



European Society of
Regional Anaesthesia
& Pain Therapy

ESRA ITALIA

ESRA Italian Chapter

XXVIII CONGRESSO NAZIONALE

Dr Mauro Proietti Pannunzi
Casa di Cura Villa dei Pini
Civitanova



Villa dei Pini

PRESIDENTE
DEL CONGRESSO
Luciano Calderone



General or spinal anaesthesia. What the better choice ? For surgeon or for anesthesiologist?

Or maybe for the patient?

Before talking about we have to considerer some quaestions

- Type of surgery
- Lenght of surgery
- Patient position
- Hemodinamic changes
- Respiratory changes
- Last but not least which patient

We have different pathologies to approach and different seats

- Scoliosis
- Discectomy
- Spondylolisthesis
- Primitive or metastatic cancer
- Traumatic injuries

The seats can be cervical or thoracic or lumbar.

Naturally the seat oblige us an anaesthetic choice

Why the seat is important? The answer is very simple. The position of patient!!
The hemodynamic and respiratory changes are strictly connected to position

Hemodynamic Changes During Spinal Surgery in the Prone Position

Kin-Shing Poon, King-Chuen Wu, Chia-Chen Chen, Si-Tun Fung,




Albert Wai-Cheung Lau, Chiu-Chen Huang, Rick Sai-Chuen Wu*

Department of Anesthesia, Pain Service and Critical Care Medicine, China Medical University Hospital, Taichung, Taiwan, R.O.C.

In conclusion, decreased SV and CI are the main causes of hypotension during lumbar spinal surgery in the prone position. Decreased pulmonary compliance, inadequate preload and supportive frame compression are all factors that could precipitate a decrease in SV

But only hemodynamic changes or....

Minimal and normal-flow general anesthesia in patients undergoing surgery in prone position: impact on hemodynamics and regional cerebral oxygenation

Esra Akdaş Tekin^{1*} , Fethi Gültop¹ , Nihan Altıntepe Başkurt¹ 

I. University of Health Sciences Prof. Dr. Cemil Tascioglu City Hospital – Department of Anesthesiology and Reanimation – Istanbul, Turkey.

ABSTRACT

Purpose: In this study, the aim to assess the combined effects of prone-positioning (PP) and minimal-flow (MF) general anesthesia on regional cerebral oxygenation (RCO) and systemic hemodynamics. **Methods:** This is a randomized prospective study aiming to evaluate changes in cerebral oxygenation and hemodynamic parameters in MF systemic anesthesia in patients undergoing surgery in PP. Patients were randomized to MF or normal-flow (NF) anesthesia. In the operating room, pulse rate, mean arterial pressure (MAP), peripheral hemoglobin oxygen saturation (spO₂), and right- and left-side RCO (assessed by near-infrared spectroscopy, NIRS) were measured perioperatively. **Results:** Overall, 46 patients were included (24 in the MF group and 22 in the NF group). The amount of anesthetic gas consumption was significantly lower in the low-flow (LF) group. In both groups, the mean pulse rate showed a decrease after PP. Before induction, RCO was significantly higher both at the right- and left-sides in the LF group compared to the NF group. This difference continued throughout the operation on the left-side and disappeared 10 min after intubation on the right-side. On the left side, mean RCO decreased after PP in both groups. **Conclusion:** MF anesthesia in PP did not reduce cerebral oxygenation compared to NF and was safe in terms of systemic hemodynamics and cerebral oxygenation.

Key words: Hemodynamics, Spectroscopy, Near-Infrared, Prone Position

The studies are very useful. But every day we have a several types of patient and a several comorbidities

- Cardiac
 - Hypertensive
 - Cardiac failure
 - Valvular diseases
 - Coronaropatya
- Respiratory
 - COPD
 - CRPD
- Obesity

Comparative effectiveness of anesthetic technique on outcomes after lumbar spine surgery: a retrospective propensity score-matched analysis of the National Surgical Quality Improvement Program, 2009–2019

Krizia Amoroso,¹ Ichiro Okano,² Michele Sarin,¹ Alexander P Hughes,² William D Zelenty,² Jennifer Shue,² Andrew A Sama,² Frank P Cammisa,² Federico P Girardi,² Ellen M Soffin

RAPM February 2023

We identified 1 53 224 patients who underwent the included surgeries between 2009 and 2019. After excluding cases for ineligible CPT code (n=2083) or primary anesthetic type (n=131), 1 51 010 cases were available for analysis. Of these, 149 996(99.3%) were performed under GA, and 1014 (0.67%) were performed under RA. There were 171 patients included in the GA group who also received spinal or epidural anesthesia (0.1%).

The choice of anaesthesia must be guided by consideration about general physical status of the patient, his therapies and also by his preference.

Regional Anesthesia for Lumbar Spine Surgery: Can It Be a Standard in the Future?

Jae-Koo Lee¹, Jong Hwa Park², Seung-Jae Hyun¹, Daniel Hodel³, Oliver N. Hausmann⁴,

Neurospine 2021;18(4):733-740. <https://doi.org/10.14245/ns.2142584.292>

Table 2. Contraindications to regional anesthesia

Absolute contraindications	Relative contraindications
Patient refusal	Infection
Localized sepsis	Coagulopathy
Allergy to drugs planned for administration	Previous spine surgery
Patient's inability to maintain stillness during needle puncture	Neurologic disease
	Myelopathy or peripheral neuropathy
	Severe or multilevel spinal stenosis
	Multiple sclerosis
	Spina Bifida
	Arachnoiditis
	Increased intracranial pressure
	Cardiac
	Aortic stenosis or fixed cardiac output states (preload dependent states)
	Uncorrected hypovolemia

Table 3. Advantages and disadvantages of regional anesthesia compared to general anesthesia

Advantages	Disadvantages
Reduced blood loss	Patient acceptance
Reduced mortality	Airway security
Reduced risk of thrombosis	Risk of anesthetic failure
Reduced myocardial infarction	Interference with IONM
Reduced renal failure	Neurologic complications
Reduced hypoxic episodes in PACU	Cauda equina syndrome
Lower pain score and PONV in PACU	Radiculopathy
	Myelopathy
Shorter anesthesia time	Risk of sympathetic block
Higher patient satisfaction	Severe bradycardia
Ability to self-position during surgery	Intraoperative hypotension

IONM, intraoperative neuromonitoring; PACU, postanesthetic care unit; PONV, postoperative nausea and vomiting.

SIAARTI CLINICAL GUIDELINES FOR THE PERI-OPERATIVE HEMODYNAMIC MANAGEMENT OF THE ADULT PATIENT IN NON-CARDIAC SURGERY

There is strong evidence and consensus to suggest that even short periods of MAP >65 mmHg during surgery increases the risk of poor patient outcomes and mortality. 9,10,31,42 Debate continues as to how best to maintain MAP < 65 mmHg, or whether this is even the most important factor to consider. Nonetheless, trials have shown that GDHT can reduce postoperative complications and length of hospital stay compared to standard blood pressure management strategies in high-risk cardiac and noncardiac surgery.

Relationship between pulse pressure variation and stroke volume variation with changes in cardiac index during hypotension in patients undergoing major spine surgeries in prone position - A prospective observational study

J Anaesthesiol Clin Pharmacol 2022;38:553-9.

Intraoperative hypotension may be because of a variable combination of absolute hypovolemia following blood loss and/or relative hypovolemia secondary to anesthesia-induced vasodilatation. Prone position induces physiological changes such as an increase in intra-abdominal pressure (IAP), a change in systemic vascular resistance (SVR) with a complex effect on ventriculoarterial coupling, contributing to relative hypovolemia.

Our findings suggest that in the setting of intraoperative hypotension in the prone position, both PPV and SVV are reliable predictors of fluid responsiveness with a strong correlation between them. Hence, PPV which could be derived from standard arterial line monitor could be utilized intraoperatively to reliably guide fluid therapy in the prone position when expensive cardiac output monitors are unavailable for clinical use. There is, however, no consistent significant relationship between changes in PPV and SVV with that of CI in the prone position. More studies with larger sample sizes are required in clinical settings to understand the complex interaction between the various hemodynamic factors responsible for fluid responsiveness in the prone position.

Our observations

In our hospital we perform about 300 surgical procedures of spine surgery every year. SA is the anaesthesia used in the 70% of patients.

We use usually 2 ml of chirocaine chirocaine 0.50% with no adjuvants

Every time we add an ESP block bilateral performed by ultrasound guide with 20 ml of ropivacaine 0.35% with desamethasone 8 mg and dexmetomidine 50 μ

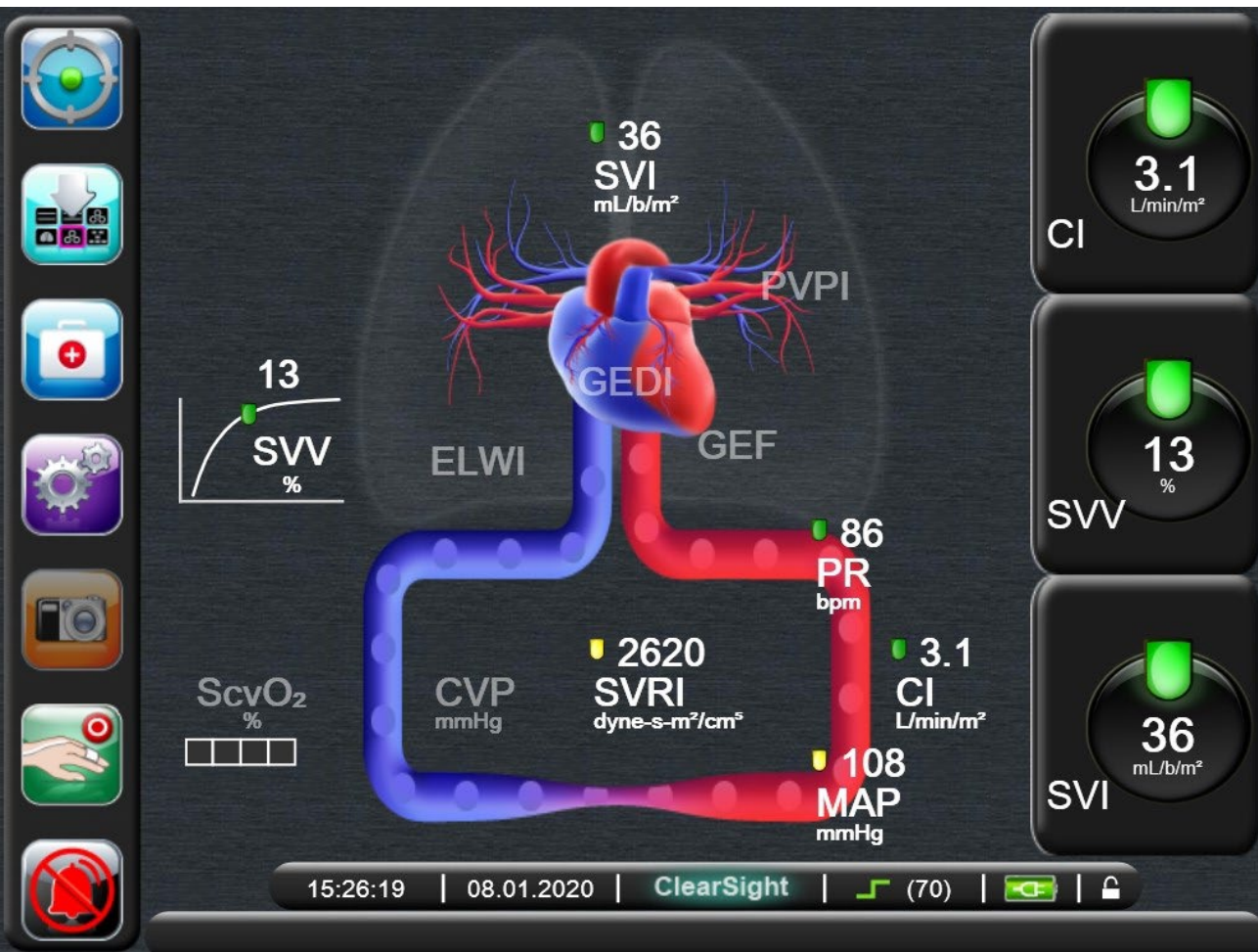
If the choice is general anaesthesia we use induction by propofol 2mg/kg, rocuronium 0.5 mg/kg , fentanyl 1 μ /kg.

Maintenance with remifentanyl and desflurane 5% with a flow rate of 8 ml/kg.

Also in GA we add the same ESP block before skin incision

In GA and in SA the ESP is performed at the level of the surgical procedure.

In case of correction of scoliosis multilevel we use two ESP so that is possible to extend analgesia to all the surgical field



We use a non invasive hemodynamic monitoring . The GDFT is a very important aim especially for patient AS 3-4.

But also in the others a correct intraoperative fluid management is basic for ERAS to avoid any complication due to a possible kidney damage especially to the glicocalice

When we consider all the results showed in the precedent literature I think that there is no better choice but the absolute conviction of a «tailored» anaesthesia for any single patient.

There many factors that can guide us.

From an observation almost casual we have changed the monitoring of patient eligible for spine surgery

Not only usual PA HR SpO₂ but also SVV PPV CO CI and if possible SVRI
Of course SVV and PPV are sure in GA. But CO CI and SVRI can give us indications also in SA.

Our observation was born by an evident change in CO and SVV after an ESP block in a patient under GA after positioning and administration of usual drugs.

We collected 35 patient. 23 AS 7 AG for lumbar or thoracic spine surgery and 5 AG for cervical spine surgery. Physical status was I/II ASA 22 patients ASA III 13 patients. Age minimum 32 maximum 82 median 56.

6 patient scheduled for simple herniectomy. The others for arthrodesis from 1 to three levels. One for metastasis. All cervical procedures for arthrodesis

As previously said in each patient we perform an ESP block. We analyzed CO CI SVRI in all patients. SVV and PSV if GA.

I.O we administred acetaminophene 1g and ketorolac 30mg if no contraindications.

Lenght of surgery: minimum 35' maximum 190' median 65

Blood loss: no patient need transfusion

Pain control p.o.: Acetaminophene 1g x 3/24 h. Ketorolac 30 mgx 2 /24 h.

Only 1 patients need morphine as rescue analgesia after G.A.

I.O. complications: none important except six episodes of bradycardia resolved by administration of 0.5 mg of atropine in SA

During surgery procedures in G.A. and ESP block in almost all patient there was no necessity of remifentanyl or minimal doses.

Nausea and vomiting are present in a few cases of GA and none in SA

Hemodynamic observation

- Substantially CO CI and SVRI were stable in SA an GA. SVV and PSV in GA were in the normal range except two cases but corrected by colloid administration.
- SVRI seems increase (?) especially in cervical surgery .
- Consonant with the previous study there is no substantial difference in GA or SA.

Sistema ClearSight

caso clinico

Marcatura di data e ora	Rev. eventi
21.07.2023 11:38:09	Monitoraggio ClearSight avviato
21.07.2023 11:38:09	Monitoraggio fascetta 1
21.07.2023 11:38:50	[SAR] Personalizzato: Non specificato ESP
21.07.2023 11:48:30	CVP inserito 4 mmHg
21.07.2023 12:35:36	Monitoraggio ClearSight interrotto
21.07.2023 12:37:48	Monitoraggio ClearSight avviato
21.07.2023 12:37:48	Monitoraggio fascetta 1
21.07.2023 12:53:46	Monitoraggio ClearSight interrotto
21.07.2023 12:53:48	Monitoraggio ClearSight avviato
21.07.2023 12:53:48	Monitoraggio fascetta 1
21.07.2023 12:53:53	Monitoraggio ClearSight interrotto
21.07.2023 12:54:11	Monitoraggio ClearSight avviato

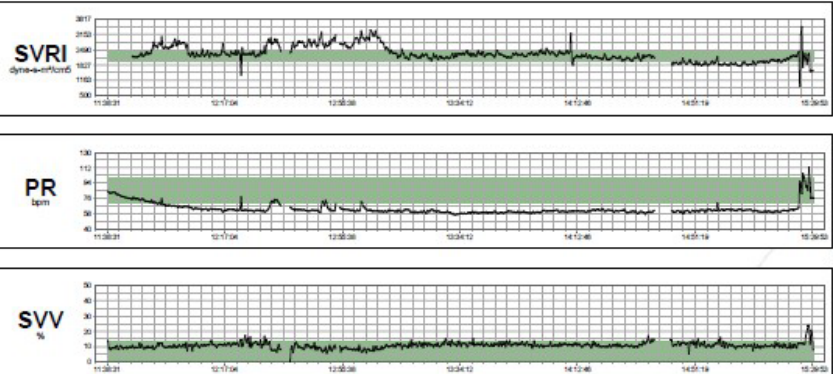
Sesso Maschio ID paziente [REDACTED]
Età 56 IMC/S. corp. 22.9 kg/m² / 1.85 m
Peso 154 lbs / 70.0 kg Avvio 21.07.2023 11:38:31
Altezza 5'9" / 175 cm Fine 21.07.2023 15:29:53

Marcatura di data e ora	Rev. eventi
21.07.2023 12:54:11	Monitoraggio fascetta 1
21.07.2023 14:58:08	Pressione della fascetta rilasciata
21.07.2023 14:43:08	Monitoraggio ClearSight ripreso
21.07.2023 15:30:07	Monitoraggio ClearSight interrotto

Sistema ClearSight

caso clinico

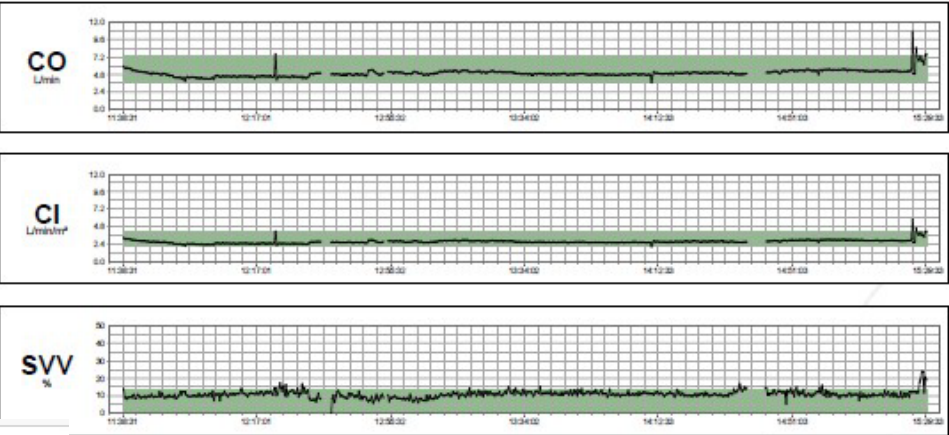
Sesso Maschio ID paziente [REDACTED]
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Peso 154 lbs / 70.0 kg Avvio 21.07.2023 11:38:31
Altezza 5'9" / 175 cm Fine 21.07.2023 15:29:53



Sistema ClearSight

caso clinico

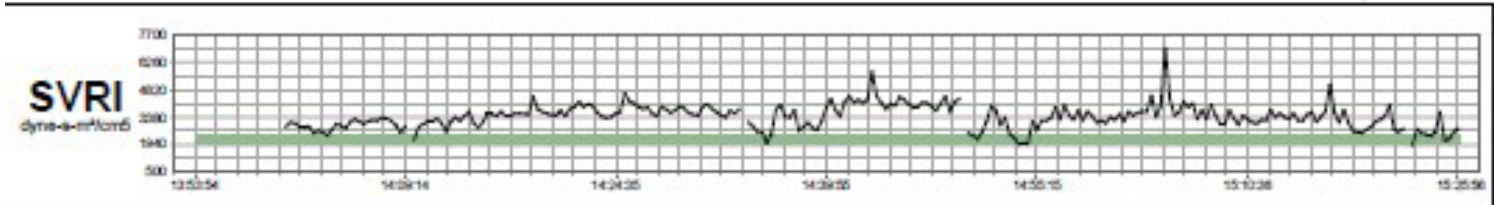
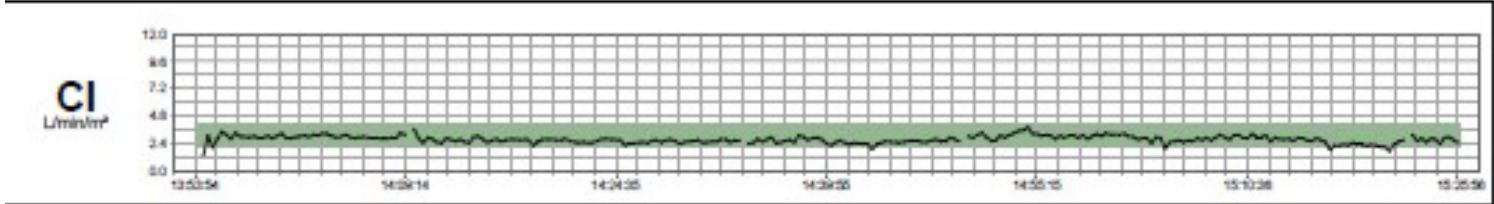
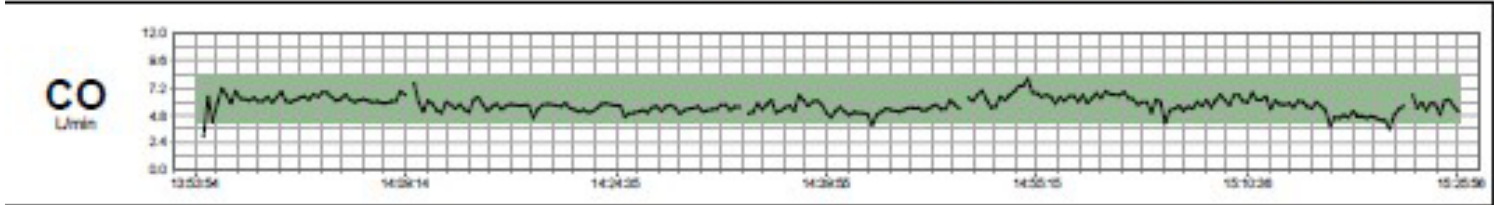
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Peso 154 lbs / 70.0 kg Avvio 21.07.2023 11:38:31
Altezza 5'9" / 175 cm Fine 21.07.2023 15:29:53



Sistema ClearSight

caso clinico

Sesso	Maschio	ID paziente	[REDACTED]
Età	54	IMC/S. corp.	30.0 kg/m² / 2.11 m²
Peso	207 lbs / 94.0 kg	Avvio	04.07.2023 13:53:54
Altezza	5'10" / 177 cm	Fine	04.07.2023 15:25:58



Comparative effectiveness of anesthetic technique on outcomes after lumbar spine surgery: a retrospective propensity score-matched analysis of the National Surgical Quality Improvement Program, 2009–2019

- *Furthermore, these reports tend to extoll the benefits of spinal anesthesia in combination with regional analgesia techniques— which likewise have not been fully investigated or associated with significant benefits on recovery after lumbar spine surgery.*
- This analysis of ACS-NSQIP data found few benefits of RA compared with GA on outcomes after lumbar spine surgery. RA was associated with fewer complications, lower incidence of blood transfusion and shorter LOS, but the magnitude of these effects was small and of uncertain clinical significance. Of note, we did not find any benefits of GA over RA for any individual complications or other outcomes of interest, suggesting either technique may be considered in appropriate patients. We caution in interpretation of these results, given the small proportion of patients who received RA, and paucity of prospective data on technique-specific risks and benefits for patients undergoing spine surgery. Subject to these caveats, the results presented here suggest that RA may be a modifiable factor to improve outcomes after lumbar spine surgery.

General Anesthesia Compared to Spinal Anesthesia for Patients Undergoing Lumbar Vertebral Surgery: A Meta-Analysis of Randomized Controlled Trials

Alessandro De Cassai 1,* , Federico Geraldini 1, Annalisa Boscolo 1, Laura Pasin 1, Tommaso Pettenuzzo 1, Paolo Persona 1 , Marina Munari 1 and Paolo Navalesi 1,

Journal of Clinical Medicine – December 2020

In this meta-analysis are investigated need for postoperative analgesic, blood loss, surgery length, i.o. hypotension and bradycardia, PONV, urinary retention, length of stay, patient and surgeon satisfaction.

Actually, interfascial blocks such as the erector spinae plane (ESP) block and retrolaminar block drew attention in lumbar vertebral surgery because they are able to provide pain relief through multiple pathways [32,33]. A future analysis, incorporating these techniques, could be of paramount importance to define the best multimodal analgesic strategy for this surgery

Erector Spinae Plane Blocks for Circumferential Lumbar Spinal Fusion: Retrospective Cohort Study

Luis F. Colón, Daniel Miles, Mila Scheinberg, Andrew Wilson, Brian Shepherd and Joseph Miller

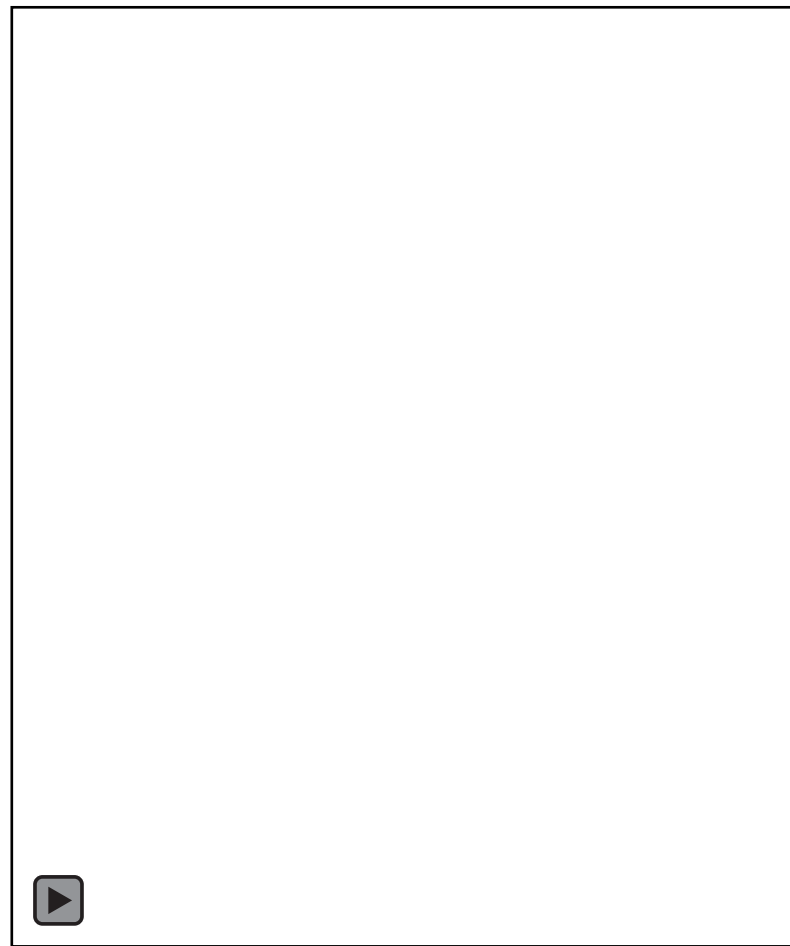
Int J Spine Surg

published online 25 August 2023

<http://ijssurgery.com/content/early/2023/08/24/8528>

A recent systematic review from Liang et al demonstrated that ESP blocks decreased intra- and postoperative opioid consumption and decreased postoperative pain scores.¹⁸ However, there is not sufficient evidence to demonstrate accelerated postoperative recovery

The growing body of evidence for ESP blocks in lumbar spinal surgery, including the results from this study, supports its use in this patient population. Future studies with prospective designs and larger sample sizes may further elucidate the benefit of this intervention in patients undergoing lumbar spine fusion procedures. Additionally, studies evaluating the cost-effectiveness of such interventions should take into account shorter hospital LOS and decreased opioid consumption.





As ..almost..sang De Andrè

I'm not sure of choice of each of you.

Is the mine correct?

Maybe.



Our little experience need surely further and best works.
But we are sure that hemodynamic monitoring in spine surgery is very useful for all
patient not only physical status III ASA or worse.
The choice of anaesthesia is closely connected to the experience of the anesthetist
to the ability of surgeon and above all to the patient.



The doubt is
unpleasant
but the
certainty is
ridiculous

Voltaire

Insomma...solo uno si poteva permettere di dire...





PALERMO 5-7 Ottobre

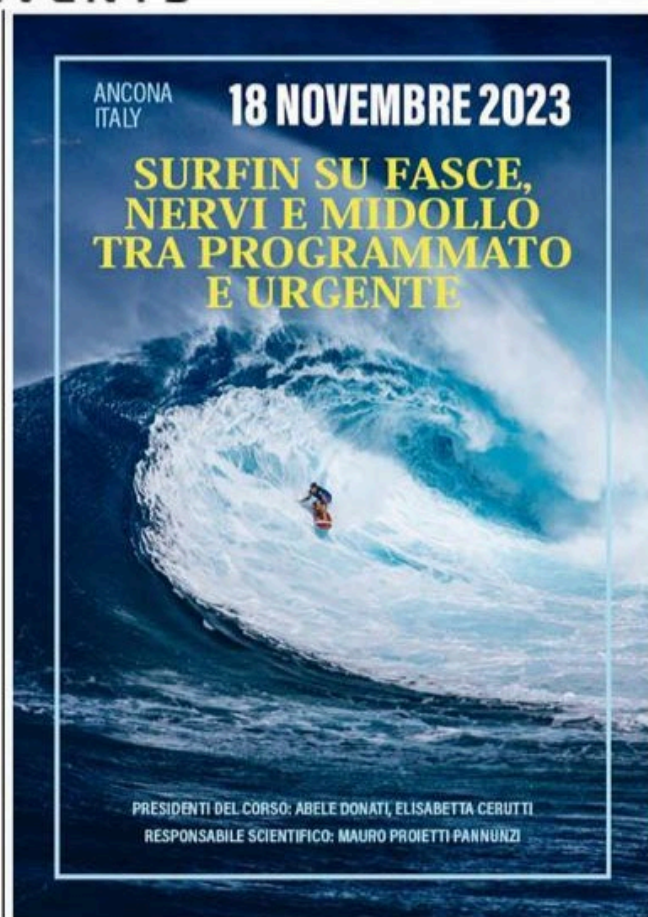
XXVIII

CONGRESSO
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European Society of
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MZ
EVENTS



Ancona | 18 novembre 2023

PROGRAMMA 18 NOVEMBRE 2023

8.30 Registrazione Partecipanti
9.00 Presentazione del corso - A. Carsetti

1 SESSIONE

UPGRADING NEI BLOCCHI DI FASCIA

Moderatori: E. Adrario, H. Zahedi

9.30 Surfin sulle fasce - P. Fusco
9.50 Chirurgia cardiaca - G. Sepolvere
10.10 Chirurgia toracica - M. Tedesco
10.30 Chirurgia addominale - F. Gori
10.50 ESP - G. De Angelis

11.00 Coffee break

2 SESSIONE

ANALGESIA E ANESTESIA IN EMERGENZA E URGENZA

Moderatori: D. Gattari, E. Iacobone

11.30 Gestione del paziente in terapia antiaggregante/anticoagulante - D. Tavoletti
11.50 La frattura di femore dell'anziano - F. Fattorini
12.10 Le fratture dell'arto superiore - A. Tognù
12.30 Sicurezza in anestesia locoregionale - M. Bosco

13.00 Light Lunch

3 SESSIONE

GESTIONE DEL PAZIENTE AD ALTO RISCHIO

Moderatori: E. Cerutti, L. Cola, C. Scala

14.00 Cosa intendiamo per paziente ad alto rischio - E. Adrario
14.20 Pocus preoperatorio - M. Proietti

4 SESSIONE

BEST PRACTICE NEL PAZIENTE AD ALTO RISCHIO

14.40 Pro anestesia spinale - R. Starnari
15.00 Pro anestesia generale - C. Piangatelli
15.30 Esercitazioni su modelli - A. Cehida, A. Gentili, G. Moriello, M. Proietti Pannunzi, D. Tavoletti, A. Valentini
17.30 Chiusura dei lavori

DESCRIZIONE DEL CORSO:

Nuove sfide per l'anestesia loco-regionale. Pazienti sempre più complessi in scenari diversi. Con la convinzione che il primo obiettivo sia quello di agire in sicurezza per garantirla a chi ci viene affidato e ci dia spunto per migliorare le nostre conoscenze e procedure. Cercando anche nella collaborazione di equipe un confronto di crescita. L'obiettivo di questo corso, che abbiamo voluto definire "surfin" è proprio quello di andare ad affrontare le onde della nostra pratica quotidiana senza esserne sommersi.

Mauro Proietti Pannunzi

AAROIEMAC
Associazione Anestesiisti Riabilitatori Ospedalieri Italiani
Emergenza Area Critica

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A. Carsetti, Ancona
A. Cehida, Civitanova Marche
E. Cerutti, Ancona
L. Cola, Fermo
G. De Angelis, San Giovanni Rotondo
F. Fattorini, Roma
P. Fusco, L'Aquila
D. Gattari, Macerata
A. Gentili, Senigallia
F. Gori, Perugia
E. Iacobone, Macerata
G. Moriello, Civitanova Marche
C. Piangatelli, Fabriano
M. Proietti Pannunzi, Civitanova Marche
C. Scala, Senigallia
G. Sepolvere, Caserta
R. Starnari, Ancona
D. Tavoletti, Ancona
M. Tedesco, Bari
A. Tognù, Bologna
A. Valentini, Civitanova Marche
H. Zahedi, Ancona