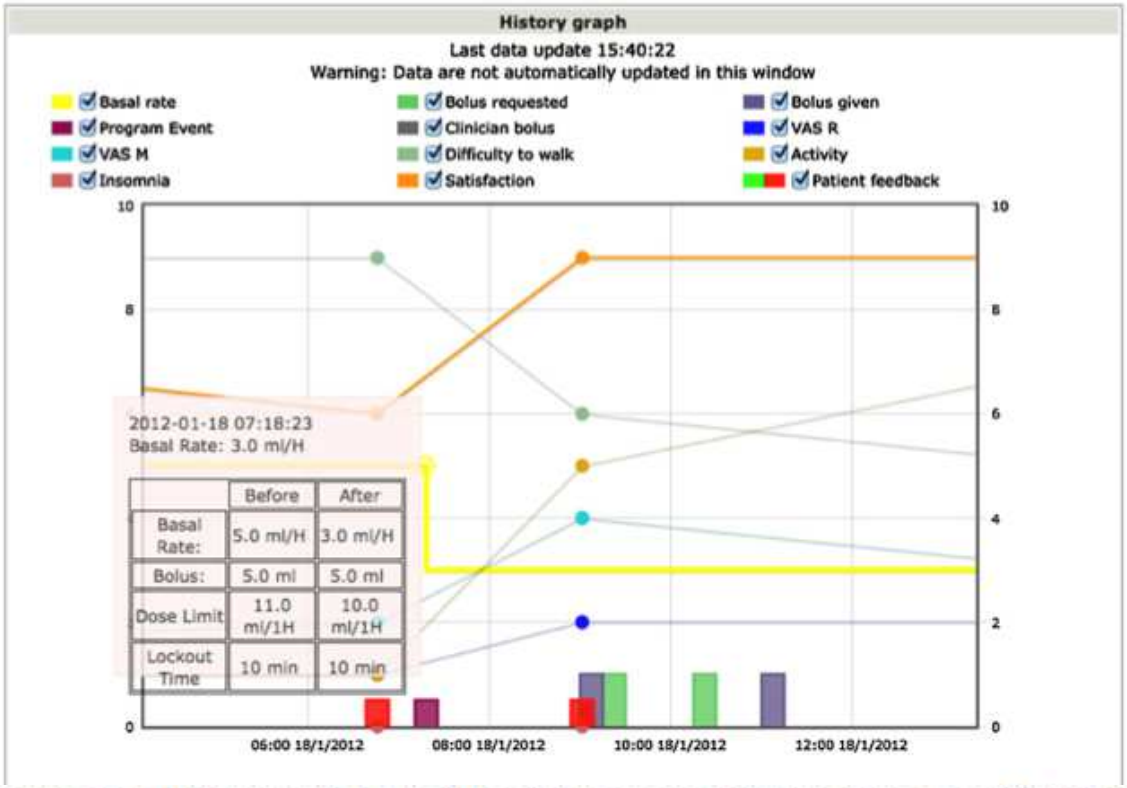
Internet remote control of pump settings for postoperative continuous peripheral nerve blocks: A feasibility study in 59 patients

P. Macaire [a,*], M. Nadhari [a], H. Greiss [a], A. Godwin [a], O. Elhanfi [a], S. Sainudeen [a], M. Abdul [a], X. Capdevila [b]



Conclusion. – Pour la première fois dans la littérature, nous décrivons la possibilité d'évaluation des paramètres d'une ACP pour BNPC avec modification par Internet des réglages de l'analgésie postopératoire permettant une réelle adaptation aux besoins des patients. Cette adaptation est sûre, se fait avec des durées courtes et sans présence obligatoire du médecin ou de l'infirmière référents du patient.

Indicators	Value
VAS at rest (only pain level at the surgical site)	0–10
VAS at mobilization (only pain level at the surgical site)	0–10
Excessive numbness (Yes, when it is uncomfortable for the patient)	Yes/No
Motor blockade (Yes, when the patient was unable to move his limb or the extremities [fingers or toes] due to the block)	Yes/No
Physiotherapy	Yes/No
Difficulty to walk	Yes/No
Activity	0–10
Insomnia (the number of time the patient woke up between 11 PM to 6 AM)	
Swelling dressing (if possible for the patient)	Yes/No
Satisfaction	0–10

Indicators	If value
Pain VAS value at rest (only pain level at the surgical site)	> 4
Pain VAS value during mobilization (only pain level at the surgical site)	> 4
Motor blockade or numbness	Yes
Sensory blockade or insensate limb	Yes
Swelling dressing (if possible for the patient)	Yes

Macaire P, Nadhari M, Greiss H et al. Internet remote control of pump settings for postoperative continous peripheral nerve blocks: A feasibility study in 59 patients. Ann Fr Anesth Rea 2014;33:e1-e7.

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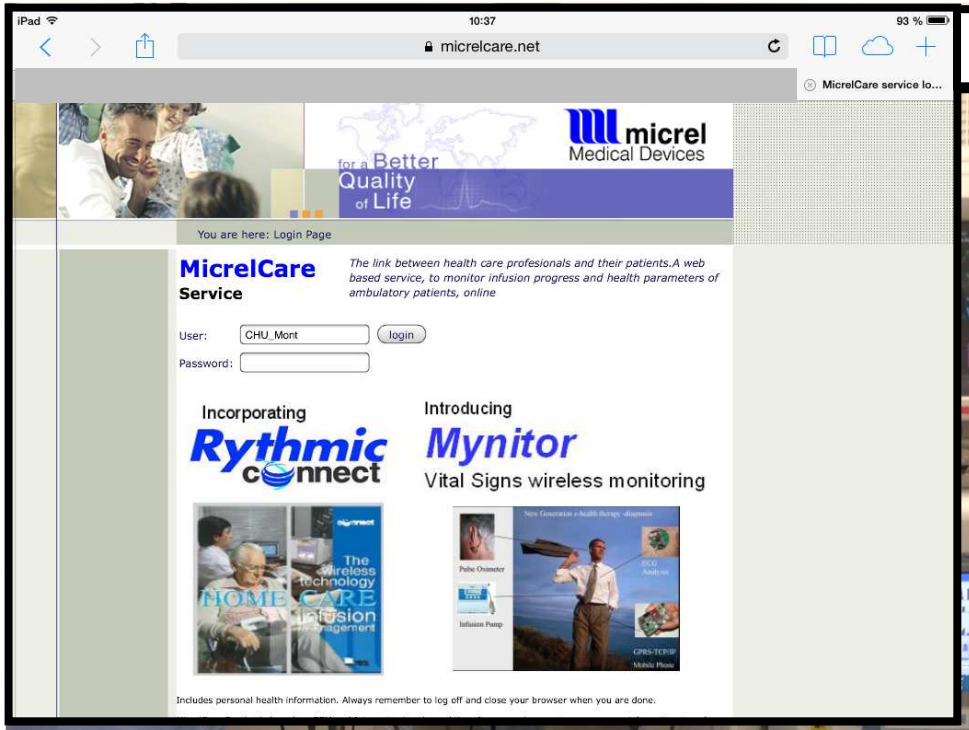

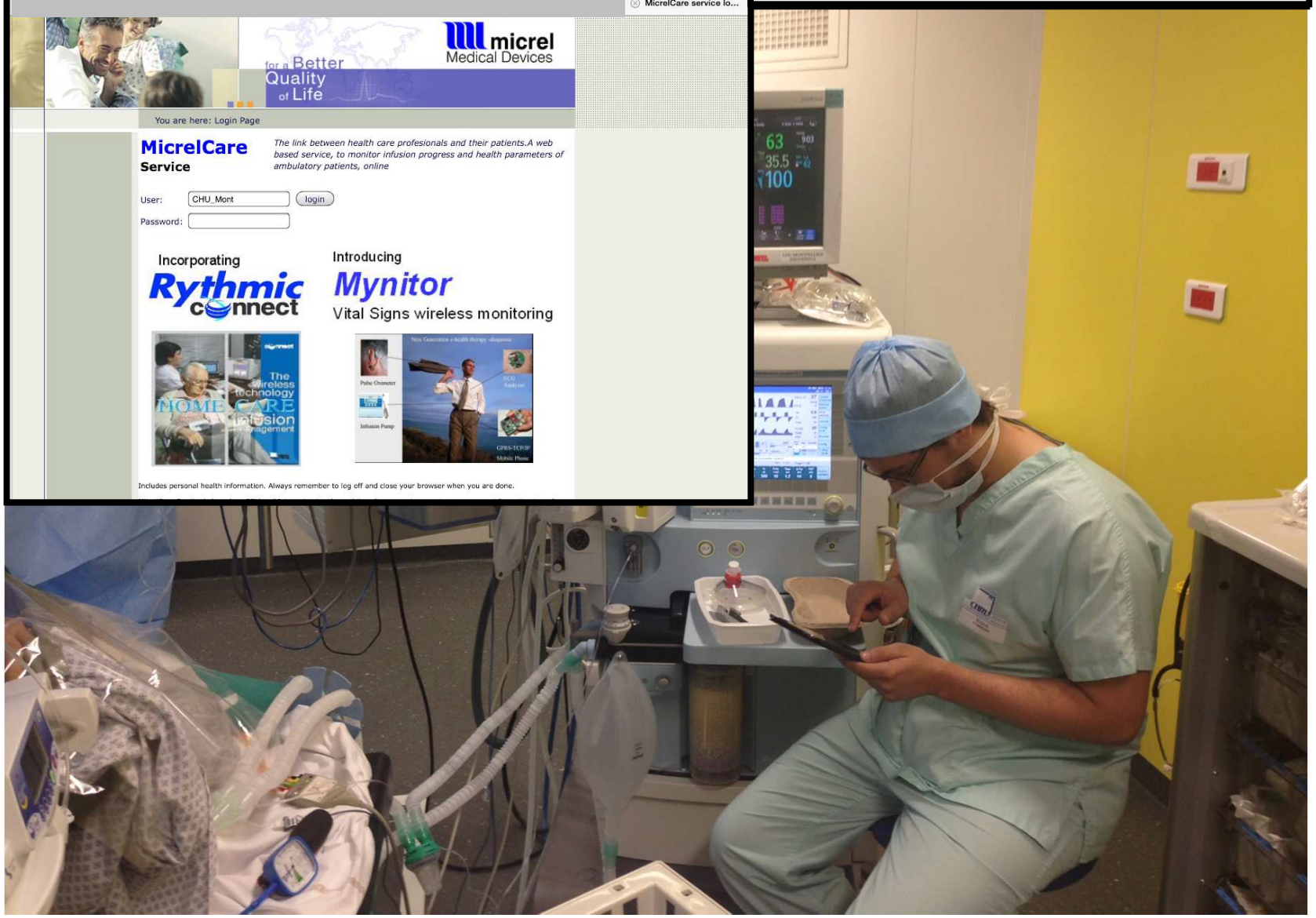

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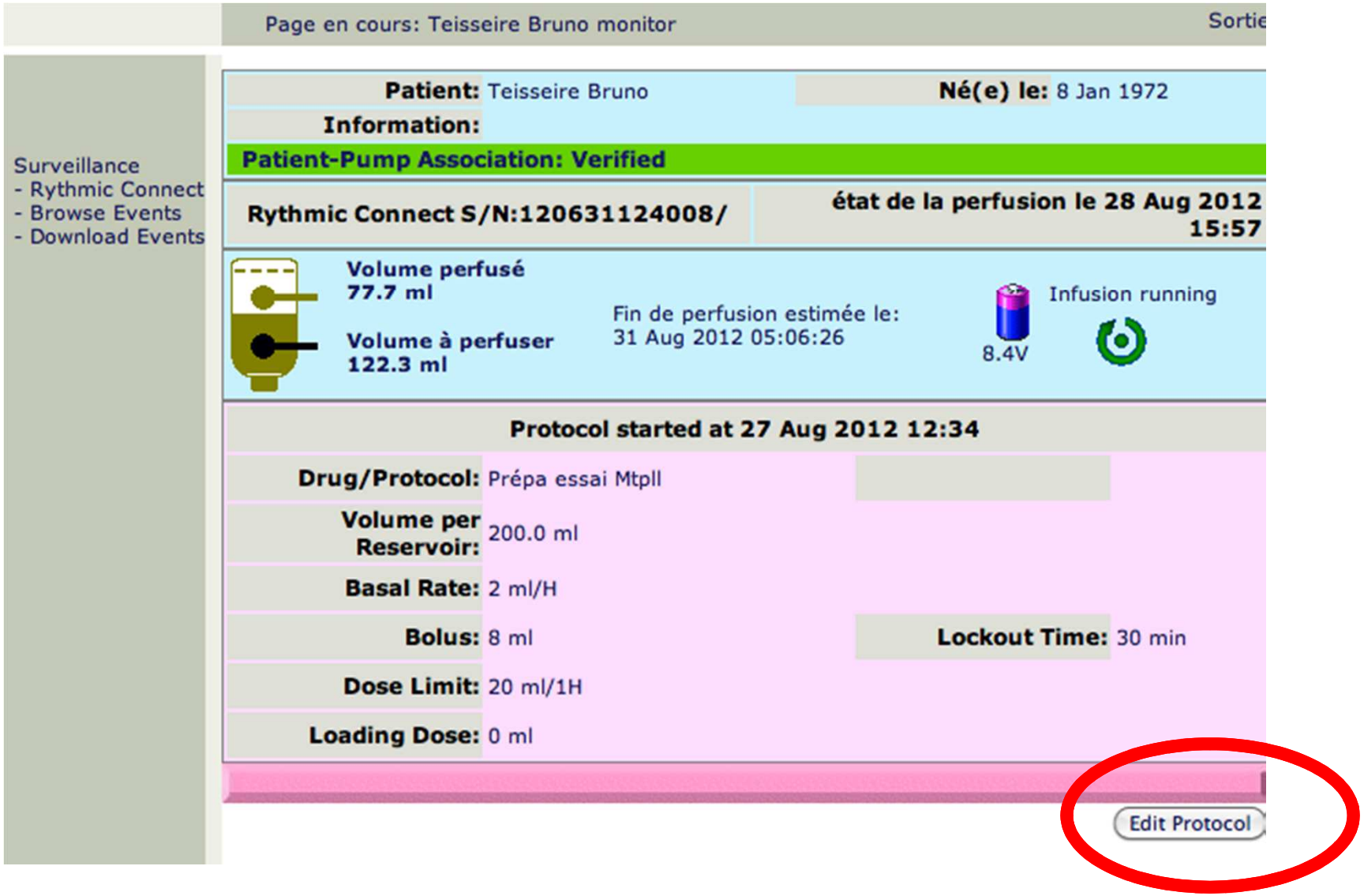

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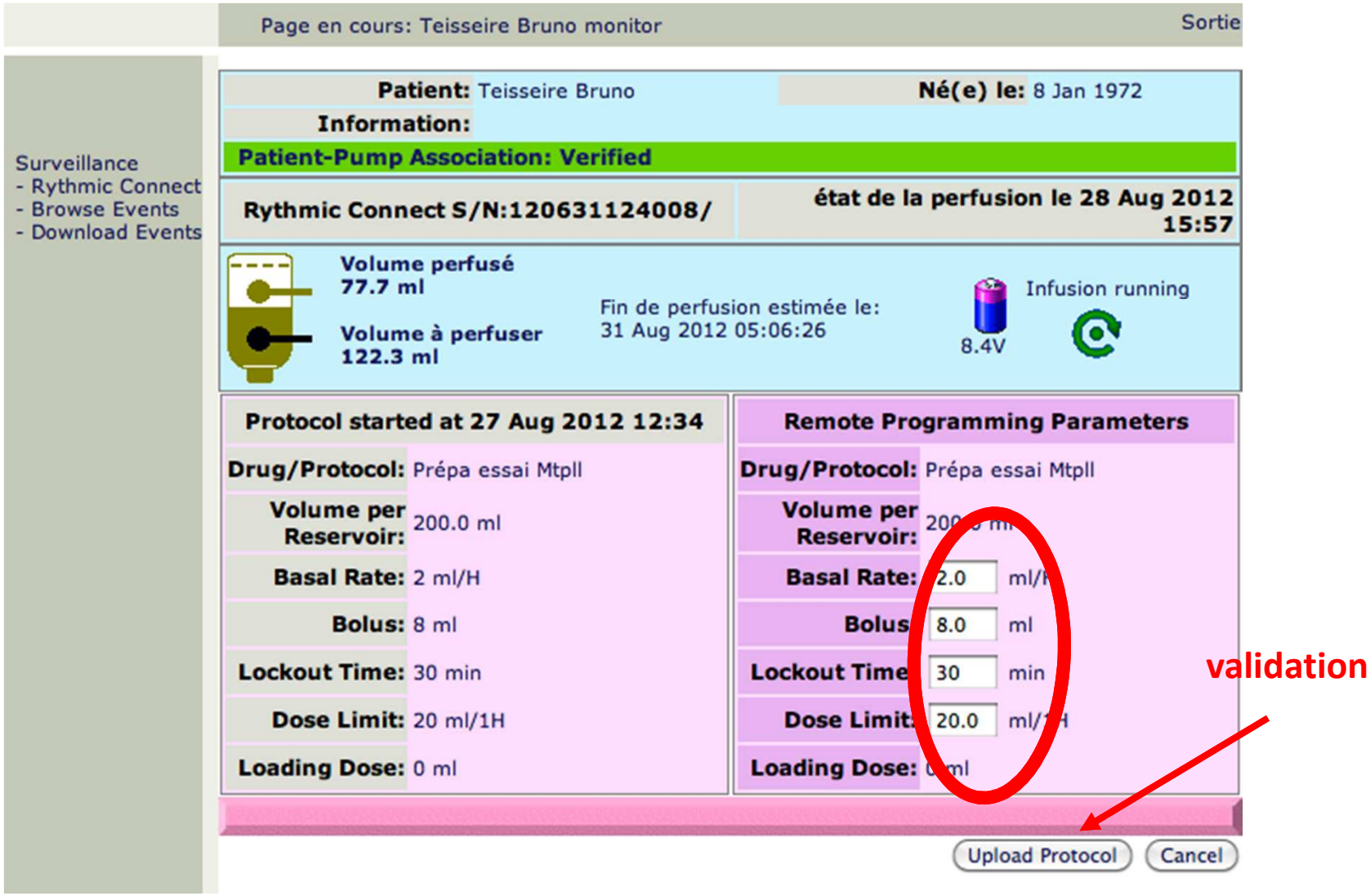

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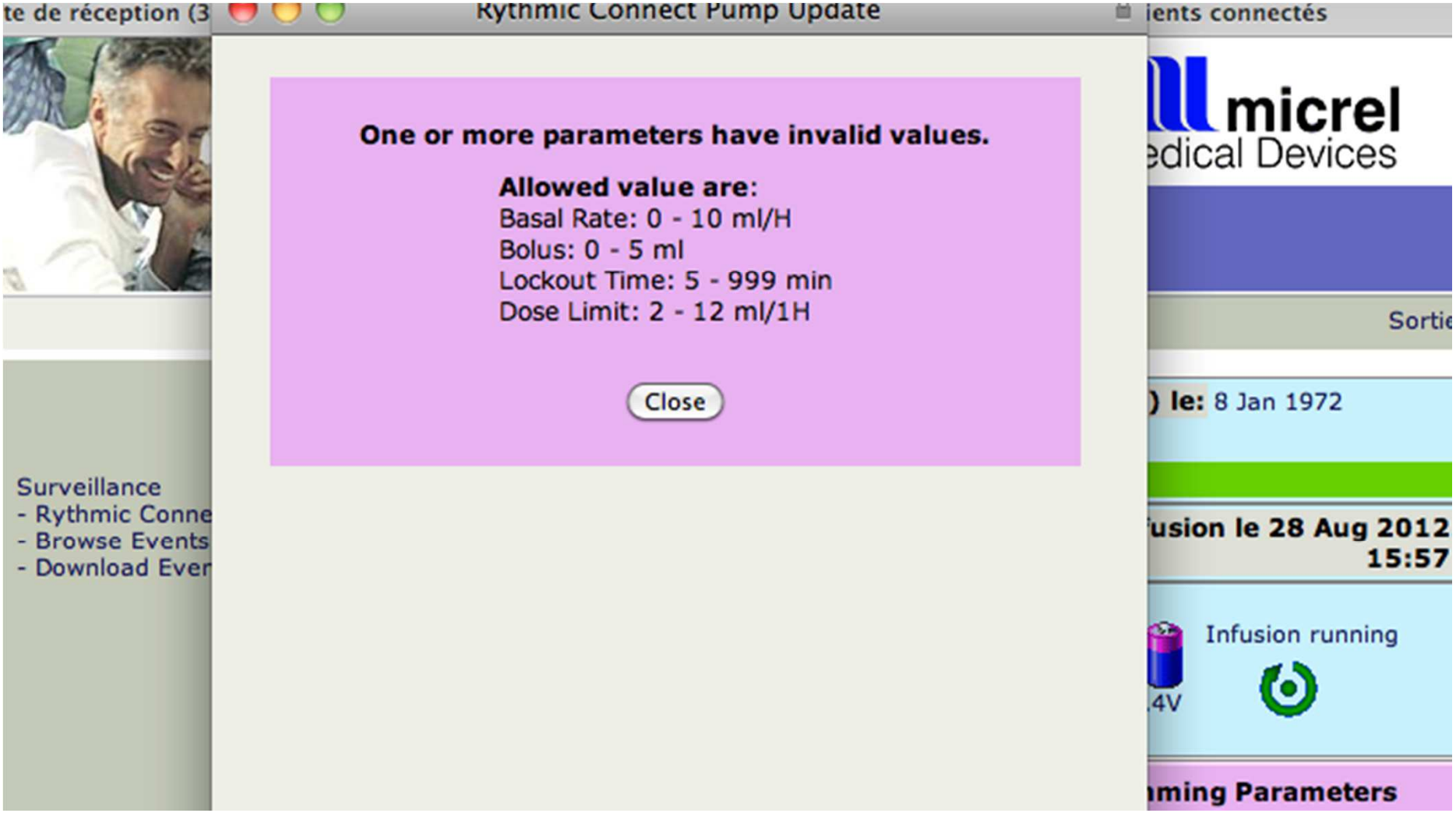

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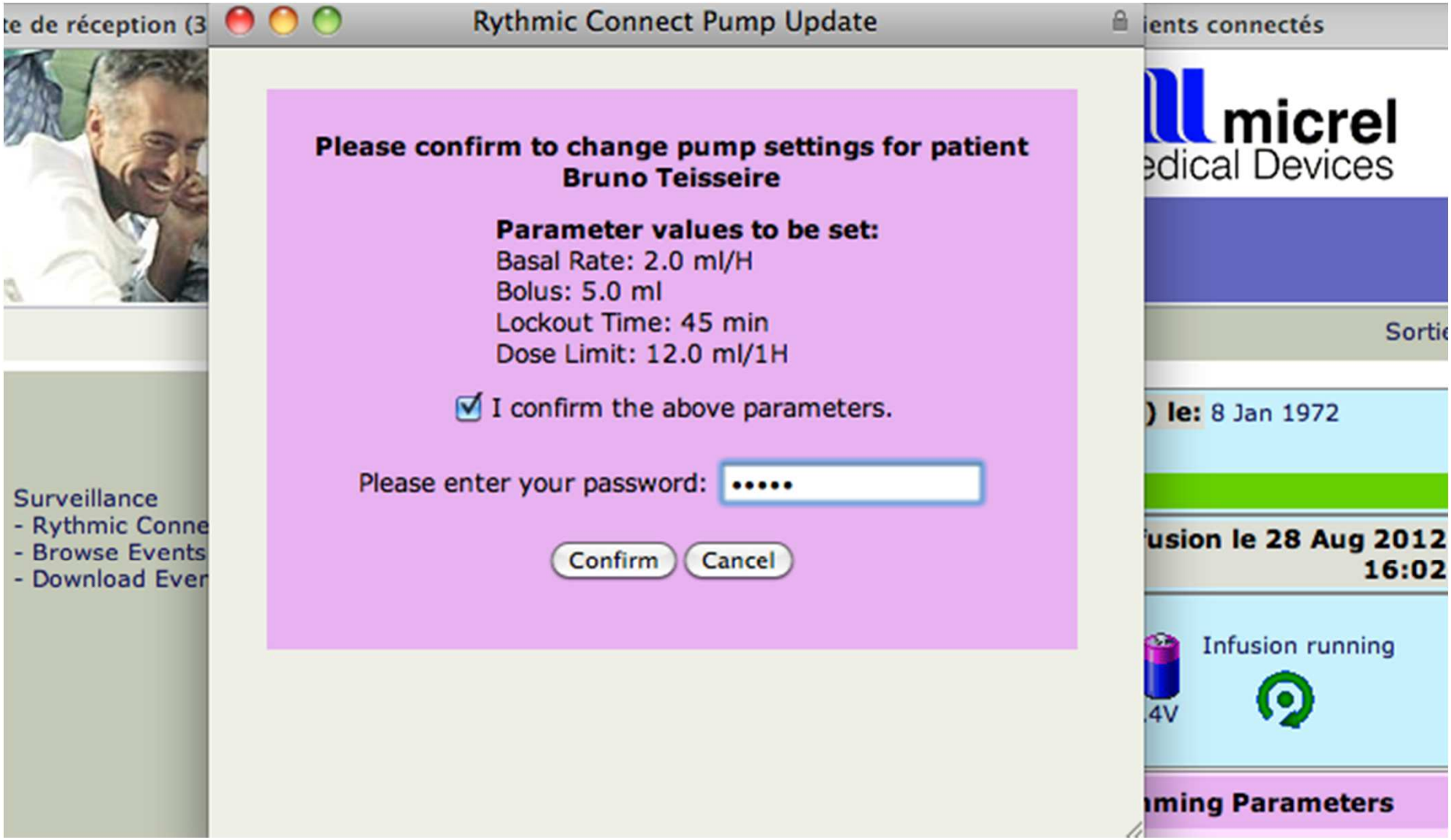

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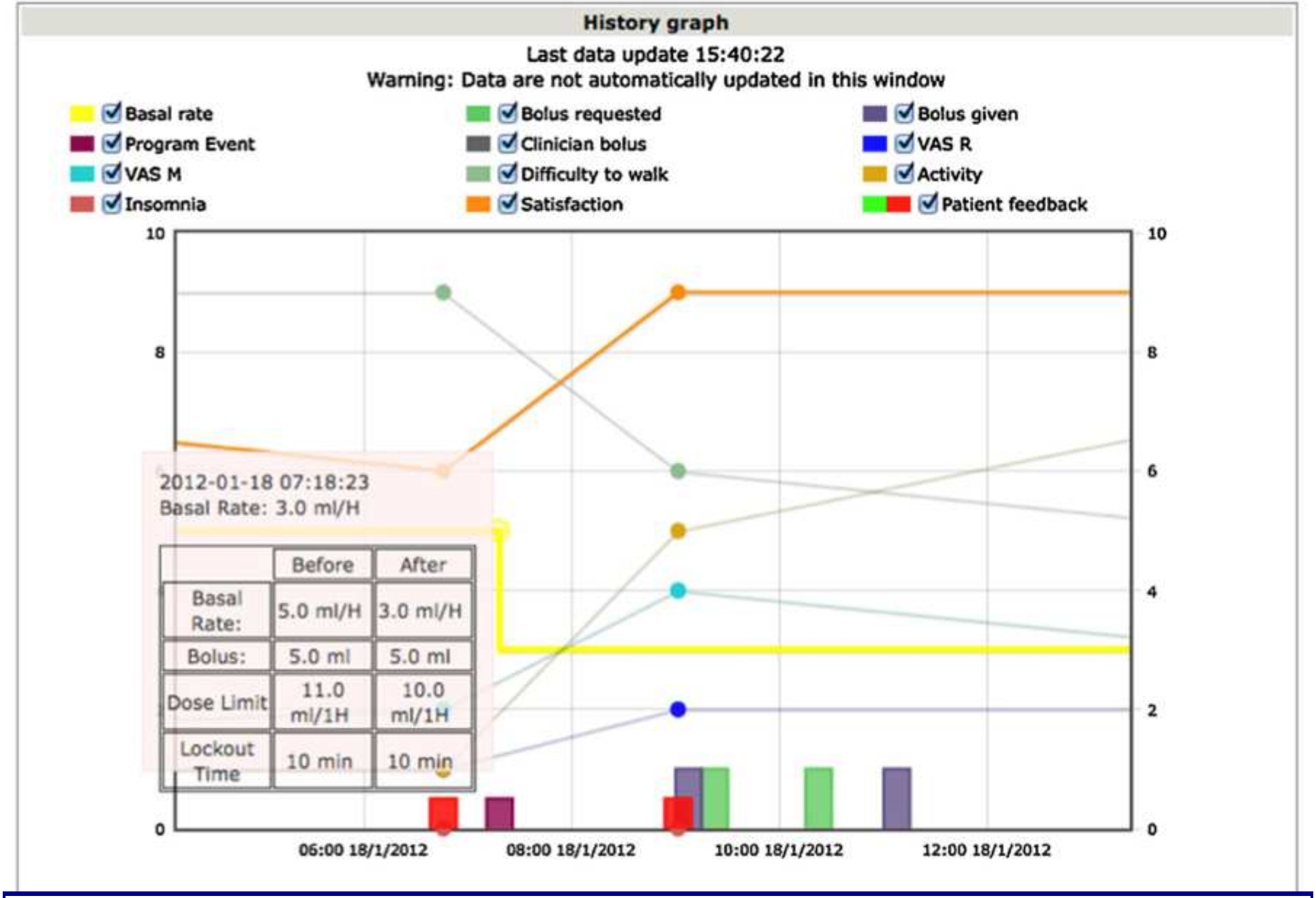

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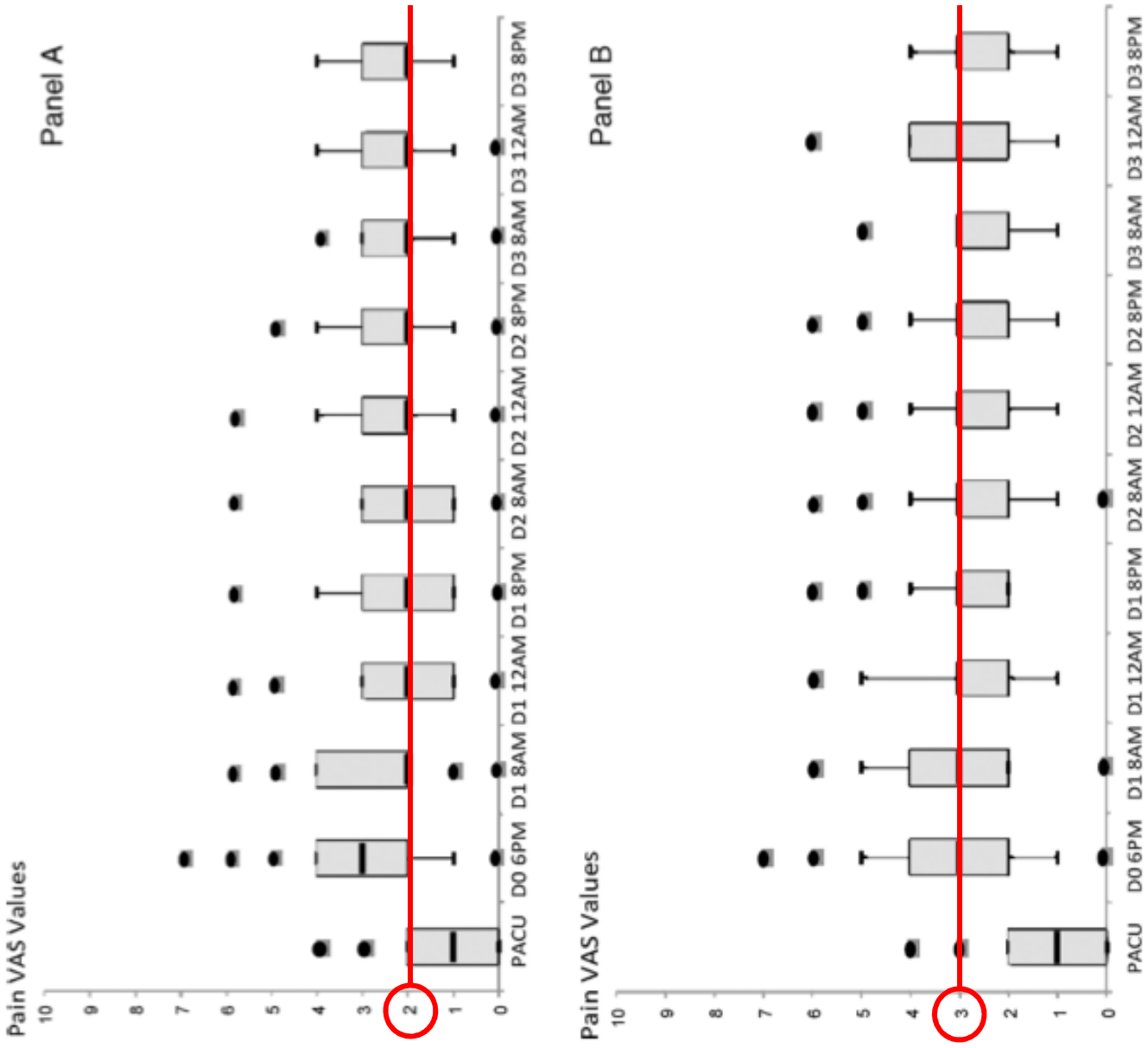

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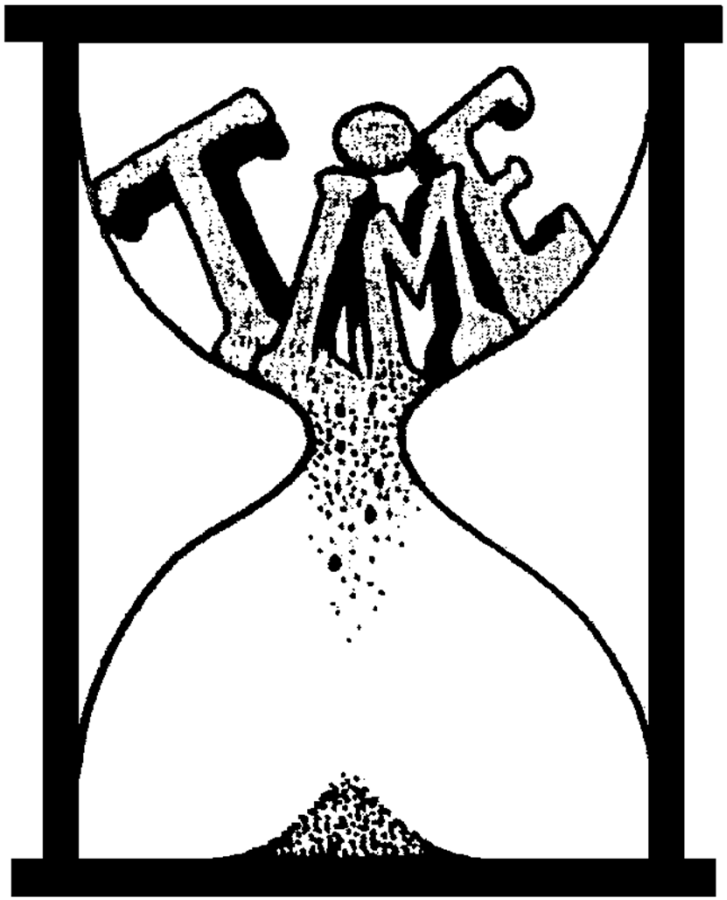

The mean time of pump settings modification after response to questionnaire or voluntarily patient's alert was 15 (13–16.9) minutes. All changes finally resolved the patients' complains.

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Postoperative Patient-controlled Perineural Analgesia After Orthopedic Surgery by "Remote Control" Versus "Bedside Care" (MICREL)

Arms	Assigned Interventions
Experimental: Remote control For patient randomized in arm "Remote Control", the communication with anesthesiologist will be done by teletransmission. The intervention "Remote control" is assigned to this arm. When evaluated pain values, sensory or motricity blockades are over the selected threshold then, the patient enters the data in the PCA (Patient Control Analgesia) pump, the physician in charge of the patient for the protocol is alerted by SMS on a specific smart phone and makes the necessary settings changes by Remote Control on the Micrel CareTM site.	Other: Remote control When pain or sensory and motor block evaluation exceed the thresholds, the patient enters the data in the PCA (patient Control Analgesia) pump. The investigator is alerted by SMS on his smartphone and makes the necessary programming changes by remote control on the Micrel Care TM site. Systematic assessments via the PCA pump are scheduled for 9:00, 13:00 and 19:00 every day during 48 to 72 hours. The patient can alert his physician through his PCA pump of any additional requests (pain, motor blockade, numbness). The anesthesiologist receives an SMS alert and can make any necessary programming changes to the pump via the remote control.
Active Comparator: At bedside care For patient randomized in arm "At bedside care", the communication with the anesthesiologist in charge of the patient will be done via the nurses and referent physician of the medical unit, as a routine procedures. The necessary changes of pump settings are doing by the anesthesiologist. The intervention "at beside care" is assigned to arm "at bedside care".	Other: At bedside care When pain or sensory and motor block evaluation exceed the thresholds, the nurse contacts the physician and she will be able to modify the pump settings according to the anesthesiologist prescription. The delay between the call of the patient and the programming changes, the duration of the procedure are reported. Systematic evaluations via the PCA (Patient Control Analgesia) pump are done when the patient arrives in this surgical ward and at 9:00, 13:00 and 19:00 every day for 48 to 72 hours.Throughout the study, if necessary, the nurse or referring physician performs the programming changes directly on the PCA pump and notes the delay in treatment. All the reasons and the duration of any bedside visit are reported.

ALR

SFAR2016/MED-1779

Gestion au lit du patient versus télétransmission pour l'analgésie régionale par cathéters nerveux périphériques après chirurgie orthopédique: Etude prospective, randomisée, multicentrique

Nathalie Bernard[*1], Sophie Bringuier[1], Philippe Macaire[2], Michel Carles[3], Xavier Capdevila[1]

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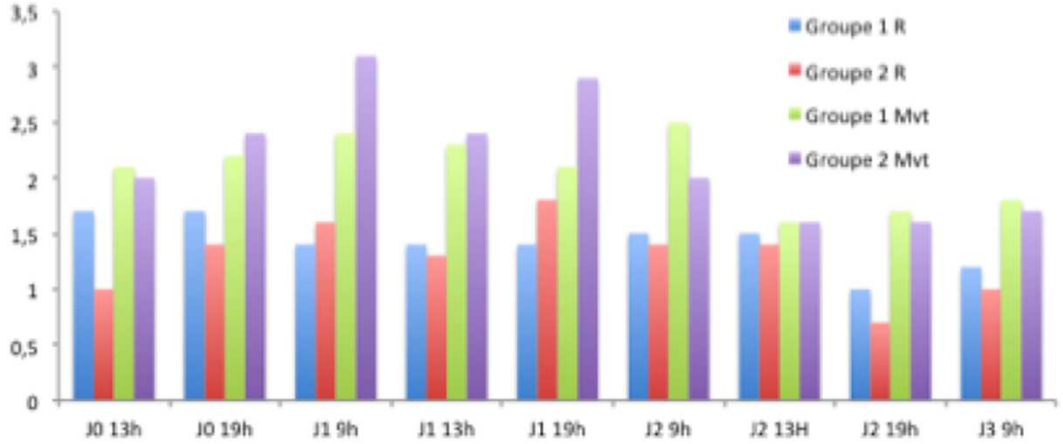

Résultats et Discussion : 55% cathéters poplités, 32% fémoraux et 13% interscaléniques étaient suivis chez les patients, d'âge moyen 37 ans et sexe ratio F/H 32/68%. La douleur (repos, mouvement) ne différait pas entre les groupes (Fig), comme la durée de cathéterisme, et les antalgiques de secours. Le médecin était alerté par 37% des patients versus 9% motivant un nouveau réglage de la pompe chez 17% des patients versus 7% respectivement dans les groupes télétransmission vs IDE ($p<0.001$). Les reprogrammations/patient étaient plus élevées dans le groupe télétransmission: 2,10(3,4) versus 0,60(0,77) ($p<0.05$). Le délai de réactivité médicale entre requette et prescription était de 7 min dans le groupe télétransmission versus 42 min. Les signalements bloc moteur (26% vs 7%), dysesthésies (20% vs 13%), fuites d'AL au niveau du pansement (7% vs 1.5%) étaient plus fréquents dans le groupe télétransmission. La consommation totale de ropivacaine était diminuée dans le groupe télétransmission: 220 (89) mL versus 272 (88) mL ($p = 0.03$).

ClinicalTrials.gov PRS
Protocol Registration and Results System

R-CAPE
REMOTE CONTROLLED ANALGESIA ON PERIOPERATIVE EXPERIENCE

Study Identification

Unique Protocol ID: 9677

Brief Title: Remote Controlled Analgesia on Patient Experience (R-CAPE)

Official Title: Effect of Perineural Catheter Analgesia on Patient Experience After Orthopedic Surgery

Brief Summary: The main objective of this study is to compare the efficacy of continuous nerve blocks with single injection in terms of perioperative patient satisfaction after scheduled orthopedic ambulatory surgery. Subgroup analyses will be performed, a priori, according to patients Pain Catastrophizing Scale (PCS) and type of surgery.

Secondary objectives comprise the assessment of pain, readmission rates, patient mobilization, quality of sleep and heart rate collected by an activity tracker. Scales about quality of recovery will be performed on day 1, about quality of life on day 45 and presence of neuropathic pain will be screened at 3 months. An economic study will also be conducted, including work resumption at 3 months.

This is a multicentric prospective study. Three hundred patients will be randomized in two parallel groups: continuous nerve blocks delivered thru remote-controlled electronic pump versus single local anesthetics injection.

The primary endpoint is the EVAN-G patient satisfaction scale, scored at day 2. Secondary endpoints will include assessment of pain, opiates consumption, sensitivity and motricity scores, rate of catheter falls at home, hospital readmission, patient mobilization, sleep and heart rate as assessed by an activity tracker, PCS before the surgery and Quality of Recovery (QoR-40) scale at day 1, Short-Form 36 (SF36) at day 45 and Neuropathic Pain assessment (DN4) at day 90.

Conclusion

Pour l'instant ils représentent encore le Gold Standart Analgésique!

Pas de solution miracle
Alternatives insuffisantes pour une analgésie de plus de 24 heures
Options complémentaires
Adaptation permanente
Evaluation des pratiques
Etablir des stratégies intégrant les cathéters périnerveux

There is no magic bullet but..

The connected patient!