DISCLOSURE

	No, nothing to disclose
	~~Yes, please specify:~~

Company Name	*Honoraria/ Expenses*	*Consulting/ Advisory Board*	*Funded Research*	*Royalties/ Patent*	*Stock Options*	*Ownership/ Equity Position*	*Employee*	*Other (please specify)*

Romualdo Del Buono

SEDATION AND PREMEDICATION

IN REGIONAL ANESTHESIA

BEFORE R.A.?

DURING R.A.?

DURING SURGERY?

PREMEDICATION

INTRAOPERATIVE SEDATION

WHY?

- LESS ANXIETY (young, first «timers» etc…)
- LESS PAIN (RA itself; fractures…)
- LESS DISCOMFORT (better tolerance of RA or surgery)

- BETTER ANESTHETIST'S PERFORMANCE
- BETTER SAFETY (patient won't move)
- LESS SYMPATHETIC RESPONSE TO STRESS

Kubulus, Christine, et al. "Awake, sedated or anaesthetised for regional anaesthesia block placements?: A retrospective registry analysis of acute complications and patient satisfaction in adults." *European Journal of Anaesthesiology (EJA)* 33.10 (2016): 715-724.

…ANXIETY???

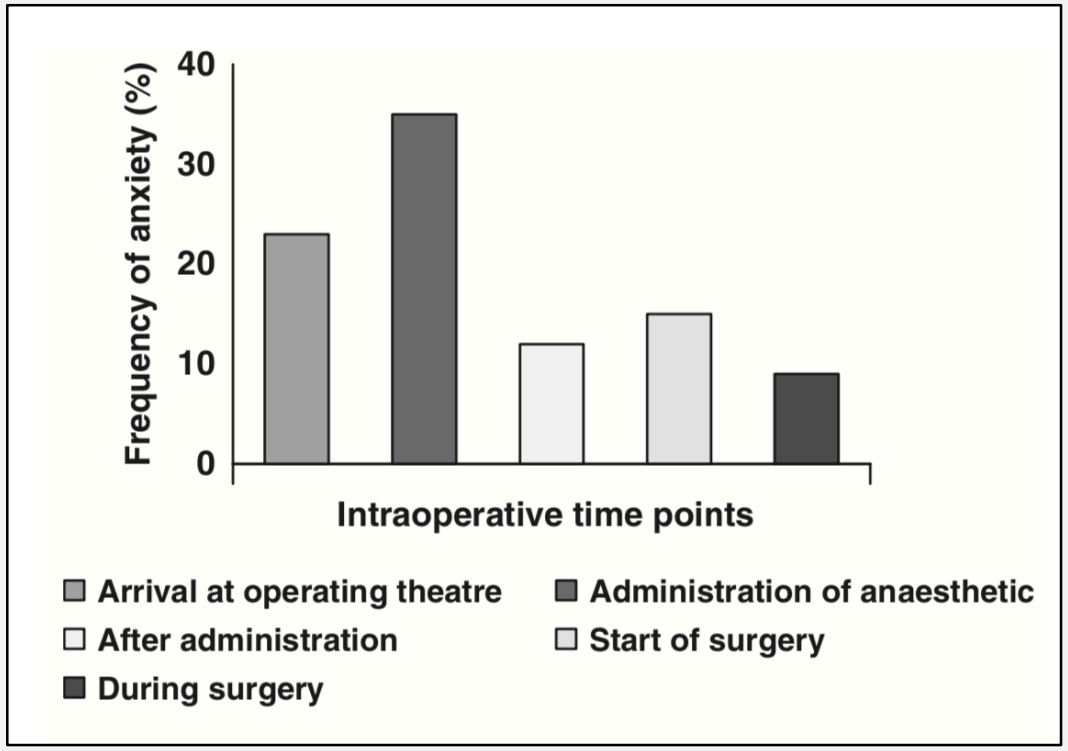
ANXIETY

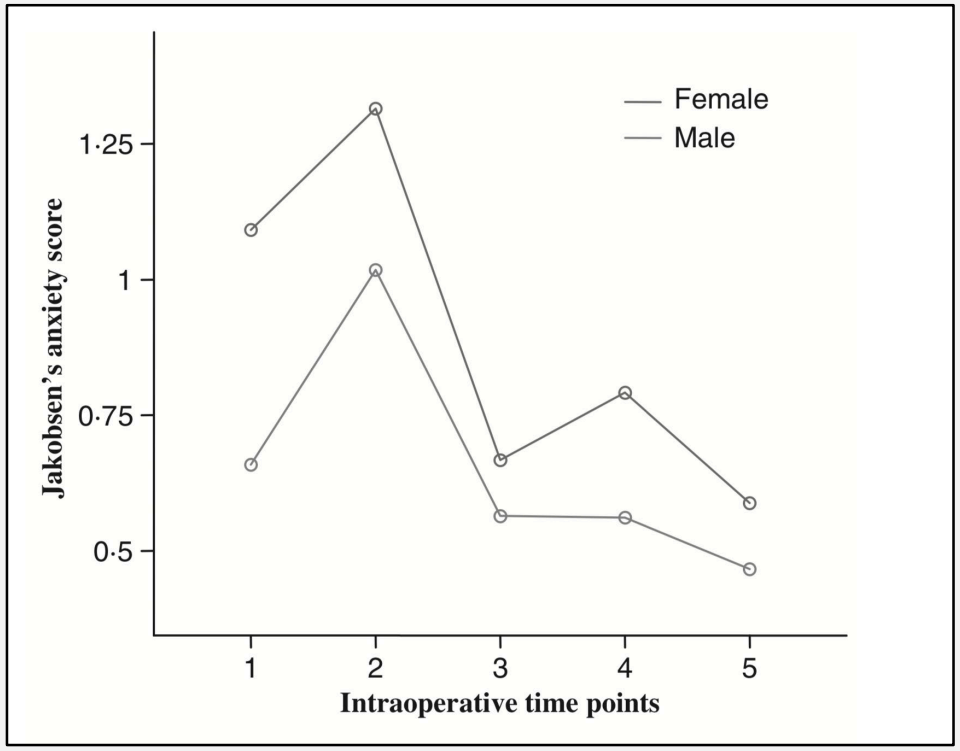
JCN Journal of Clinical Nursing
The International Voice of Nursing Research, Theory and Practice

Anxiety in the operating theatre: a study of frequency and environmental impact in patients having local, plexus or regional anaesthesia

Arvid S Haugen, Geir E Eide, Marit V Olsen, Berit Haukeland, Åsa R Remme, Astrid K Wahl

First published: 06 July 2009 | https://doi.org/10.1111/j.1365-2702.2009.02792.x | Cited by: 26





VIEWPOINT

The Iatrogenic Potential of the Physician's Words

Arthur J. Barsky, MD
Department of Psychiatry, Brigham & Women's Hospital, Boston, Massachusetts

JAMA December 26, 2017 Volume 318, Number 24

Nocebo Effects, Patient-Clinician Communication, and Therapeutic Outcomes

Luana Colloca, MD, PhD
Damien Finniss, MSc Med

The Effectiveness of Suggestive Techniques in Reducing Postoperative Side Effects: A Meta-Analysis of Randomized Controlled Trials

Zoltán Kekecs, PhD,* Tamás Nagy, MA,† and Katalin Varga, PhD*

FOCUS ON PAIN

Getting the pain you expect: mechanisms of placebo, nocebo and reappraisal effects in humans

Irene Tracey

THE LANCET

ARTICLES

Adjunctive non-pharmacological analgesia for invasive medical procedures: a randomised trial

Lancet 2000, **355**:1486-90

Elvira V Lang, Eric G Benotsch, Lauri J Fick, Susan Lutgendorf, Michael L Berbaum, Kevin S Berbaum, Henrietta Logan, David Spiegel

PREMEDICATION AND SEDATION: HOW DEEP?

	Minimal Sedation Anxiolysis	Moderate Sedation/ Analgesia ("Conscious Sedation")	Deep Sedation/ Analgesia	General Anesthesia
Responsiveness	Normal response to verbal stimulation	Purposeful** response to verbal or tactile stimulation	Purposeful** response following repeated or painful stimulation	Unarousable even with painful stimulus
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous Ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular Function	Unaffected	Usually maintained	Usually maintained	May be impaired

ASA CONTINUUM OF DEPTH OF SEDATION: DEFINITION OF GENERAL ANESTHESIA AND LEVELS OF SEDATION/ANALGESIA

https://www.asahq.org/standards-and-guidelines/continuum-of-depth-of-sedation-definition-of-general-anesthesia-and-levels-of-sedationanalgesia

SEDATION & REGIONAL ANESTHESIA

SEDATION & REGIONAL ANESTHESIA

Seizure following stellate ganglion block after negative aspiration and test dose.

Ellis JS Jr, Ramamurthy S

Anesthesiology. 1986 Apr; 64(4):533-4.

Transient locked-in syndrome after vascular injection during stellate ganglion block.

Dukes RR, Alexander LA

Reg Anesth. 1993 Nov-Dec; 18(6):378-80.

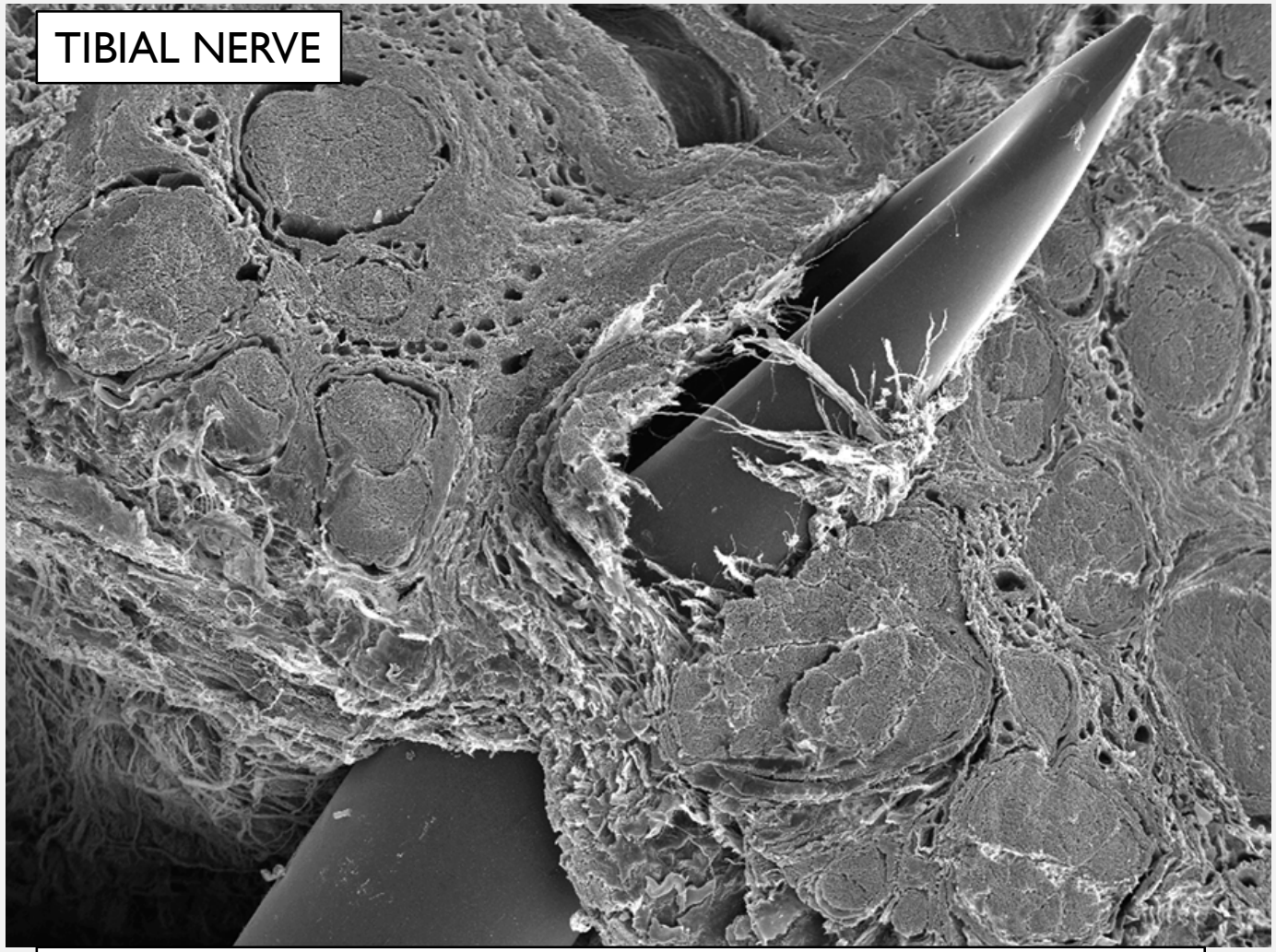
Indian J Anaesth. 2010 Jul-Aug; 54(4): 324–326.

doi: 10.4103/0019-5049.68376

Locked-in syndrome during stellate ganglion block

A Chaturvedi and HH Dash

…merely one-third of needle-to-nerve contacts are actually noticed by the individuals, one may conclude that the patient is actually a poor monitor of nerve injury…



Reina M. Atlas of Functional Anatomy for Regional Anesthesia and Pain Medicine

PERLAS A, NIAZI A, MCCARTNEY C, ET AL. THE SENSITIVITY OF MOTOR RESPONSE TO NERVE STIMULATION AND PARESTHESIA FOR NERVE LOCALIZATION AS EVALUATED BY ULTRASOUND.
REG ANESTH PAIN MED 2006; 31:445 – 450.

Anaesthesia 2017, 72, 461–469 doi:10.1111/anae.13787

Original Article

Ultrasound-guided approach to nerves (direct vs. tangential) and the incidence of intraneural injection: a cadaveric study*

L. A. Sermeus,[1] X. Sala-Blanch,[2,3] J. G. McDonnell,[4] C. A. Lobo,[5] B. J. Nicholls,[6] G. J. van Geffen,[7] O. Choquet,[8] G. Iohom,[9] B. de Jose Maria Galve,[10] C. Hermans[11] and M. Lammens[12]

RISOLUZIONE – 1 mm

	Incidence of intraneural puncture			
	Direct	Tangential	p value	Relative risk (95% CI)
Operator	58% (45/77)	12% (10/81)	< 0.001	4.7 (2.5–8.7)
Observer	58% (42/72)	14% (11/77)	< 0.001	4.0 (2.2–7.2)
Histological	83% (5/6)	14% (2/14)	0.007	5.8 (1.5–22.1)

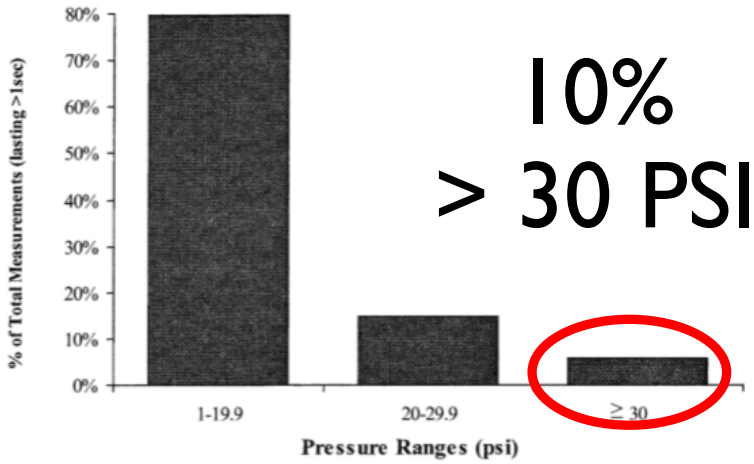
Anesthesiology 2008; 108:761

Ultrasound Guidance for Axillary Plexus Block Does Not Prevent Intravascular Injection

Paul J. Zetlaoui, M.D., Jean-Philippe Labbe, M.D.,† Dan Benhamou, M.D., Ph.D.‡*

Injection Pressures by Anesthesiologists During Simulated Peripheral Nerve Block

Richard Claudio, B.S., Admir Hadzic, M.D., Ph.D., Henry Shih,
Jerry D. Vloka, M.D., Ph.D., Jose Castro, M.D.,
Zbigniew Koscielniak-Nielsen, M.D., Ph.D., F.R.C.A., Daniel M.
Alan C. Santos, M.D., M.P.H.



10%
> 30 PSI

Fig 1. Injection pressure generated by anesthesiologists (n = 30) during simulation of interscalene brachial plexus block injection.

REGIONAL ANESTHESIA AND ACUTE PAIN

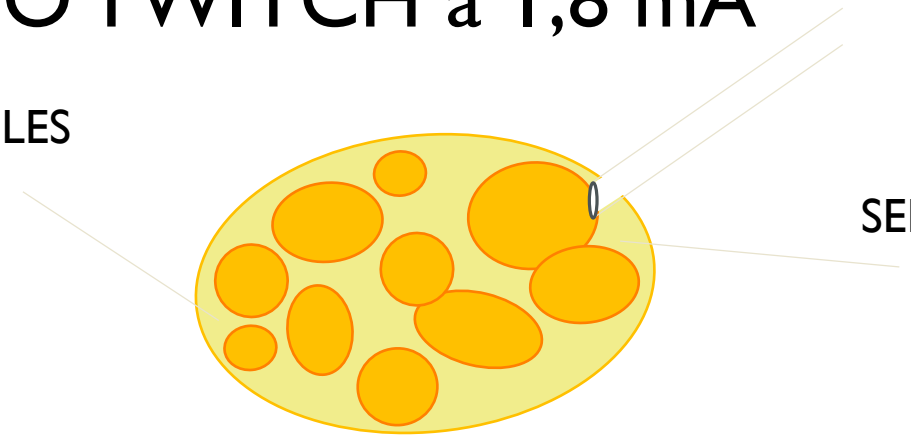
ORIGINAL ARTICLE

High Opening Injection Pressure Is Associated With Needle-Nerve and Needle-Fascia Contact During Femoral Nerve Block

Jeff Gadsden, MD, FRCPC, FANZCA, Malikah Latmore, MD,†*
D. Matt Levine, MB ChB, FANZCA,‡ and Allegra Robinson, RN§

NO TWITCH a 1,8 mA

MOTOR FASCICLES



SENSORY FASCICLES

RAPM, 2015

Pathophysiology and Etiology of Nerve Injury Following Peripheral Nerve Blockade

Richard Brull, MD, FRCPC, Admir Hadzic, MD, PhD,† Miguel A. Reina, MD, PhD,‡ and Michael J. Barrington, PhD, MBBS, FANZCA§*

Absence of a motor response at current of up to **1.8 mA** does not exclude needle-nerve contact or intraneural needle placement (Class I)

TRIPLE GUIDANCE

R.A. DURING G.A./SEDATION

Current Opinion in Anesthesiology

Regional blocks carried out during general anesthesia or deep sedation: myths and facts

Marhofer, Peter

Current Opinion in Anaesthesiology: October 2017 - Volume 30 - Issue 5 - p 621–626

CONCLUSION

Contingent upon the use of ultrasound imaging for guidance, it is a reasonable option to perform neuraxial and peripheral regional blocks even in sedated or anesthetized patients. Performing the procedure safely and effectively requires an adequate level of experience with the specific block technique in question.

INTRAOPERATIVE SEDATION

4.2 Posologia e modo di somministrazione

Per la sedazione di pazienti adulti in Unità di Terapia Intensiva (Intensive Care Unit, ICU) che necessitano di un livello di sedazione non più profondo del risveglio in risposta alla stimolazione verbale (corrispondente al valore da 0 a - 3 della Scala Richmond Sedazione-Agitazione (Richmond Agitation-Sedation Scale, RASS).

Per la sedazione di pazienti adulti non intubati prima e/o durante procedure diagnostiche o chirurgiche che richiedono sedazione, cioè sedazione procedurale/cosciente.

Dexdor deve essere somministrato esclusivamente da operatori sanitari specializzati nella gestione di pazienti che necessitano di anestesia in sala operatoria o durante procedure diagnostiche. Quando Dexdor viene somministrato per la sedazione cosciente, i pazienti devono essere continuamente monitorati da persone non coinvolte nello svolgimento della procedura diagnostica o chirurgica. I pazienti devono essere monitorati continuamente per poter rilevare i primi segni di ipotensione, ipertensione, bradicardia, depressione respiratoria, ostruzione delle vie aeree, apnea, dispnea e/o desaturazione dell'ossigeno (vedere paragrafo 4.8).

ORIGINAL ARTICLE

Year : 2016 | Volume : 32 | Issue : 2 | Page : 245-249

Journal of Anaesthesiology Clinical Pharmacology

Intravenous dexmedetomidine versus propofol for intraoperative moderate sedation during spinal anesthesia: A comparative study

Pratibha Jain Shah, Kamta Prasad Dubey, Kamal Kishore Sahare, Amit Agrawal

Pt. J. N. M. Medical College and Dr. BRAM Hospital, Raipur, Chhattisgarh, India

Intraoperative Sedation With Dexmedetomidine is Superior to Propofol for Elderly Patients Undergoing Hip Arthroplasty: A Prospective Randomized Controlled Study

Mei, Bin, MD*; Meng, Gaige, MD†; Xu, Guanghong, MD, PhD†; Cheng, Xinqi, MD†; Chen, Shishou, MD†; Zhang, Ye, MD, PhD*; Zhang, Ming, MMED, PhD‡; Liu, Xuesheng, MD, PhD†; Gu, Erwei, MD†

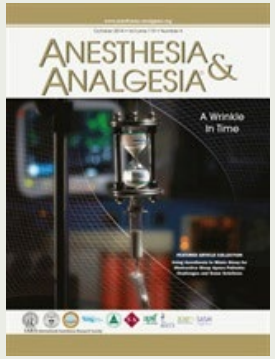
The Clinical Journal of Pain: September 2018 - Volume 34 - Issue 9 - p 811–817

The Clinical Journal of Pain

Minerva Anestesiol. 2015 Oct;81(10):1105-17. Epub 2015 May 25.

Efficacy of intraoperative dexmedetomidine compared with placebo for surgery in adults: a meta-analysis of published studies.

Le Bot A[1], Michelet D, Hilly J, Maesani M, Dilly MP, Brasher C, Mantz J, Dahmani S.



Anaesthesia 1993; 48:482–7¨

Dexmedetomidine as intramuscular premedication in outpatient cataract surgery: A placebo controlled dose ranging study.

M, Ali-Melkkil¨a T, Kanto J, Turunen J, Scheinin H:

Br J Anaesth 2006; 96:722–6

Dexmedetomidine *versus* midazolam for monitored anesthesia care during cataract surgery.

Alhashemi JA:

British Journal of Anaesthesia 108 (3): 503–11 (2012)

Randomized double-blind study of remifentanil and dexmedetomidine for flexible bronchoscopy

J. H. Ryu1, S.W. Lee2, J. H. Lee2, E. H. Lee3, S. H. Do1 and C. S. Kim4*

Anesthesiology 2005; 103:269 –73 © 2005 American Society of Anesthesiologists, Inc. Lippincott Williams & Wilkins, Inc.

Sole Use of Dexmedetomidine Has Limited Utility for Conscious Sedation during Outpatient Colonoscopy

Przemyslaw Jalowiecki, M.D., Ph.D., Robert Rudner, M.D., Ph.D.,† Maciej Gonciarz, M.D., Ph.D.,‡ Piotr Kawecki, M.D., Ph.D.,§ Michal Petelenz, M.D., Ph.D., Piotr Dziurdzik, M.D., Ph.D.§*

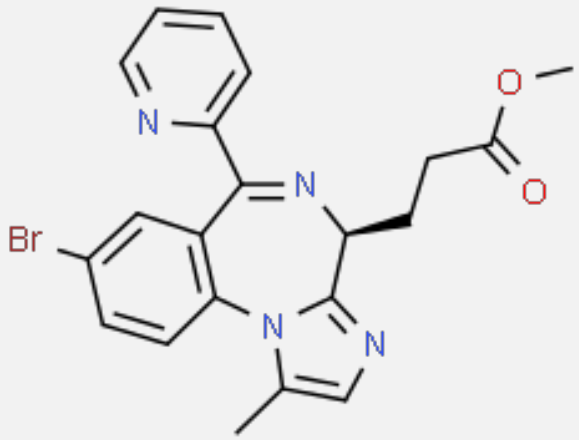
Current Opinion in Anesthesiology

Drug selection for ambulatory procedural sedation

Barends, Clemens R.M.[a]; Absalom, Anthony R.[a]; Struys, Michel M.R.F.[a,b]

Current Opinion in Anesthesiology: December 2018 - Volume 31 - Issue 6 - p 673–678

REMIMAZOLAM



Apr 9, 2019

Jun 8, 2015

Mar 31, 2015

[Cosmo Pharmaceuticals Announces Submission of Remimazolam NDA to FDA]

[PAION Announces Initiation Of Second U.S. Phase 3 Clinical Trial of Remimazolam for Procedural Sedation During Bronchoscopy]

[Paion Announces Initiation of U.S. Phase III Clinical Trial of Remimazolam for Procedural Sedation During Colonoscopy]

WHAT IF….A DIFFICULT AIRWAY?


TO SEDATE, OR
NOT TO SEDATE?

Anesthesia Essays and Researches

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Current issue
Instructions
Submit article

Anesth Essays Res. 2016 May-Aug; 10(2): 178–183.
doi: 10.4103/0259-1162.167829

PMCID: PMC4864700
PMID: 27212743

Regional anesthesia in difficult airway: The quest for a solution continues

Ranjana Khetarpal, Veena Chatrath, Akshay Dhawan, and Joginder Pal Attri

- Be prepared!
- Be sure!
- Inform the patient
- TAKE YOUR TIME

1. What if the RA fails or the effect is partial or incomplete?
2. What if there is a high or total spinal anesthesia?
3. What if there is a sudden deterioration of patient's condition during surgery?
4. What if there is a toxicity of local anesthetics?
5. What if there is an unforeseen or accidental prolongation of surgery?

Table 3. Effects of Central Neuraxial Block Versus General Anesthesia on Ambulatory Surgical Patients

Outcome	n	Number of trials	Central neuraxial block* (mean)	General anesthesia* (mean)	OR or WMD** (95% confidence interval)	*P* value
Anesthesia induction time (min)	384	7	17.8	7.8	8.1 (4.1 to 12.1)	0.0001
PACU time (min)	476	10	56.1	51.9	0.42 (−7.1 to 7.9)	0.91
VAS in PACU (mm)	563	7	12.7	24.4	−9 (−15.5 to −2.6)	0.006
Nausea	637	12	5%	14.7%	0.40 (0.15 to 1.06)	0.06
Phase 1 bypass	218	4	30.8%	13.5%	5.4 (0.6 to 53.6)	0.15
Need for postoperative analgesics	716	11	31%	56%	0.32 (0.18 to 0.57)	0.0001
Time until discharge from ASU (min)	839	14	190	153	34.6 (13 to 56.1)	0.002
Excellent patient satisfaction	709	11	81%	78%	1.5 (0.8–23.1)	0.45

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.

15 randomized controlled trials with 1003 patients were included for meta-analyses.

NEURAXIAL VS GA

MOSTLY **LIDOCAINE**, THEN ARTICAINE, BUPIVACAINE, MEPIVACAINE, CHLOROPROCAINE; BOTH SPINAL AND EPIDURAL

A COMPARISON OF REGIONAL VERSUS GENERAL ANESTHESIA FOR AMBULATORY ANESTHESIA: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS
LIU ET AL. A&A;2005

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.

PERIPHERAL NERVE BLOCKS VS GA

FROM PSOAS TO PARAVERTEBRAL TO AXILLARY N.B.

A COMPARISON OF REGIONAL VERSUS GENERAL ANESTHESIA FOR AMBULATORY ANESTHESIA: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

LIU ET AL. A&A;2005

2005

A COMPARISON OF REGIONAL VERSUS GENERAL ANESTHESIA FOR AMBULATORY ANESTHESIA: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

LIU ET AL. A&A;2005

In conclusion, this meta-analysis associated several potential advantages for RA versus GA for ambulatory anesthesia. Curiously, none of the benefits were associated with decreased ASU time and use of CNB is associated with a 35-minute delay until patient discharge from the ASU. As all included RCTs were relatively small (26 to 162 subjects), we hope this investigation stimulates further large RCTs examining RA blocks that incorporate optimal fast-tracking pathways, multimodal analgesia, efficient patient discharge criteria, and postoperative follow-up.

September 2014, Volume 61, Issue 9, pp 801–807 | Cite as

ED_{50} and ED_{90} of intrathecal hyperbaric 2% prilocaine in ambulatory knee arthroscopy

Authors Authors and affiliations

Emmanuel Guntz, Bausard Latrech, Constantin Tsiberidis, Jonathan Gouwy, Yota Kapessidou

40-50mg = optimal dose of HP

Journal of Clinical Anesthesia
Volume 32, August 2016, Pages 119-126

Can the choice of the local anesthetic have an impact on ambulatory surgery perioperative costs? Chloroprocaine for popliteal block in outpatient foot surgery ☆ ☆☆

Andrea Saporito MD, MHA (Consultant) [a], Luciano Anselmi MD (Chief of Staff) [a], Alain Borgeat (Chief of Staff) [b], José A. Aguirre MD, MSc (Consultant) [b]

Chloroprocaine 3% vs mepivacaine 1,5%
Faster ONSET
Faster OFFSET (sensory: 105 ± 26 vs 317 ± 46 minutes; motor: 91 ± 25 vs 216 ± 31 minutes)
Faster DISCHARGE HOME (55 ± 1 vs 175 ± 2 minutes)

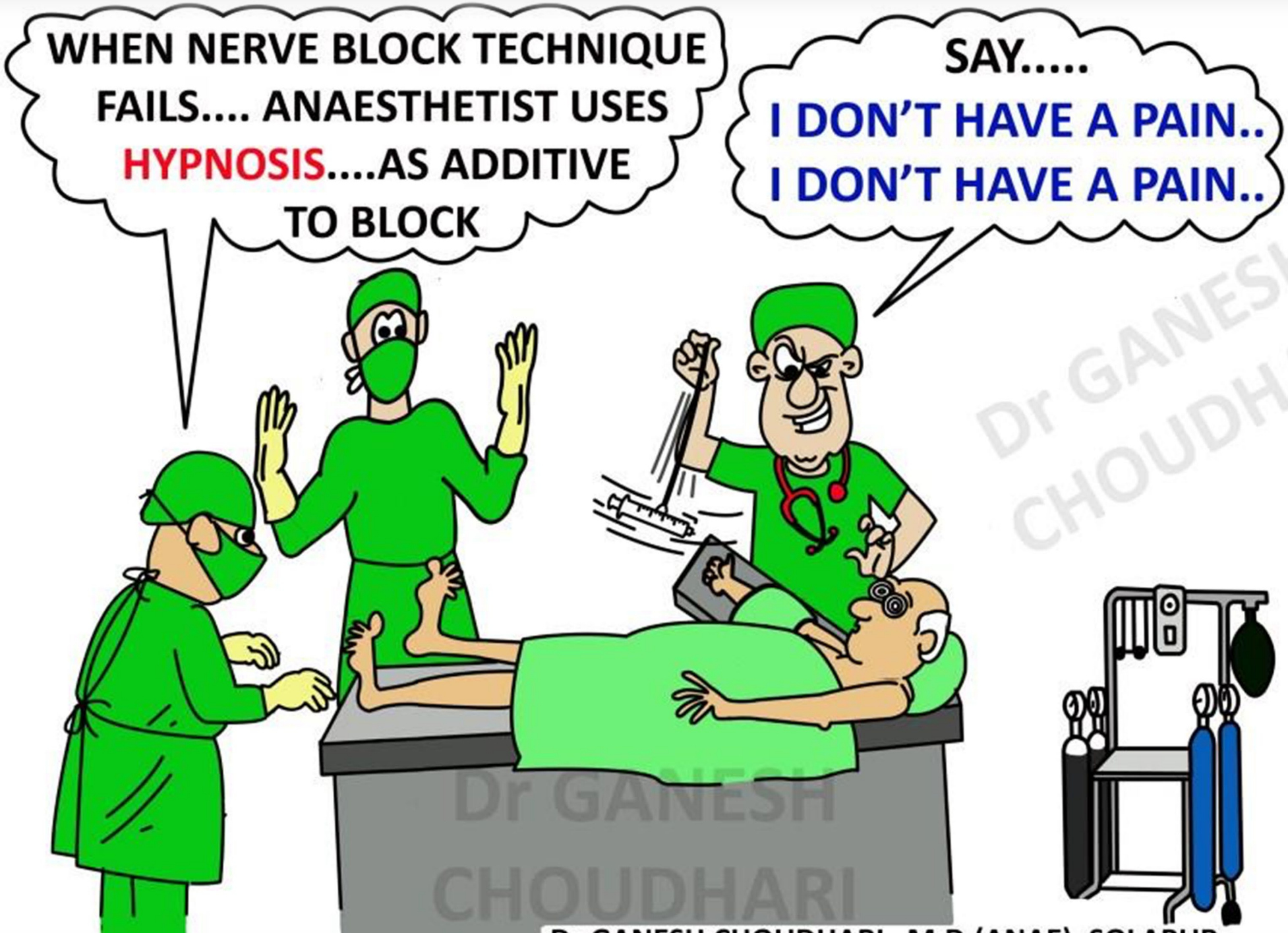
Regional Anesthesia and Acute Pain: Original Articles

Comparison of 2-Chloroprocaine, Bupivacaine, and Lidocaine for Spinal Anesthesia in Patients Undergoing Knee Arthroscopy in an Outpatient Setting: *A Double-Blind Randomized Controlled Trial*

An Teunkens, MD[*, †], Kristien Vermeulen, MD[†], Elke Van Gerven, MD[†], Steffen Fieuws[‡], Marc Van de Velde, MD, PhD[*, †] and Steffen Rex, MD, PhD[*, †]

Regional Anesthesia & Pain Medicine

chloroprocaine has the shortest time to complete recovery of sensory and motor block compared with bupivacaine and lidocaine.


WHEN NERVE BLOCK TECHNIQUE FAILS.... ANAESTHETIST USES HYPNOSIS....AS ADDITIVE TO BLOCK
SAY.....
I DON'T HAVE A PAIN..
I DON'T HAVE A PAIN..
Dr GANESH CHOUDHARI
Dr GANESH CHOUDHARI