BRIGADE DE SAPEURS-POMPIERS DE PARIS
DIVISION SANTÉ

CONFÉRENCES
RÉANIMATION PRÉHOSPITALIÈRE
2022 - 2023

Division santé :
MC S. TRAVERS, MC O. STIBBE, MC G. BURLATON, PHC F. KRAMP
Service de santé des Armées.

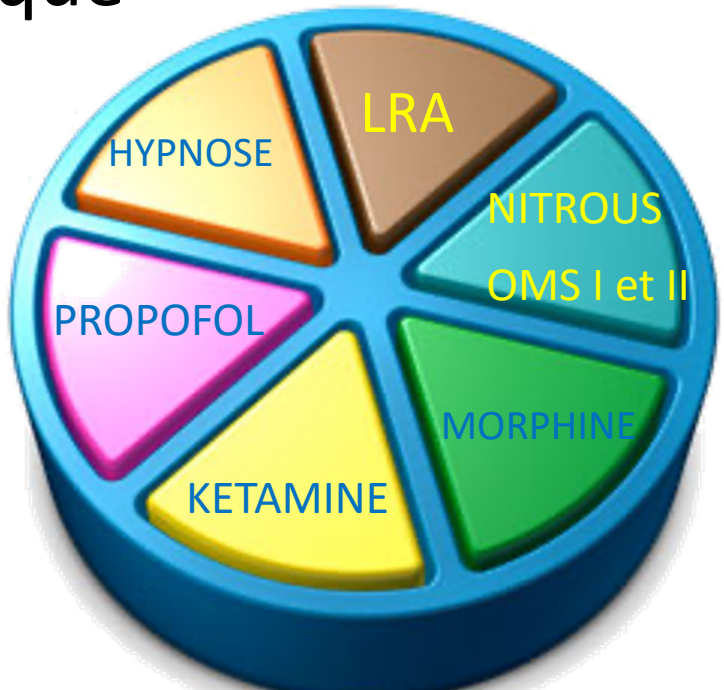
Comité d'organisation :
Pr TRAVERS, MC STIBBE, MC LEMOINE, MC FRAUDIN, Dr CAZES,
MC FRANCHIN, MC ABRIAT, ADJ LEMOINE, MP BRAMI, MCE DUBOURDIEU.

Sédation procédurale en préhospitalier

Dr Agnès Ricard-Hibon M.D Ph.D
SAMU 95 – SMUR - Urgences
Hôpital NOVO de Pontoise - 95

Cas clinique

- Homme 28 ans
- ATCD : asthme – traitement ventoline
- Sportif professionnel en trampoline
- Luxation de cheville hyperalgique
- EN à 10/10
- Distance : 40 min de l'hôpital



Une histoire vraie : Quelle stratégie Analgésique ?

Homme de 30 ans,

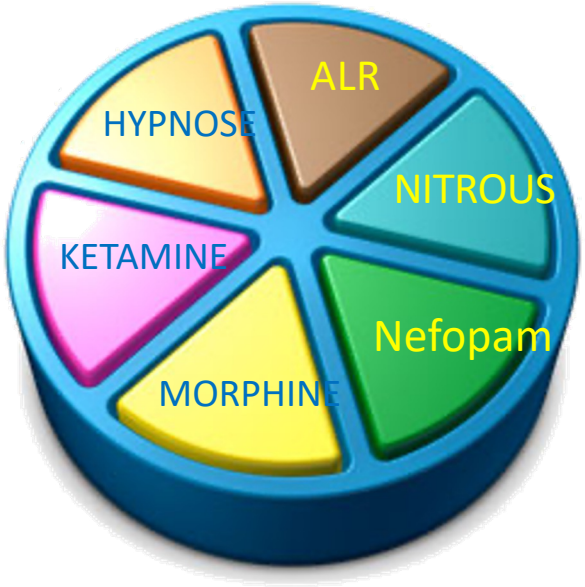
Pas d'ATCD

Sportif haut niveau

Fracture luxation de hanche

EN 10/10

Quizz



Une histoire vraie : Quelle stratégie Analgésique ?

Homme de 22 ans,

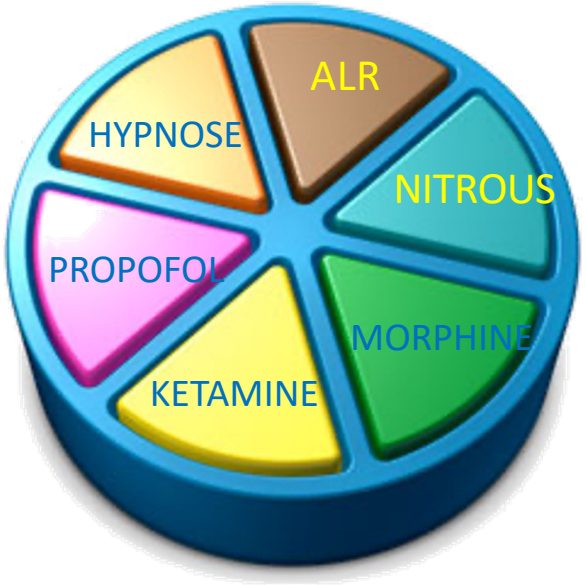
Pas d'ATCD

Rugby professionnel

Luxation d'épaule

EN ?

Quizz



Situation clinique : Stratégie Analgésique ?

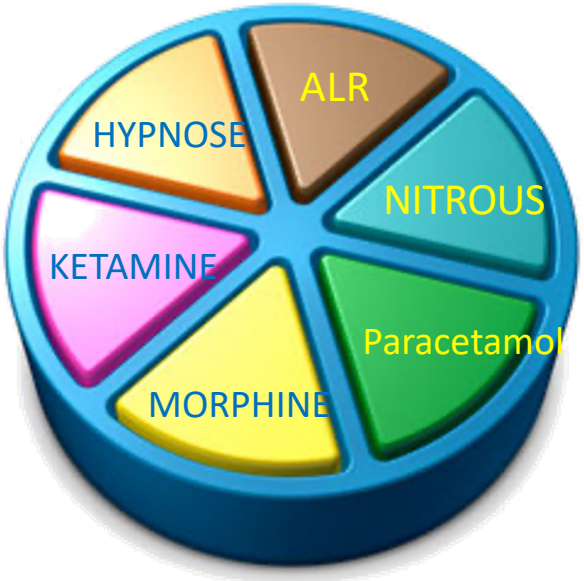
Quizz

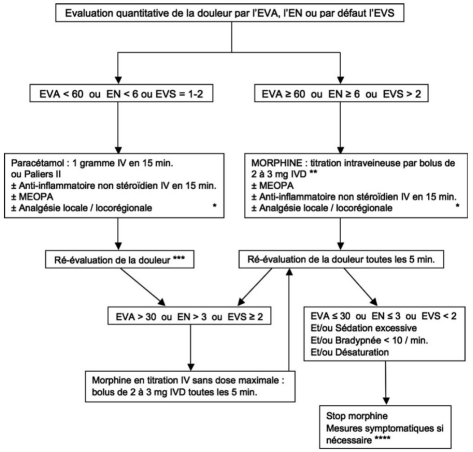
Femme de 85 ans - SMUR

ATCD HTA, I cardiaque dans sa baignoire

Fr fermée du col femoral

EN : 10/10





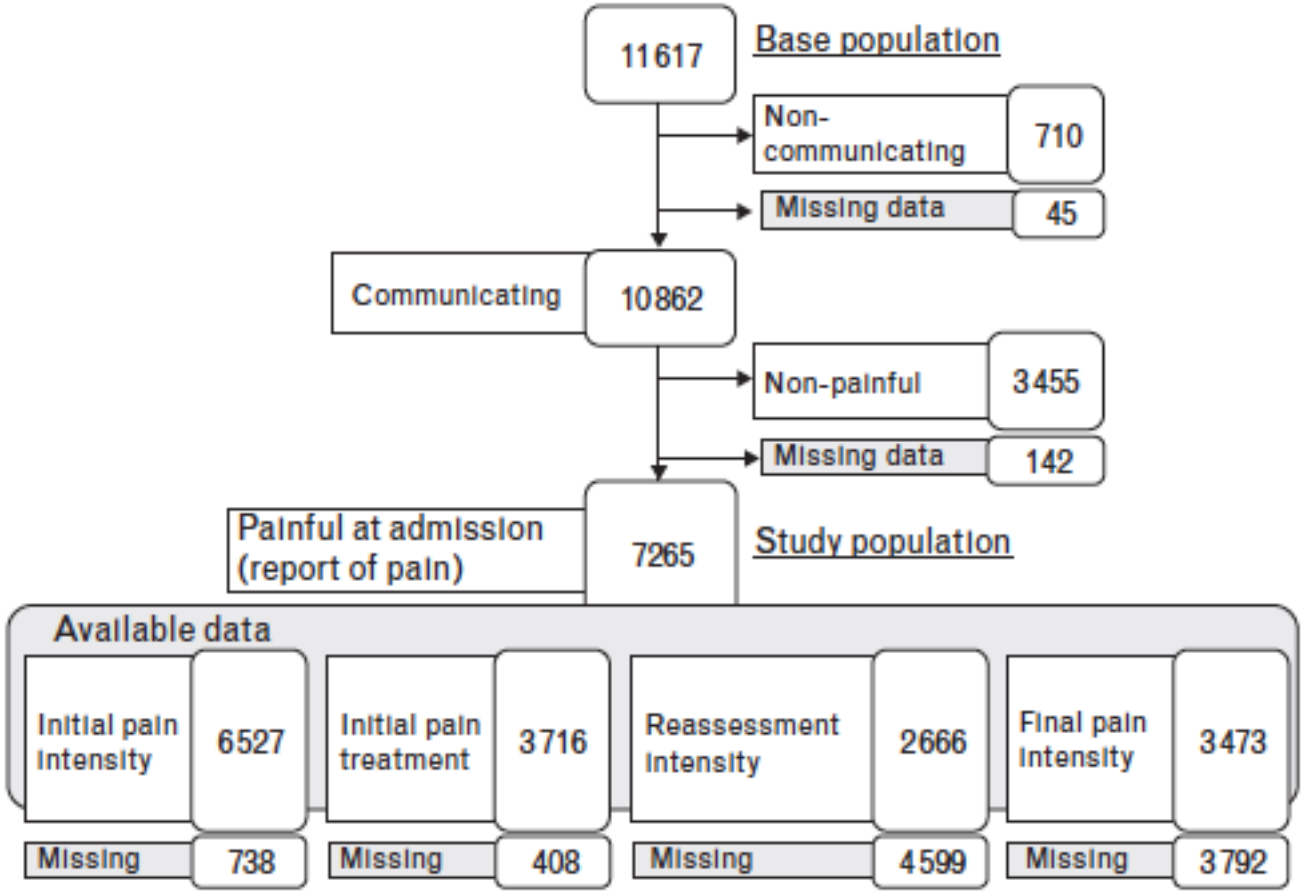
Une potion universelle ?

…. pour tous ?

Quality of pain management in the emergency departments: results of a multicentre prospective study

Sophie Guéant, Ariski Taleb, Jocelyne Borel-Kühner, Maxime Cauterman, Maurice Raphael, Guillaume Nathan and Agnes Ricard-Hibon

European Journal of Anaesthesiology 2011



Quality of pain management in the emergency departments: results of a multicentre prospective study

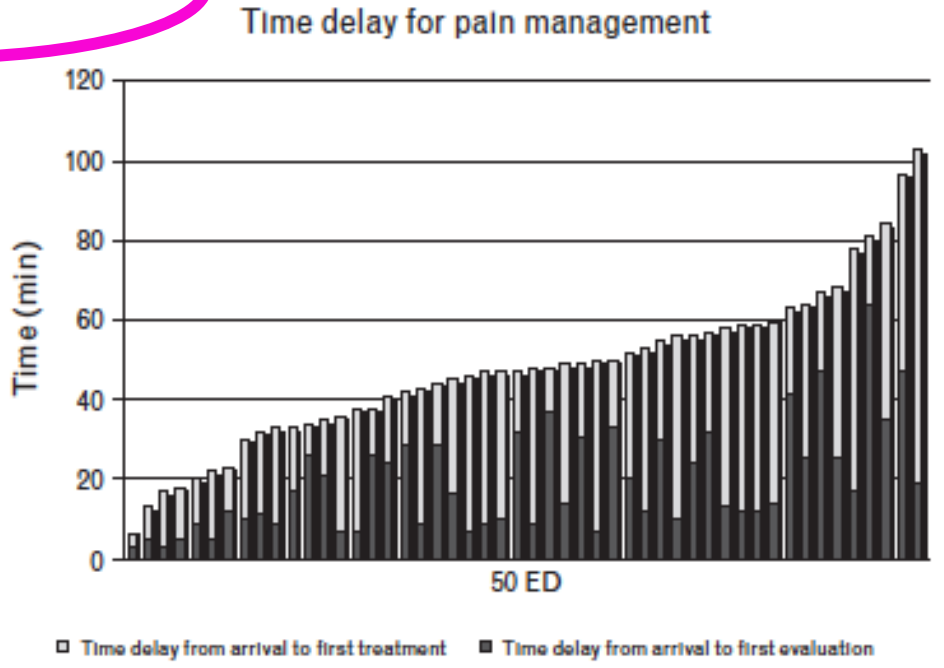
Sophie Guéant, Ariski Taleb, Jocelyne Borel-Kühner, Maxime Cauterman, Maurice Raphael, Guillaume Nathan and Agnes Ricard-Hibon

European Journal of Anaesthesiology

Table 3 Pain management from admission to treatment

Characteristics ($n=7265$)	n	%	95% CI
On admission	6527	90	89–91
Pain assessment			
Proportion of patients assessed within 5 min from admission	2708	41	
Initial pain treatment	3697	51	
Proportion of patients who received the initial treatment within 60 min from admission ($n=3616$)[a]	2732	74	

Fig. 3



Time delay in the 50 emergency departments.

Prise en charge de la douleur chez l'adulte dans des services d'urgences en France en 2010

Ann. Fr. Med. Urgence

Pain management in adult patients in emergency care units in France

E. Boccard · F. Adnet · P.-Y. Gueugniaud · A. Filipovics · A. Ricard-Hibon

Tableau 2 Intensité de la douleur et traitements antalgiques prescrits à l'admission aux urgences, au cours d'un geste programmé et à la sortie des urgences

	Admission aux urgences (n = 1 352)	Geste programmé (n = 1 136)		Sortie des urgences (n = 1 352)
		Pendant le geste	Après le geste[g]	
Pas de douleur, n (%)	316 (23)	944 (83)	490 (44)	588 (44)
Douleur présente, n (%)	1 033 (76)	188 (17)	562 (50)	638 (47)
EVA réalisée, n (%)	1 022 (99)	–	553 (98)	622 (98)
EVA moyenne ± ET (mm)[a]	55 ± 24	–	48 ± 22	43 ± 22
Intensité légère	193 (19)	–	148 (27)	215 (35)
Intensité modérée	364 (36)	–	232 (42)	236 (38)
Intensité sévère	465 (45)	–	173 (31)	171 (27)
Douleur non évaluée, n (%)	3 (<1)	–	74 (7)	126 (9)
Traitement antalgique, n (%)	379 (38)[b]	89 (8)[c]	141 (25)[d]	354 (74)[e]

Conclusion : La douleur représente un symptôme et un motif de consultation très fréquents à l'admission des services d'urgences. Sa prise en charge médicale demeure insuffisante en 2010, avec un faible taux de prescription d'antalgiques, que ce soit à l'admission ou à l'occasion d'un acte de soin, et avec un soulagement insuffisant à la sortie des

Practices guidelines

sfmu

Société Française de Médecine d'Urgence

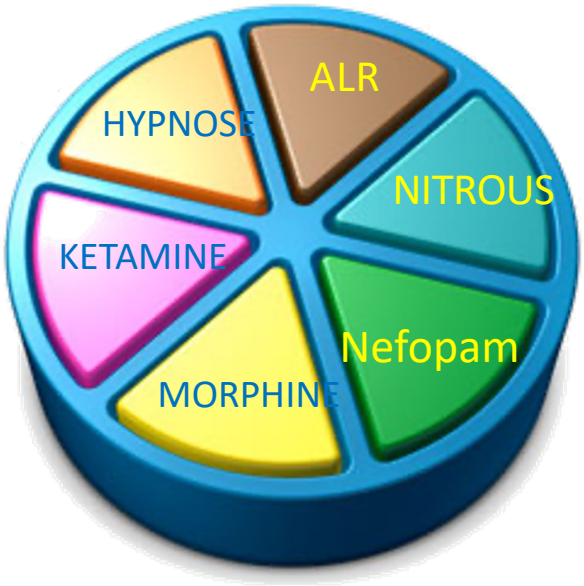
SFAR

American College of Emergency Physicians®

ADVANCING EMERGENCY CARE

EuSEM

European Society for Emergency Medicine



Paracetamol
AINS
Tramadol
Propofol
Ketofol
....

Société Française d'Anesthésie et de Réanimation Société Française de Médecine d'Urgence

Recommandations Formalisées d'Experts 2010 : Sédation et Analgésie en Structure d'Urgence

Réactualisation de la Conférence d'Experts de la SFAR de 1999

Présentation Officielle du Texte d'Experts

Congrès SFAR 2010

Samedi 25 Septembre 2010

Actualisation de la conférence d'expert Douleur

Board Douleur

2) Analgésie et sédation du patient adulte en VS

- **Il faut traiter toute douleur aiguë en urgence**, quelle que soit la pathologie, dès le début de la prise en charge du patient
- **Il faut prévenir et traiter les douleurs induites par les soins**
- **Il faut évaluer l'intensité de la douleur en urgence** dès le début de la prise en charge du patient et après avoir mis en œuvre les mesures non médicamenteuses comme l'information, l'immobilisation, la prévention de l'hypothermie, ainsi que la réalisation d'une cryothérapie si nécessaire
- **Protocoles, formation des équipes, évaluation des pratiques**
- **Evaluation de la douleur :**
  - échelles d'autoévaluation : EVA, échelle numérique (échelle verbale simple)
  - si autoévaluation impossible -> hétéroévaluation ECPA, Algoplus
  - pas d'échelle validée chez l'adulte non communicant (accord faible)
  - questionnaire DN4 pour les douleurs neuropathiques

5)e) Réalisation d'actes douloureux

- Prévention et traitement des douleurs induites en traumatologie
- Information du patient
- Matériel d'anesthésie et de réanimation adéquat, disponible et fonctionnel
- Recours aux techniques d'AL ou d'ALR lorsqu'elles sont possibles
- Réalignement de membre fracturé ou réduction de luxation :
  - morphine en titration IV ± MEOPA et/ou kétamine (0,5-1 mg•kg^{-1} titration IV)
- Adjonction de midazolam à une titration morphinique IV (accord faible) si :
  - anticipation de la potentialisation des effets secondaires
  - surveillance prolongée, antagonisation possible de ces deux médicaments
- Alfentanil possible mais insuffisamment documenté
- **Si nécessité d'une sédation profonde pour geste court :**
  - recours à un médecin anesthésiste-réanimateur
  - sinon titration de propofol (1-1,5 mg•kg^{-1} IV) en alternative à l'IOT sous ISR
  - formation + procédure pré-établie avec structures de chirurgie et anesthésie

Procedural Sedation and Analgesia in Trauma Patients in an Out-of-Hospital Emergency Setting: A Prospective Multicenter Observational Study

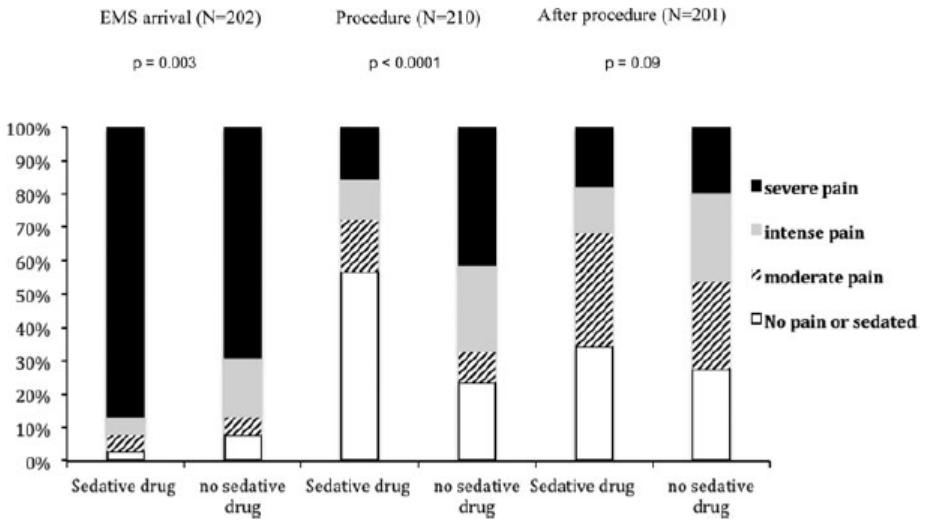
PREHOSPITAL EMERGENCY CARE 2018;22:497–505

Michel Galinski, Laure Hoffman, Delphine Bregeaud, Mounir Kamboua, François-Xavier Ageron, Catherine Rouanet, Jean-Christophe Hubert, Jacques Istria, Mirko Ruscev, Karim Tazarourte, Florence Pevirieri, Frédéric Lapostolle & Frédéric Adnet

TABLE 2. Description of the different medication combinations during analgesia and sedation of patients during procedures

Therapeutic associations	N (%)
Opioid, EMONO, level 1 painkiller* and sedative drug†	22 (10)
Opioid, EMONO and sedative drug	29 (14)
Opioid, EMONO, sedative drug and loco-regional anesthesia	2 (1.0)
Opioid and EMONO	8 (4)
Opioid, EMONO and loco-regional anesthesia	2 (1)
Opioid, EMONO and level 1 painkiller	20 (10)
Opioid, level 1 painkiller and sedative drug	12 (6)
Opioid and sedative drug	27 (13)
Opioid, sedative drug and loco-regional anesthesia	1 (0.5)
Opioid and level 1 painkiller	21 (10)
Opioid and loco-regional anesthesia	8 (4)
Opioid only	18 (9)
Sedative drug, level 1 painkiller and EMONO	4 (2)
Sedative drug and EMONO	3 (1)
Sedative drug only	16 (8)
Sedative drug and level 1 painkiller	1 (0.5)
Level 1 painkiller and EMONO	5 (2)
Level 1 painkiller	5 (2)
EMONO	2 (1)
NONE	4 (2)

EMONO = *Equimolar Mixture of Oxygen and Nitrous Oxide*;
*level 1 painkiller: paracetamol essentially, non-steroidal anti-inflammatory drugs, nefopam.
†Sedative drugs: ketamine and/or propofol and/or midazolam.



Conclusion: Procedural sedation-analgesia was inadequate in almost half of the trauma patients in the out-of-hospital setting. The reasons of these failures were probably multiple. The non-administration of a sedative drug despite an indication or non-adapted doses, in the context of a lack of specific protocols, was certainly one of them. **Key words:** acute pain; procedural sedation and analgesia; trauma

Recommandations de l'ACEP

Ann Emerg med 2014

Sédation procédurale : Administration de médicaments sédatifs ou dissociatifs avec ou sans analgésiques pour induire un trouble de conscience permettant au patient de supporter des procédures douloureuses ou désagréables

	Conscience	Réponse verbale	Ft Cognitives et coordinat	Ft Cardio-Resp	Procedure Exemple
Sédation minimale	Normale	Oui	± alétéres	Normales	Mineures
Sédation modérée	légèrement altérée	± altérée ou stimulation légère	altérées amnésie	Normales Vspont +	Ex BZD + Opioids
Sédation dissociative	catalepsie	altérée	amnésie	Vspont + CV préservé	Ex Ketamine
Sédation profonde	altérée	stimulation douloureuse	altérées	Assistance ventilatoire CV ±	Sédatifs ± Opioids
Anesthésie Générale	altérée	altérée	altérée	altérées	AG

Nitrous Oxide for Early Analgesia in the Emergency Setting: A Randomized, Double-blind Multicenter Prehospital Trial

Jean-Louis Ducassé, MD, Georges Siksik, MD, Manon Durand-Béchu, MD, Sébastien Couarraze, RN, Baptiste Vallé, MD, Nathalie Lecoules, MD, Patrice Marco, RN, Thierry Lacombe, PharmD, and Vincent Bounes, MD

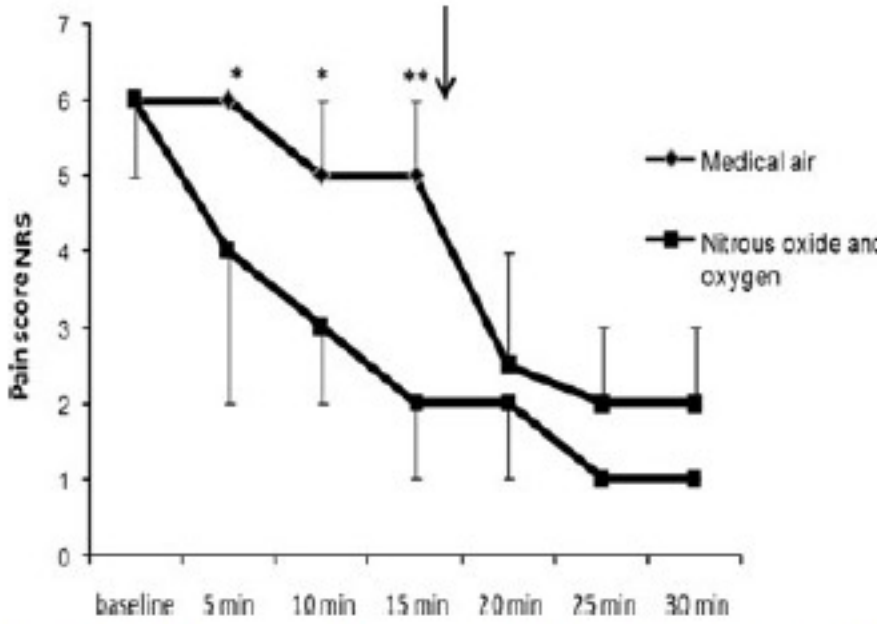


Figure 3. Pain scores (the arrow indicates when every patien received nitrous oxide and oxygen). *p < 0.001, **p < 0.0001. NRS = numeric rating scale.

Table 3
Clinical Characteristics of Patients at T15 and Adverse Events During the First 30 Minutes by Group

Group	Nitrous Oxide and Oxygen (n = 30)	MA (n = 30)
Adverse events from T0 to T15	0	0
Adverse events from T15 to T30 Nausea	1 (3)	3 (10)
Sedation score = 1	5 (17)	4 (13)
Physiology at T15		
Heart rate (min^{-1})	76 (72–83)	81 (67–92)
Respiratory rate (min^{-1})	17 (15–20)	18 (16–20)
Systolic blood pressure (mm Hg)	131 (120–148)	129 (117–136)
Diastolic blood pressure (mm Hg)	79 (71–85)	81 (69–85)
SpO_2 (%)	99 (99–100)	99 (98–100)

Results are expressed as n (%) or median (IQR).
IQR = interquartile range; MA = medical air.

Données cliniques Penthrox® en Europe : actualité

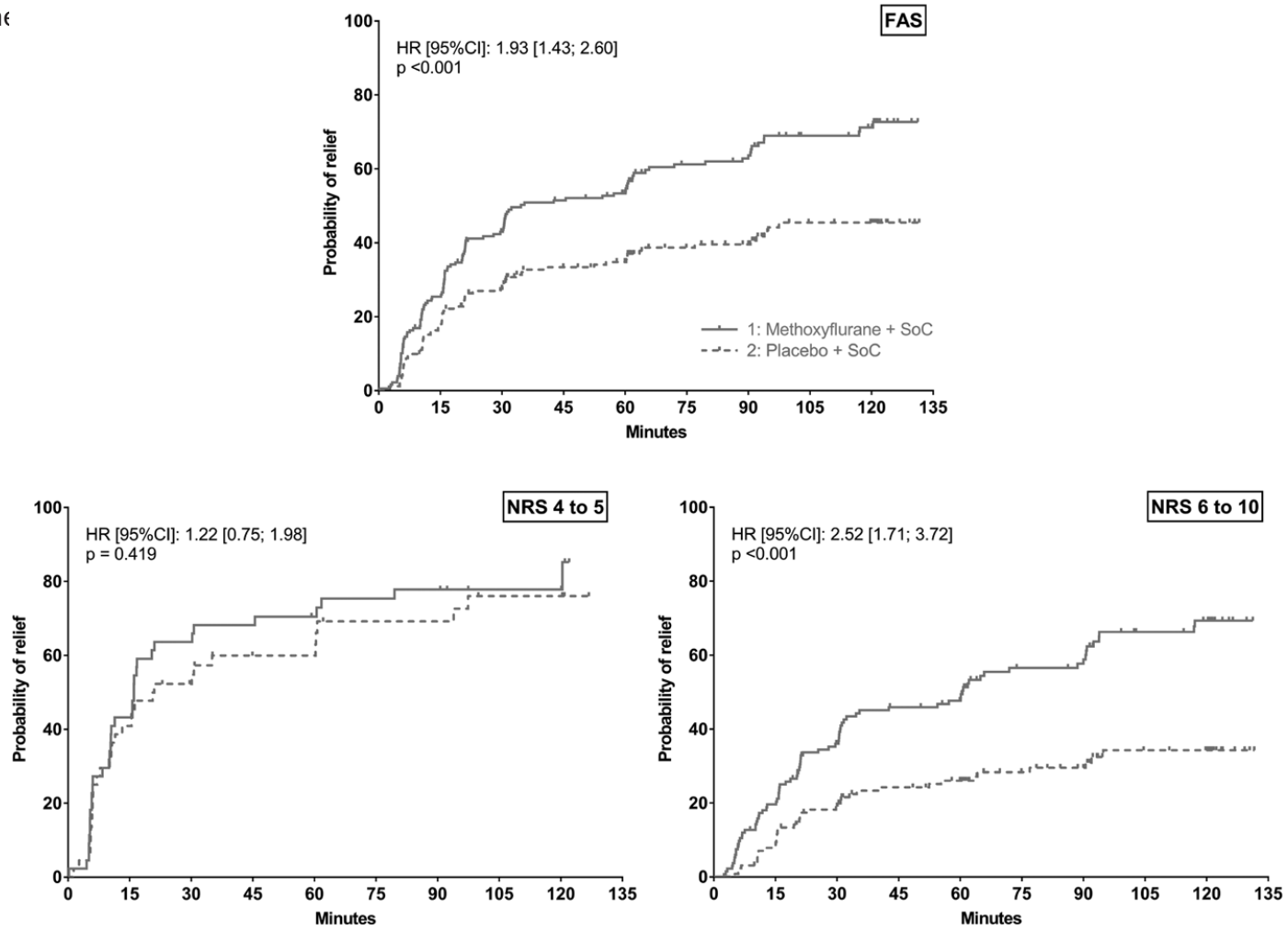
	STOP	InMEDIATE	MEDITA	PenASAP
Pays	UK	Espagne	Italie	France
Statut	Publiée (Dossier AMM)	Présentation résultats : Eusem, 2018	Présentation résultats : EUSEM, 2019	Présentation résultats : SFMU, 2019 Eusem 2019
Type	Randomisée, multicentrique, en double-aveugle, contrôlée vs, placebo	Phase IIIb, randomisée, ouverte, multicentrique	Phase IIIb, randomisée, contrôlée, ouverte, multicentrique	Phase IV, randomisée, multicentrique, en double-aveugle, contrôlée vs, placebo
Lieu	Intra-hospitalier	Intra et pré-hospitalier	Intra et pré-hospitalier	Intra-hospitalier
Population	N=300 ≥ 12 ans* Douleur/Traumatisme mineur EN ≥ 4 et ≤ 7	N=310 Adultes Douleur traumatique modérée à sévère EVA ≥ 4	N=272 Adultes Douleur traumatique (membres) EN ≥ 4	N=360 Adultes Douleur traumatique modérée à sévère EN ≥ 4
Critère principal	EN à 5,10,15,20 minutes	EN à 3,5,10,15,20 minutes Temps de soulagement	EVA à 3,5,10 minutes	Temps de soulagement (EVA ≤30)
Comparateur	Placebo (± traitement de secours)	SoC	SoC	Placebo + SoC

* *Penthrox est autorisé en France pour les adultes uniquement*
SoC : standard of care ; EN : échelle numérique ; EVA : échelle visuelle

URGENCES LE CONGRÈS PALAIS DES CONGRES PARIS PORTE MAILLOT 08-09-10 JUIN 2022

Inhaled methoxyflurane for the management of trauma related pain in patients admitted to hospital emergency departments: a randomised, double-blind placebo-controlled trial (PenASAP study)

Agnès Ricard-Hibon[a], Nathalie Lecoules[b], Dominique Savary[c], Laurent Jacquin[d], Eric Wiel[e], Patrick Deschamps[a], Marion Douplat[f], François Montestruc[g], Bérangère Chomier[h], Karim Tazarourte[d] and Frédéric Adne



Kaplan–Meier estimates of time to pain relief (primary efficacy endpoint, VAS ≤30 mm; FAS) in all patients (upper) and by subgroups of patients with moderate pain; NRS 4–5 (left) and severe pain; NRS 6–10 (right); according to SFMU definition of pain. FAS, full analysis set; NRS, numerical rate scale; VAS, Visual Analogic Scale.

Open Access Full Text Article

ORIGINAL RESEARCH

Low-Dose Methoxyflurane versus Standard of Care Analgesics for Emergency Trauma Pain: A Systematic Review and Meta-Analysis of Pooled Data

This article was published in the following Dove Press journal:
Journal of Pain Research

Andrea Fabbri[1]
Alberto M Borobia[2]
Agnes Ricard-Hibon[3]
Frank Coffey[4]
Aurore Caumont-Prim[5]
François Montestruc[5]
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Susana Traseira Lugilde[7]
Sara Dickerson[8]

[1]Department of Emergency Medicine, Morgagni-Pierantoni Hospital, Forli, Italy; [2]Clinical Pharmacology Department, La Paz University Hospital, School of Medicine, Universidad Autónoma de Madrid, IdiPAZ, Madrid, Spain; [3]Emergency Department SAMU-SMUR 95, CHG Pontoise-Beaumont/Oise, Pontoise, France; [4]DREEAM: Department of Research and Education in Emergency Medicine, Acute Medicine and Major Trauma, Nottingham University Hospitals NHS Trust, Nottingham, UK; [5]eXYSTAT, Malakoff, France; [6]Mundipharma Pharmaceuticals Srl, Milan, Italy; [7]Mundipharma Pharmaceuticals S.L., Madrid, Spain; [8]Mundibiopharma Limited, Cambridge, UK

Purpose: Undertreatment of trauma-related pain is common in the pre-hospital and hospital settings owing to barriers to the use of traditional standard of care analgesics. Low-dose methoxyflurane is an inhaled non-opioid analgesic with a rapid onset of pain relief that is approved for emergency relief of moderate-to-severe trauma-related pain in adults. This analysis was performed to compare the efficacy and safety of low-dose methoxyflurane with standard of care analgesics in adults with trauma-related pain.

Methods: A meta-analysis was performed on pooled data from randomized controlled trials identified via a systematic review. The primary endpoint was the pain intensity difference between baseline and various time intervals (5, 10, 15, 20, and 30 minutes) after initiation of treatment.

Results: The pain intensity difference was statistically superior with low-dose methoxyflurane compared with standard of care analgesics (overall estimated treatment effect=11.88, 95% CI=9.75–14.00; $P<0.0001$). The superiority of low-dose methoxyflurane was demonstrated at 5 minutes after treatment initiation and was maintained across all timepoints. Significantly more patients treated with methoxyflurane achieved response criteria of pain intensity ≤30 mm on a visual analog scale, and relative reductions in pain intensity of ≥30% and ≥50%, compared with patients who received standard of care analgesics. The median time to pain relief was shorter with methoxyflurane than with standard of care analgesics. The findings were consistent in a subgroup of elderly patients (aged ≥65 years).

Conclusion: Methoxyflurane can be considered as an alternative to standard of care analgesics in pre-hospital and hospital settings for treatment of adult patients with acute trauma-related pain.

Keywords: acute pain, inhaled analgesic, emergency service, wounds and injury, pain management, analgesia

Analgésie multimodale

Evaluation quantitative de la douleur par l'EVA, l'EN ou par défaut l'EVS

EVA < 60 ou EN < 6 ou EVS = 1-2

EVA ≥ 60 ou EN ≥ 6 ou EVS > 2

Paracétamol : 1 gramme IV en 15 min.
ou Paliers II
± Anti-inflammatoire non stéroïdien IV en 15 min.
± MEOPA
± Analgésie locale / locorégionale *

MORPHINE : titration intraveineuse par bolus de 2 à 3 mg IVD **
± MEOPA
± Anti-inflammatoire non stéroïdien IV en 15 min.
± Analgésie locale / locorégionale *

Ré-évaluation de la douleur ***

Ré-évaluation de la douleur toutes les 5 min.

EVA > 30 ou EN > 3 ou EVS ≥ 2

EVA ≤ 30 ou EN ≤ 3 ou EVS < 2
Et/ou Sédation excessive
Et/ou Bradypnée < 10 / min.
Et/ou Désaturation

Morphine en titration IV sans dose maximale :
bolus de 2 à 3 mg IVD toutes les 5 min.

Stop morphine
Mesures symptomatiques si nécessaire ****


10 : 32 : 06 : 18


10 : 32 : 09 : 22
VIGNY

AS SEEN ON TV

February 10th 2018 – Dublin – Irland - Italy : 56-19

Recommandations de l'ACEP

Ann Emerg med 2014

Sédation procédurale : Administration de médicaments sédatifs ou dissociatifs avec ou sans analgésiques pour induire un trouble de conscience permettant au patient de supporter des procédures douloureuses ou désagréables

	Conscience	Réponse verbale	Ft Cognitives et coordinat	Ft Cardio-Resp	Procedure Exemple
Sédation minimale	Normale	Oui	± alétéres	Normales	Mineures
Sédation modérée	légèrement altérée	± altérée ou stimulation légère	altérées amnésie	Normales Vspont +	Ex BZD + Opioids
Sédation dissociative	catalepsie	altérée	amnésie	Vspont + CV préservé	Ex Ketamine
Sédation profonde	altérée	stimulation douloureuse	altérées	Assistance ventilatoire CV ±	Sédatifs ± Opioids
Anesthésie Générale	altérée	altérée	altérée	altérées	AG

Morphine and Ketamine Is Superior to Morphine Alone for Out-of-Hospital Trauma Analgesia: A Randomized Controlled Trial

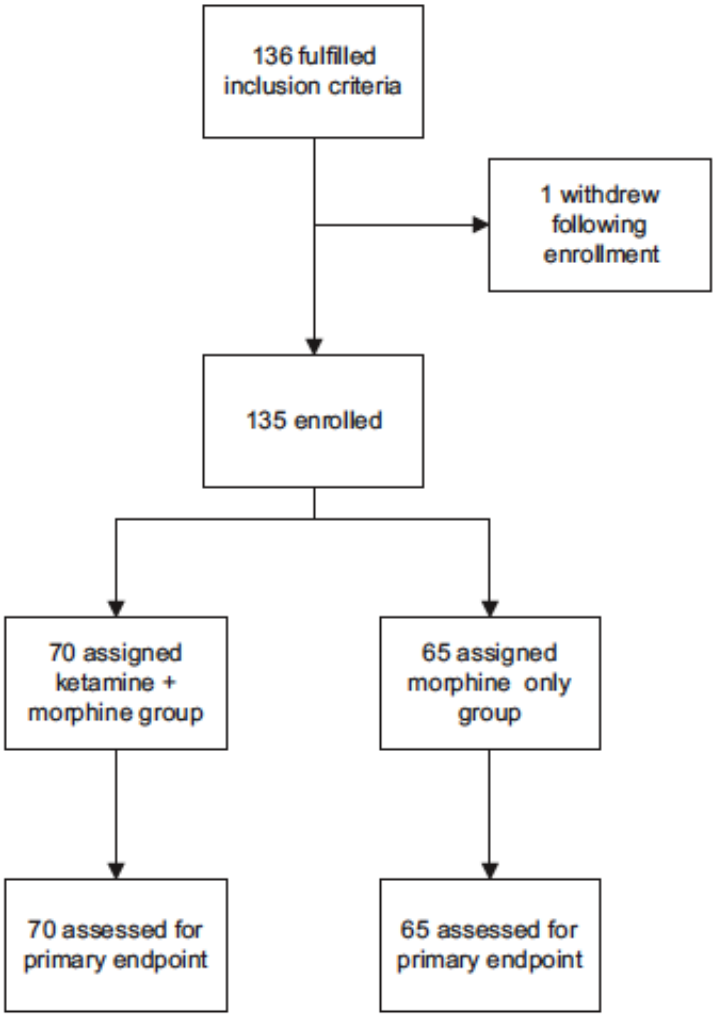


Figure 1. Trial profile.

Table 1. Demographic data and injury characteristics of patients.

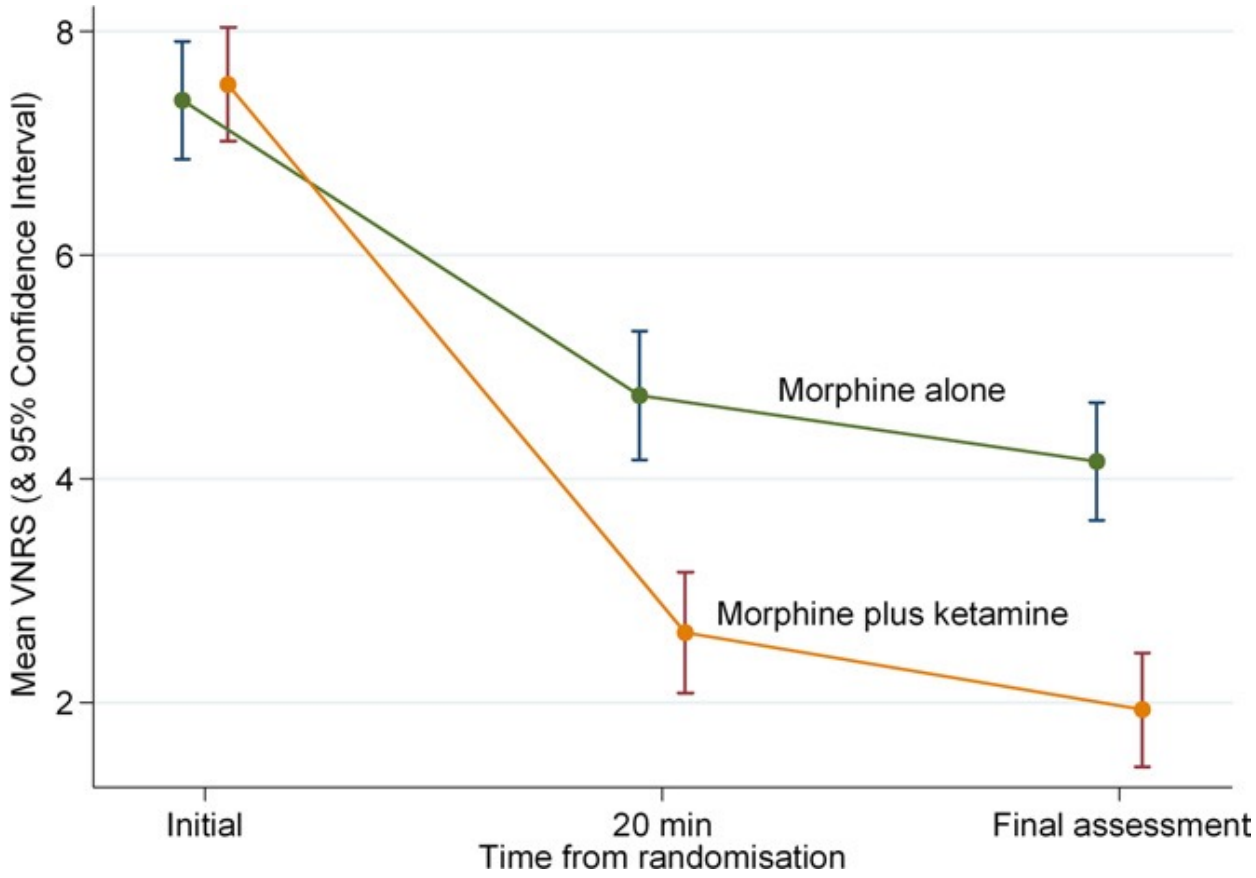
Characteristics	Ketamine Group (n=70)	Morphine-Only Group (n=65)
Male, No. (%)	45 (64)	38 (58)
Age, y		
Median (IQR)	41 (26–56)	45 (31–66)
Minimum, maximum	18, 90	18, 96
Case nature, No. (%)		
Extremity fracture	26 (37)	29 (45)
Soft tissue injury	17 (24)	15 (23)
Fracture, other	14 (20)	13 (20)
Dislocation	11 (16)	7 (11)
Burn	2 (3)	1 (1)
Injury Severity Score		
Median (IQR)	4 (1–9)	4 (4–4)
Minimum, maximum	0, 13	0, 22
Initial pain score		
Median (IQR)	7.5 (6–9)	7 (6–8)
Minimum, maximum	5, 10	5, 10
Number of patients to whom methoxyflurane was administered, mL, frequency (%)	48 (68.6)	40 (61.5)
Dose of methoxyflurane administered, mL		
Median (IQR)	3 (3–3)	3 (3–3)
Minimum, maximum	0, 6	0, 6
Dose of trial drug administered after randomization, mg	Ketamine	Morphine
Median (IQR)	35 (20–50)	15 (10–15)
Minimum, maximum	10, 120	2.5, 60
Out-of-hospital time, min		
Median (IQR)	49.5 (34–65)	45 (36–60)
Minimum, maximum	20, 103	18, 123

IQR, Interquartile range.

Jennings Ann Emerg Med 2012;59:497

Morphine and Ketamine Is Superior to Morphine Alone for Out-of-Hospital Trauma Analgesia: A Randomized Controlled Trial

Conclusion: Intravenous morphine plus ketamine for out-of-hospital adult trauma patients provides analgesia superior to that of intravenous morphine alone but was associated with an increase in the rate of minor adverse effects. [Ann Emerg Med. 2012;59:497-503.]



Jennings Ann Emerg Med 2012:;59:497

Morphine and Ketamine Is Superior to Morphine Alone for Out-of-Hospital Trauma Analgesia: A Randomized Controlled Trial

Conclusion: Intravenous morphine plus ketamine for out-of-hospital adult trauma patients provides analgesia superior to that of intravenous morphine alone but was associated with an increase in the rate of minor adverse effects. [Ann Emerg Med. 2012;59:497-503.]

Table 3. Frequency of adverse effects observed, by study group.

	Morphine Group (N=65)			Ketamine Group (N=70)			Risk Difference (Morphine–Ketamine Group)	
Adverse Effect	**Frequency**	**Risk, %**	**95% CI**	**Frequency**	**Risk, %**	**95% CI**	**Risk Difference, %**	**95% CI**
Nausea	6	9.2	3.5 to 19.0	3	4.3	0.9 to 12.0	4.95	−5.4 to 17.5
Decreased consciousness (GCS score ≤13)	1	1.5	0.4 to 8.3	3	4.3	0.9 to 12.0	−2.75	−10.3 to 8.4
Nystagmus/visual disturbance	1	1.5	0.4 to 8.3	2	2.9	0 to 9.9	−1.32	−8.1 to 5.2
Decreased systolic blood pressure (<90 mm Hg)	1	1.5	0.4 to 8.3	0	0	0 to 5.1	1.54	−5.2 to 6.8
Vomiting	0	0	0 to 5.5	1	1.4	0 to 7.7	−1.43	−7.1 to 6.2
Increased systolic blood pressure (>180 mm Hg)	0	0	0 to 5.5	3	4.3	0.9 to 12.0	−4.29	−10.8 to 6.8
Disorientation	0	0	0 to 5.5	8	11.4	5.1 to 21.3	−11.43	−19.9 to 4.8
Tachycardia (>100 beats/min)	0	0	0 to 5.5	1	1.4	0 to 7.7	−1.43	−7.1 to 6.2
Emergence phenomenon	0	0	0 to 5.5	4	5.7	1.6 to 14.0	−5.71	−12.6 to 6.7
Enhanced skeletal tone	0	0	0 to 5.5	2	2.9	0 to 9.9	−2.86	−8.4 to 3.6
Total	9	13.8	6.5 to 24.7	27	38.6	27.2 to 51.0	−26.31	−40.70 to −10.59

Jennings Ann Emerg Med 2012;59:497

Recommandations de l'ACEP

Ann Emerg med 2014

Sédation procédurale : Administration de médicaments sédatifs ou dissociatifs avec ou sans analgésiques pour induire un trouble de conscience permettant au patient de supporter des procédures douloureuses ou désagréables

	Conscience	Réponse verbale	Ft Cognitives et coordinat	Ft Cardio-Resp	Procedure Exemple
Sédation minimale	Normale	Oui	± alétéres	Normales	Mineures
Sédation modérée	légèrement altérée	± altérée ou stimulation légère	altérées amnésie	Normales Vspont +	Ex BZD + Opioids
Sédation dissociative	catalepsie	altérée	amnésie	Vspont + CV préservé	Ex Ketamine
Sédation profonde	altérée	stimulation douloureuse	altérées	Assistance ventilatoire CV ±	Sédatifs ± Opioids
Anesthésie Générale	altérée	altérée	altérée	altérées	AG

Clinical Practice Advisory: Emergency Department Procedural Sedation With Propofol

James R. Miner, MD
John H. Burton, MD

From the Department of Emergency Medicine, Hennepin County Medical Center, Minneapolis, MN (Miner); and the Department of Emergency Medicine, Albany Medical Center, Albany, NY (Burton).

We present an evidence-based clinical practice advisory for the administration of propofol for emergency department procedural sedation. We critically discuss indications, contraindications, personnel and monitoring requirements, dosing, coadministered medications, and patient recovery from propofol. Future research questions are considered. [Ann Emerg Med. 2007;50:182-187.]

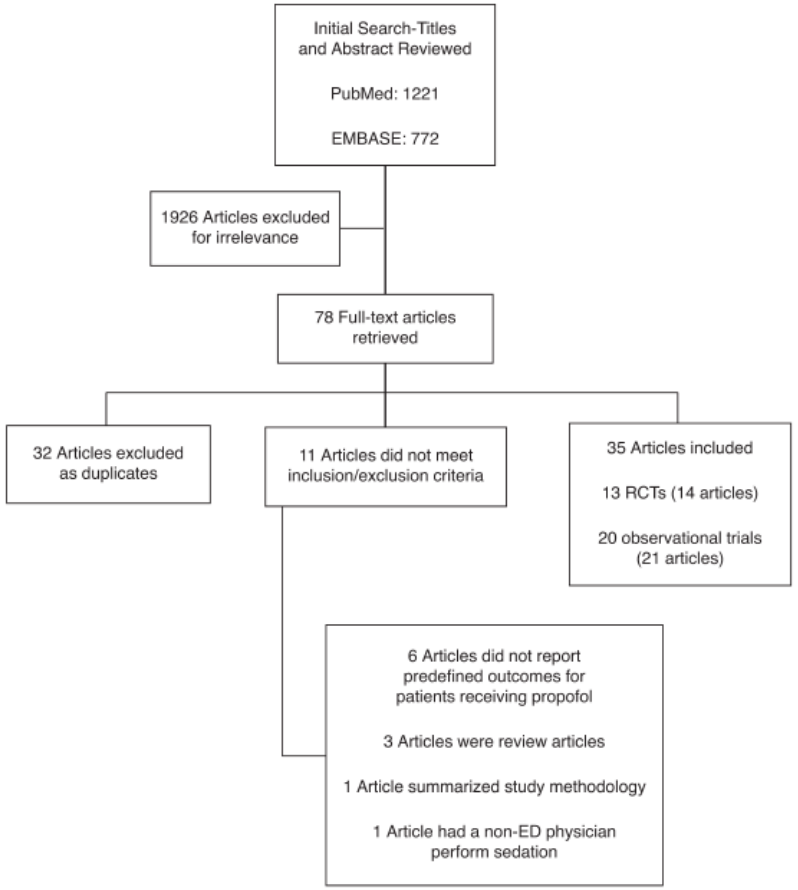
Indications

The literature supports the safety and efficacy of propofol for a variety of ED procedures requiring deep sedation, including fracture and dislocation reduction, incision and drainage of abscesses, and cardioversion.[1,2,4-17,24-29] There is no ED experience using propofol for minimal sedation and limited experience for moderate sedation in the ED.[9,10,30] Propofol is a

Propofol for Procedural Sedation in the Emergency Department: A Qualitative Systematic Review

Emily Black, Samuel G Campbell, Kirk Magee, Peter J Zed

Ann Pharmacother 2013;47:856-68.



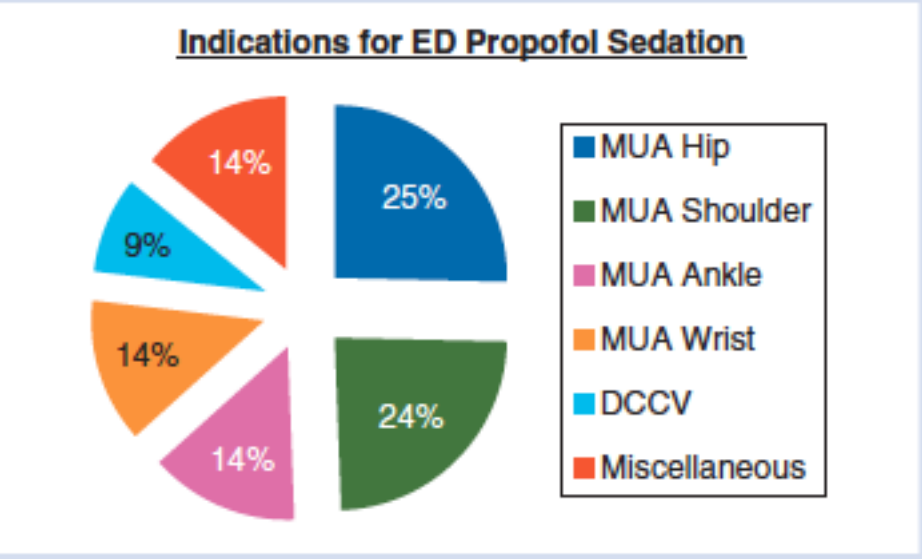
CONCLUSIONS: Propofol for procedural sedation is a reasonable alternative for use in the ED, with comparative efficacy and safety to other alternatives. Use of opioids in addition to propofol may not provide added benefit but does contribute to increased rates of adverse events.

British Journal of Anaesthesia **111** (4): 651–5 (2013)
Advance Access publication 9 May 2013 · doi:10.1093/bja/aet168

BJA

Propofol for adult procedural sedation in a UK emergency department: safety profile in 1008 cases

B. Newstead[1], S. Bradburn, A. Appelboam, A. Reuben, A. Harris, A. Hudson, L. Jones, C. McLauchlan, P. Riou, M. Jadav[2] and G. Lloyd*



73 évènements indésirables :
- 11 sérieux
- 34 modérés
- 25 mineurs
- 3 risque minimal

Conclusions. Our large series of propofol sedations performed by emergency physicians supports the safety of this practice. The sentinel adverse event rate of 1% that we identify prompts review: we will in future emphasize adherence to the reduced 0.5 mg kg^{-1} propofol dose in the elderly, and reconsider our use of metaraminol. We believe that our application

The Journal of Emergency Medicine, Vol. 44, No. 4, pp. 823–828, 2013

AGE-RELATED DIFFERENCES IN PROPOFOL DOSING FOR PROCEDURAL SEDATION IN THE EMERGENCY DEPARTMENT

Asad E. Patanwala, PHARMD,* Anna C. Christich, PHARMD,† Karalea D. Jasiak, PHARMD,*
Christopher J. Edwards, PHARMD,‡ Hanna Phan, PHARMD,* and Eric M. Snyder, PHD*

Table 3. Multivariate Regression Analyses

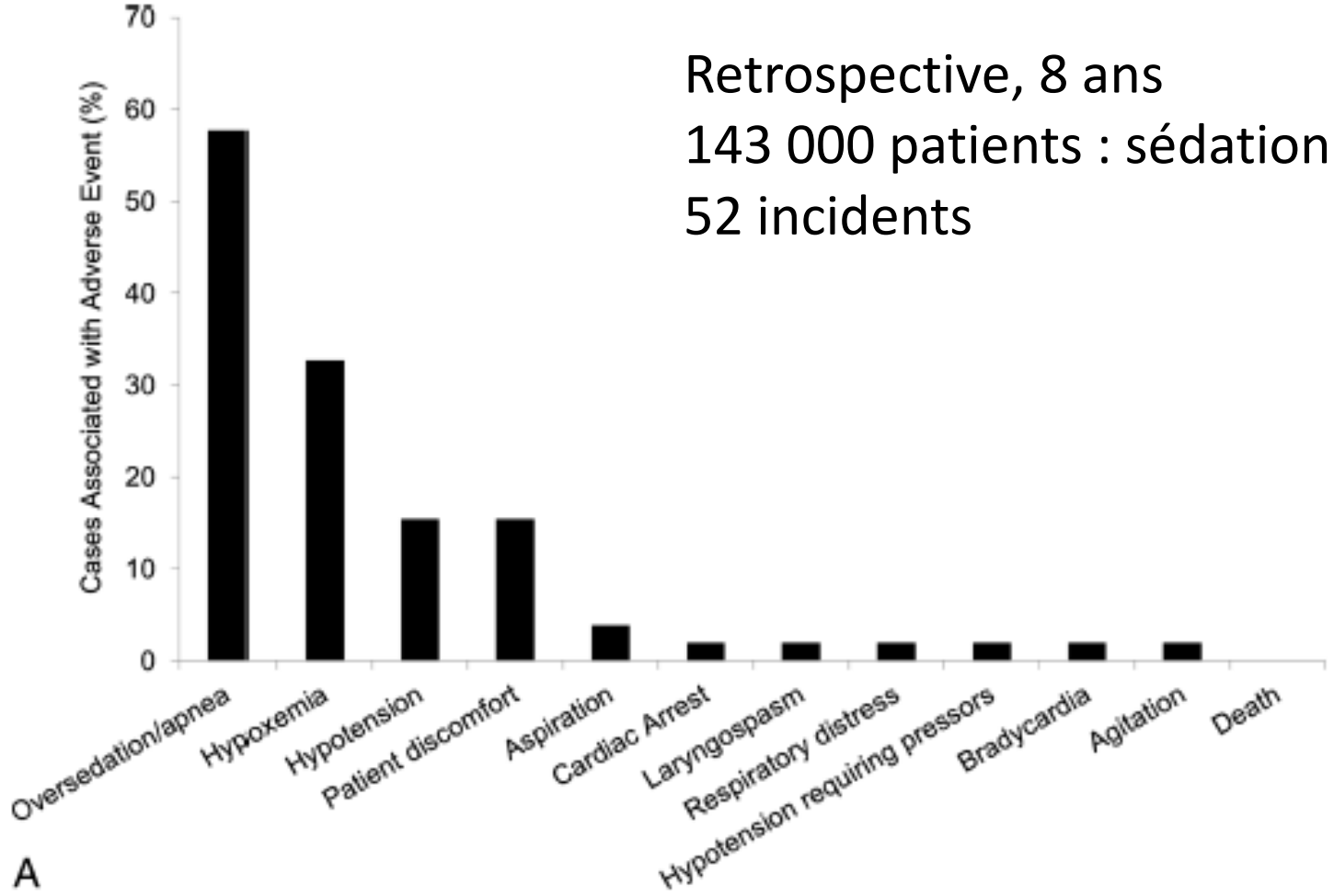
Variable	Coefficient	95% CI	*p* Value
Induction dose (mg/kg) [model R^2 = 0.2]			
Age (years)	−0.011	−0.017 to −0.005	<0.001
Pre-sedation opioid (mg/kg)*	1.547	0.173–2.92	0.028
Total dose (mg/kg) [model R^2 = 0.25]			
Age (years)	−0.014	−0.022 to −0.007	<0.001
Procedure time (min)	0.018	0.011–0.025	<0.001
Pre-sedation opioid (mg/kg)*	2.245	0.189–4.301	0.033
Procedure†			
Dislocation manipulation	−0.311	−0.681–0.057	0.099
Other procedures	0.122	−0.338–0.582	0.601

Results: A total of 170 patients were included in the final analyses: 18–40 years (n = 66), 41–64 years (n = 59), and ≥65 years (n = 45). The median induction dose was 1.4, 1, and 0.9 mg/kg, respectively; and the median total propofol dose was 2, 1.7, and 1.2 mg/kg, respectively. The ≥65 year-old group required significantly less propofol (mg/kg) for induction (compared to the 18–40-year-old group) and for the entire procedure (compared to all other groups) ($p < 0.001$).

ter adjusting for confounders. Conclusion: Elderly patients may require lower doses of propofol for procedural sedation

Analysis of Adverse Events Associated With Adult Moderate Procedural Sedation Outside the Operating Room

Sergey Karamnov, MD, Natalia Sarkisian, PhD,† Rebecca Grammer, DMD,* Wendy L. Gross, MD, MHCM,* and Richard D. Urman, MD, MBA**



Retrospective, 8 ans
143 000 patients : sédation modérée
52 incidents

(*J Patient Saf* 2014;

Analysis of Adverse Events Associated With Adult Moderate Procedural Sedation Outside the Operating Room

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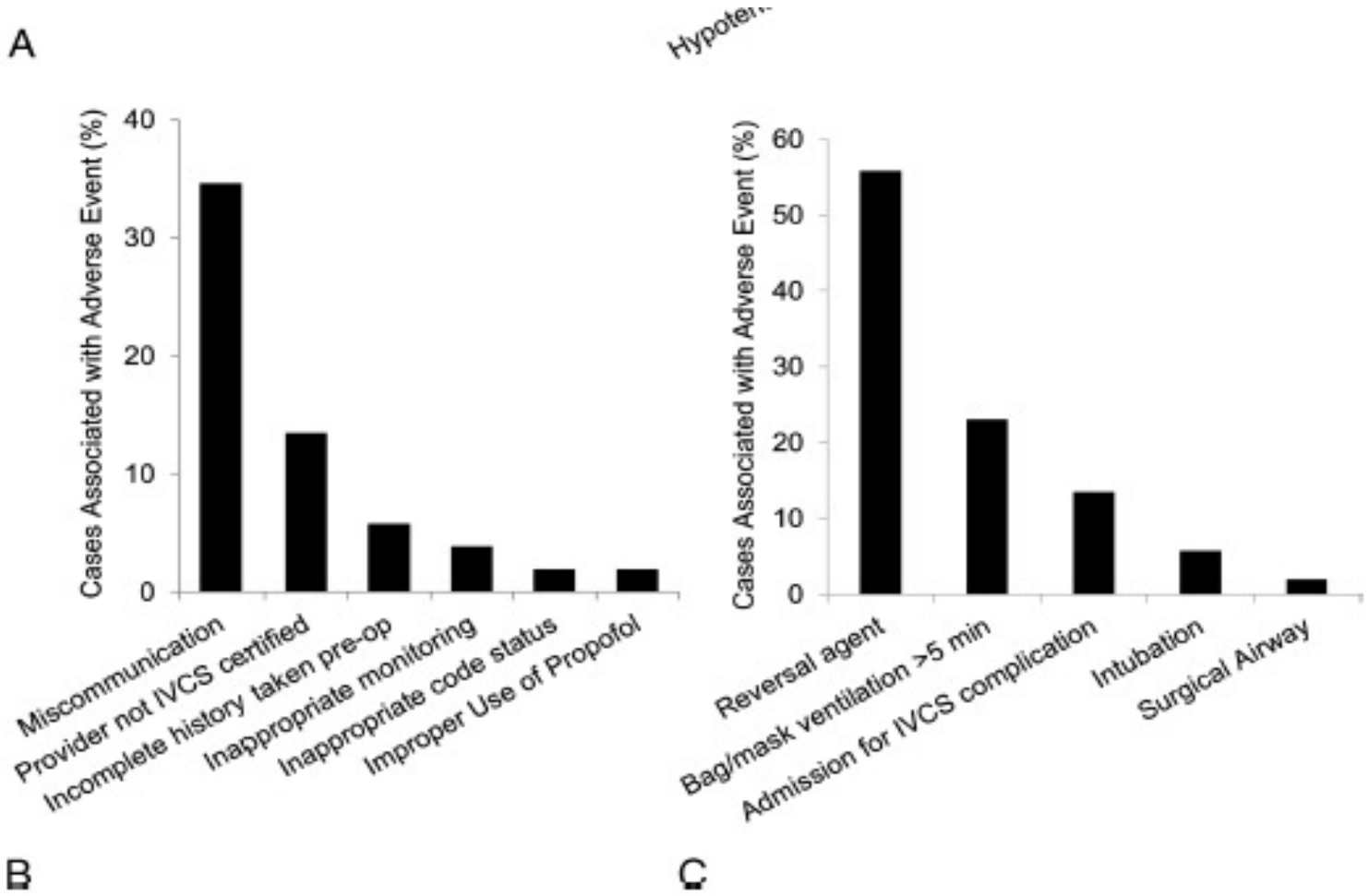
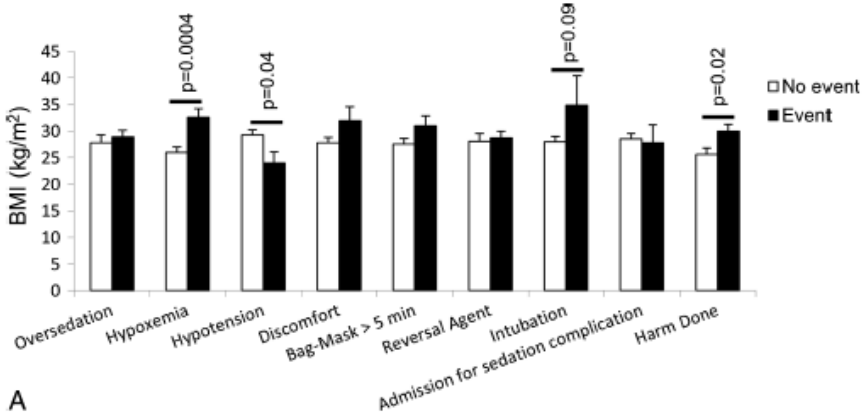


(*J Patient Saf* 2014;

Analysis of Adverse Events Associated With Adult Moderate
the Operating Room

ammer, DMD, Wendy L. Gross, MD, MHCM,**
*MD, MBA**



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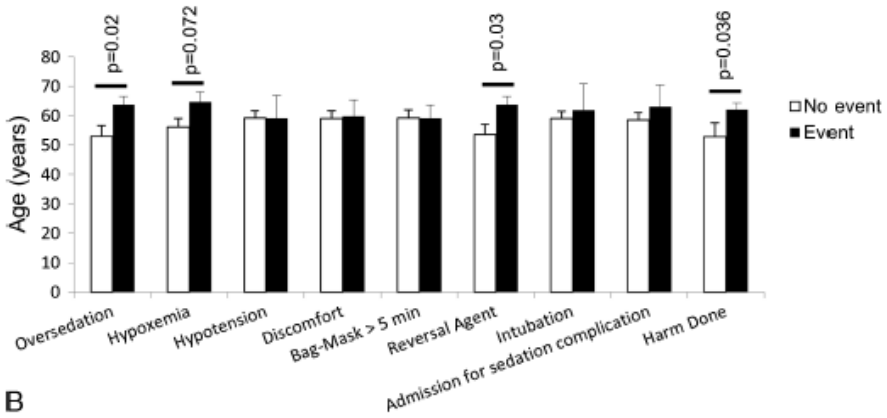

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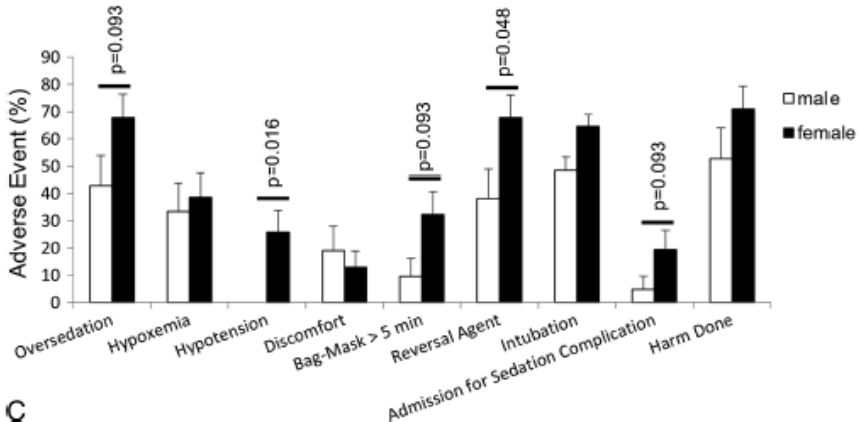

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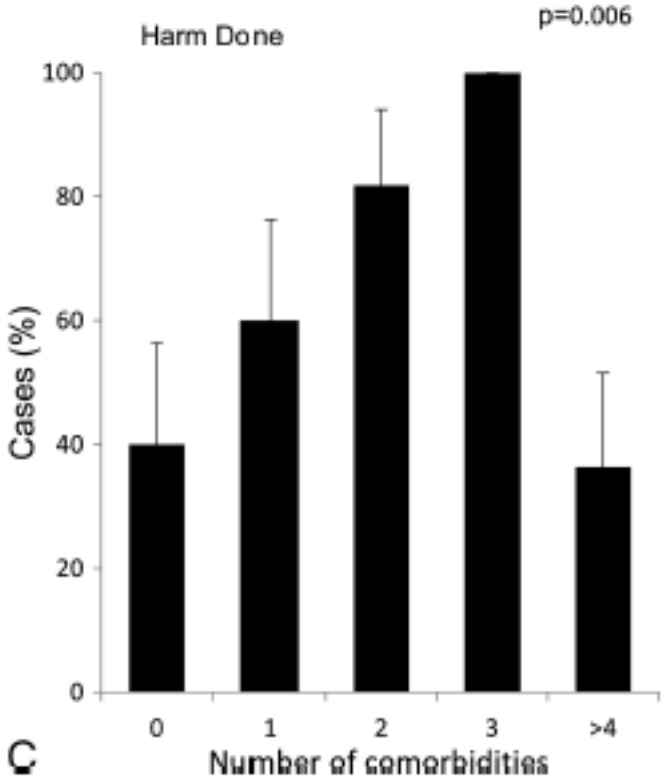

C

(*J Patient Saf* 2014;

Procedural Sedation in the Community Emergency Department: Initial Results of the ProSCED Registry

Table 5
Complications

Complication	ASA Class			Sedation Level			
	I	II	III	Light	Moderate	Deep	General Anesthesia
Agitation	0	0	1	1	0	0	0
Airway obstruction: responds to repositioning	1	0	0	0	0	1	0
Apnea: requiring BVM ventilation	4	5	0	0	2	5	2
Apnea: requiring reversal agent	2	0	0	0	1	1	0
Hypotension: resolves spontaneously	0	0	1	0	1	0	0
Hypotension: responds to saline bolus	1	0	1	0	2	0	0
Hypoxia: definition (pulse oximetry <93% greater than 60 seconds)	1	3	0	1	2	1	0
Hypoxia: requiring reversal agent	2	2	1	0	0	5	0
Hypoxia: requiring assisted BVM ventilation	1	1	0	0	0	2	0
Hypoxia: resolves spontaneously	1	0	0	1	0	0	0
Hypoxia: responsive to oxygen	5	7	2	1	6	7	0
Total no. of cases	18	18	6	4	14	22	2
Percent of cases for ASA class or level of sedation with a complication	2.5%	6.7%	15.4%	3%	2.6%	6.3%	40%

Complication descriptions and occurrence by ASA classifications and levels of sedation.
ASA = American Society of Anesthesiologists; BVM = bag valve mask.

ORIGINAL RESEARCH
Emergency Medicine Australasia (2011) 23, 466–473

David McD Taylor,[1,2] Anthony Bell,[7]

Risk factors for sedation-related events during procedural sedation in the emergency department

Table 2. Variables significantly associated with sedation-related airway events on multivariate analyses ($n = 2146$)

Variable	OR	95% CI	*P*
Age (years)			
<20†	1.0	–	
20–29	1.4	0.9–2.2	0.19
30–39	1.5	0.9–2.4	0.14
40–49	1.8	1.0–3.0	0.04
≥50	2.3	1.5–3.5	<0.001
Level of sedation			
Sedation drug‡			
Propofol	1.8	1.2–2.6	<0.01
Midazolam	1.6	1.1–2.2	<0.01
Fentanyl	1.4	1.1–1.9	<0.01
Morphine	1.1	0.7–1.8	0.56
Nitrous oxide	0.9	0.4–2.1	0.81
Ketamine	0.6	0.3–1.0	0.04

Ketofol for Procedural Sedation? Pro and Con

Steven M. Green, MD, Gary Andolfatto, MD, Baruch Krauss, MD, EdM

Ann Emerg Med 2011; 57:444

Table 2. ED ketofol randomized controlled trials.

Study Characteristics	Messenger, 2008[5]	Shah, 2011[24]	David, 2011[25]
Patients	63 adults or teenagers	136 children	100 adults+93 children
Procedures	Mostly fracture reduction	Fracture reduction	Mostly fracture reduction
Ketofol arm	Ketamine 0.3 mg/kg, followed 2 min later by titrated propofol	Ketamine and propofol each 0.5 mg/kg, followed by propofol 0.5 mg/kg prn	Ketamine 0.5 mg/kg+propofol 1 mg/kg, followed by propofol 0.5 mg/kg prn
Comparison arm	Titrated propofol (2 min after fentanyl 1.5 μg/kg)	Ketamine 1 mg/kg, followed by 0.25 mg/kg prn	Propofol 1 mg/kg, followed by 0.5 mg/kg prn
Procedural success, %	Ketofol 97, propofol 100	Ketofol 96, ketamine 100	100 in both groups
Transient hypoxia, %	Ketofol 38, propofol 77 (saturation <92 at any time)	Ketofol 5, ketamine 3	Ketofol 7, propofol 12
Median recovery, min	Ketofol 28, propofol 37	Ketofol 10, ketamine 12	Not reported
Primary outcome	Fewer total sedation adverse events with ketofol, according to a composite outcome table	Total sedation time 3 min shorter with ketofol	Similar incidence of respiratory depression
Secondary outcomes	Similar satisfaction scores, more propofol required with ketofol	Ketofol versus ketamine demonstrated similar efficacy and incidence of respiratory adverse events; ketofol associated with less vomiting and greater provider and patient satisfaction	Ketofol versus propofol associated with greater provider satisfaction, less propofol administered, and a trend toward more consistent sedation quality

Before ketofol can be recommended, it needs to be established that the combination offers a tangible benefit over either agent alone, something not evident at this time.

Ketamine-Propofol Combination (Ketofol) Versus Propofol Alone for Emergency Department Procedural Sedation and Analgesia: A Randomized Double-Blind Trial

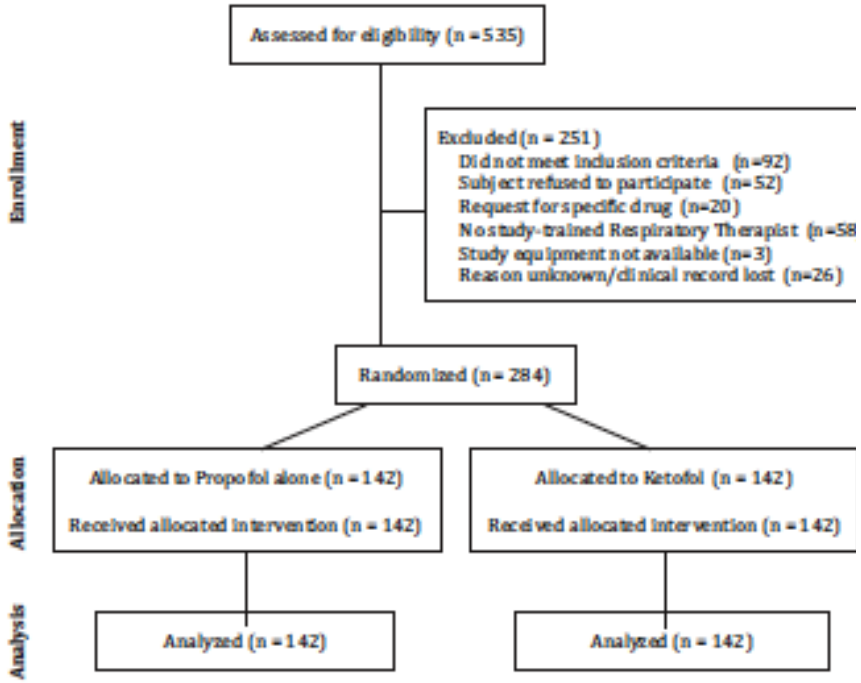

Figure 1. Flow of study subjects.

Table 2. Characteristics of patients receiving intravenous ketofol or propofol.

Characteristic	Ketofol (n=142)	Propofol (n=142)
Age, y		
Median (IQR)	48 (25–66)	54 (35–68)
Range	14–95	14–95
Age distribution, No. (%), y		
14–21	29 (20)	15 (11)
22–49	45 (32)	48 (34)
50–74	48 (34)	56 (39)
75 or older	20 (14)	23 (16)
Male, No. (%)	71 (50)	69 (49)
Weight, kg		
Median (IQR)	73 (60–82)	74 (64–86)
Range	20–164	43–132
ASA class, No. (%)		
ASA classes 1 and 2	137 (97)	138 (97)
ASA class 3	5 (3)	4 (3)
Procedure, No. (%)		
Fracture reduction	61 (43)	65 (46)
Dislocation reduction	24 (17)	21 (15)
Incision and drainage	28 (20)	23 (16)
Cardioversion	17 (12)	21 (15)
Chest tube insertion	3 (2)	6 (4)
Laceration repair	5 (3)	2 (1)
Hernia reduction	2 (1)	0
Gastroscopy	1 (1)	0
Stool disimpaction	1 (1)	4 (3)

Table 2. Characteristics of patients receiving intravenous ketofol or propofol.

Andolfatto G, Ann Emerg Med 2012; 59:504

Ketamine-Propofol Combination (Ketofol) Versus Propofol Alone for Emergency Department Procedural Sedation and Analgesia: A Randomized Double-Blind Trial

Conclusion: Ketofol for ED procedural sedation does not result in a reduced incidence of adverse respiratory events compared with propofol alone. Induction time, efficacy, and sedation time were similar; however, sedation depth appeared to be more consistent with ketofol. [Ann Emerg Med. 2012;59:504-512.]

Table 3. Respiratory events and interventions.

Result	Ketofol, No. (%) [95% CI] (n=142)	Propofol, No. (%) [95% CI] (n=142)	Difference, % (95% CI)
Patients experiencing a respiratory event	43 (30) [23 to 38]	46 (32) [25 to 41]	2 (−9 to 13)*
Incidence of respiratory events†			
Oxygen desaturation	38 (27) [20 to 35]	36 (25) [19 to 33]	2 (−9 to 12)
Central apnea	15 (11) [7 to 17]	13 (9) [6 to 15]	2 (−5 to 9)
Partial upper airway obstruction	11 (8) [4 to 13]	11 (8) [4 to 13]	0
Complete upper airway obstruction	6 (4) [2 to 9]	4 (3) [1 to 7]	1 (−3 to 6)
Laryngospasm	0	0	0
Pulmonary aspiration	0	0	0
Respiratory interventions†			
Stimulation/airway repositioning	5 (4) [2 to 8]	14 (10) [6 to 16]	6 (0.4 to 13)
Stimulation/airway repositioning plus oxygen	35 (25) [18 to 32]	31 (22) [16 to 29]	3 (−7 to 13)
Stimulation/airway repositioning, oxygen, plus bag-valve-mask	3 (2) [0.7 to 6]	1 (1) [0.1 to 4]	1 (−2 to 5)

Andolfatto G, Ann Emerg Med 2012; 59:504

A Randomized Controlled Trial of Ketamine/Propofol Versus Propofol Alone for Emergency Department Procedural Sedation

Henry David, MD, Joseph Shipp, PAC

From the Department of Emergency Medicine, University of Missouri–Columbia, Columbia, MO.

Conclusion: Compared with procedural sedation with propofol alone, the combination of ketamine and propofol did not reduce the incidence of respiratory depression but resulted in greater provider satisfaction, less propofol administration, and perhaps better sedation quality. [Ann Emerg Med. 2011;57:435-441.]

Table 2. Baseline characteristics of ketamine/propofol and propofol-alone groups.

Group Characteristics	Ketamine/Propofol (n=97)	Propofol Alone (n=96)
Age, y, median (range)	20 (2–83)	22 (2–75)
Age <18 y (%)	48 (50)	45 (47)
Male (%)	52 (54)	62 (65)
Weight, kg, median (range)	60 (12–120)	70 (10–130)
ASA class I (%)	88 (91)	90 (94)
ASA class II (%)	9 (9)	6 (6)
Fentanyl dose (0.5 μg/kg) (%)	74 (76)	69 (72)
Fentanyl dose (1.0 μg/kg) (%)	23 (24)	27 (28)
Procedure length, min, median (range)	15 (6–33)	15 (6–39)
Procedure (%)		
Fracture/dislocation	84 (87)	85 (89)
Suturing	9 (9)	5 (5)
Foreign body removal	1 (1)	3 (3)
Abscess I&D	2 (2)	3 (3)
Chest tube insertion	1 (1)	0

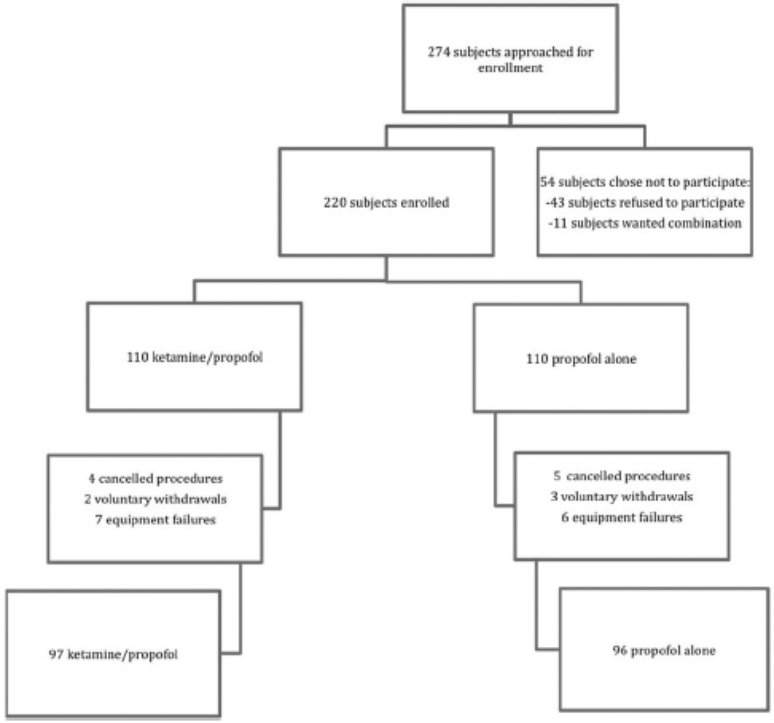

Figure 1. Flow chart of patients included in the statistical analysis.

Randomized, Double-Blinded, Clinical Trial of Propofol, 1:1 Propofol/Ketamine, and 4:1 Propofol/Ketamine for Deep Procedural Sedation in the Emergency Department

James R. Miner, MD*; Johanna C. Moore, MD; Erin J. Austad, MD; David Plummer, MD; Laura Hubbard, PharmD; Richard O. Gray, MD

Conclusion: We found a similar frequency of airway and respiratory adverse events leading to intervention between propofol alone and either 1:1 or 4:1 ketofol. [Ann Emerg Med. 2014;■:1-9.]

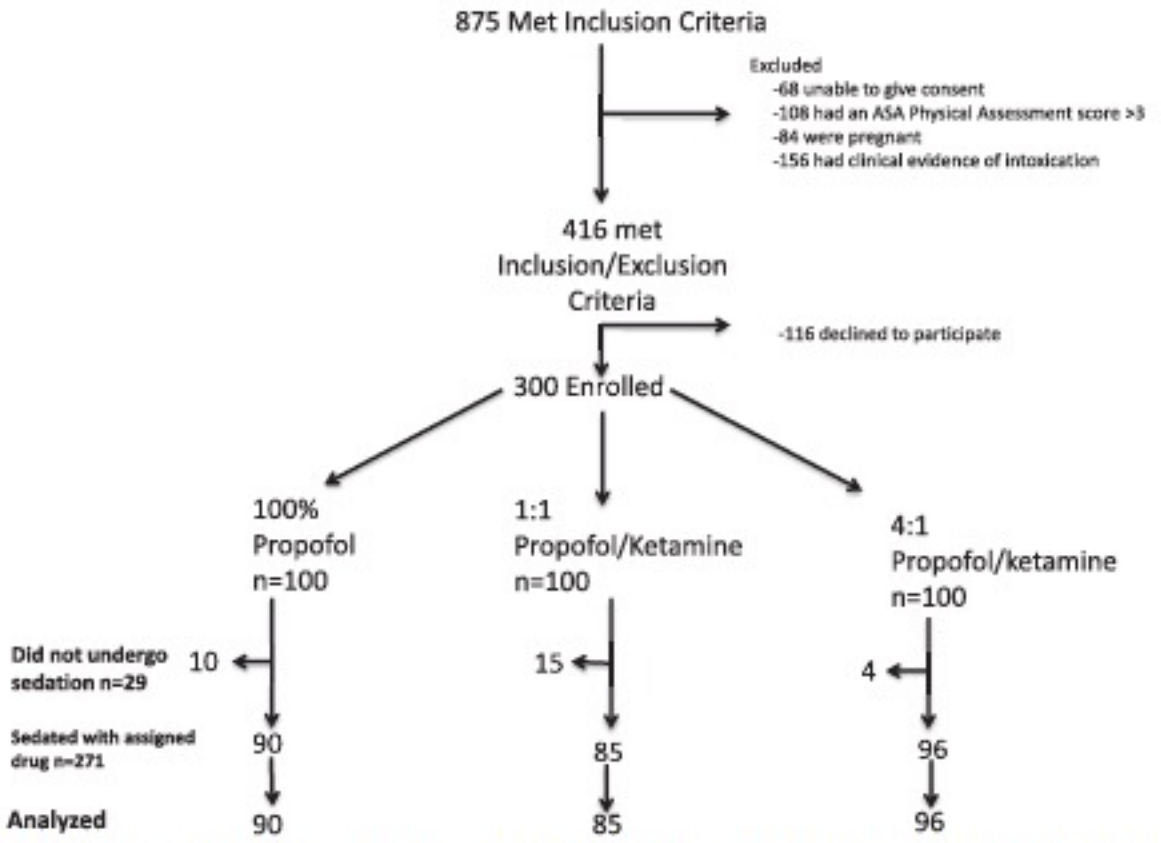

Figure 2. Patient flow during study period. *ASA*, American Society of Anesthesiologists.

Randomized, Double-Blinded, Clinical Trial of Propofol, 1:1 Propofol/Ketamine, and 4:1 Propofol/Ketamine for Deep Procedural Sedation in the Emergency Department

James R. Miner, MD*; Johanna C. I
Laura Hubbard

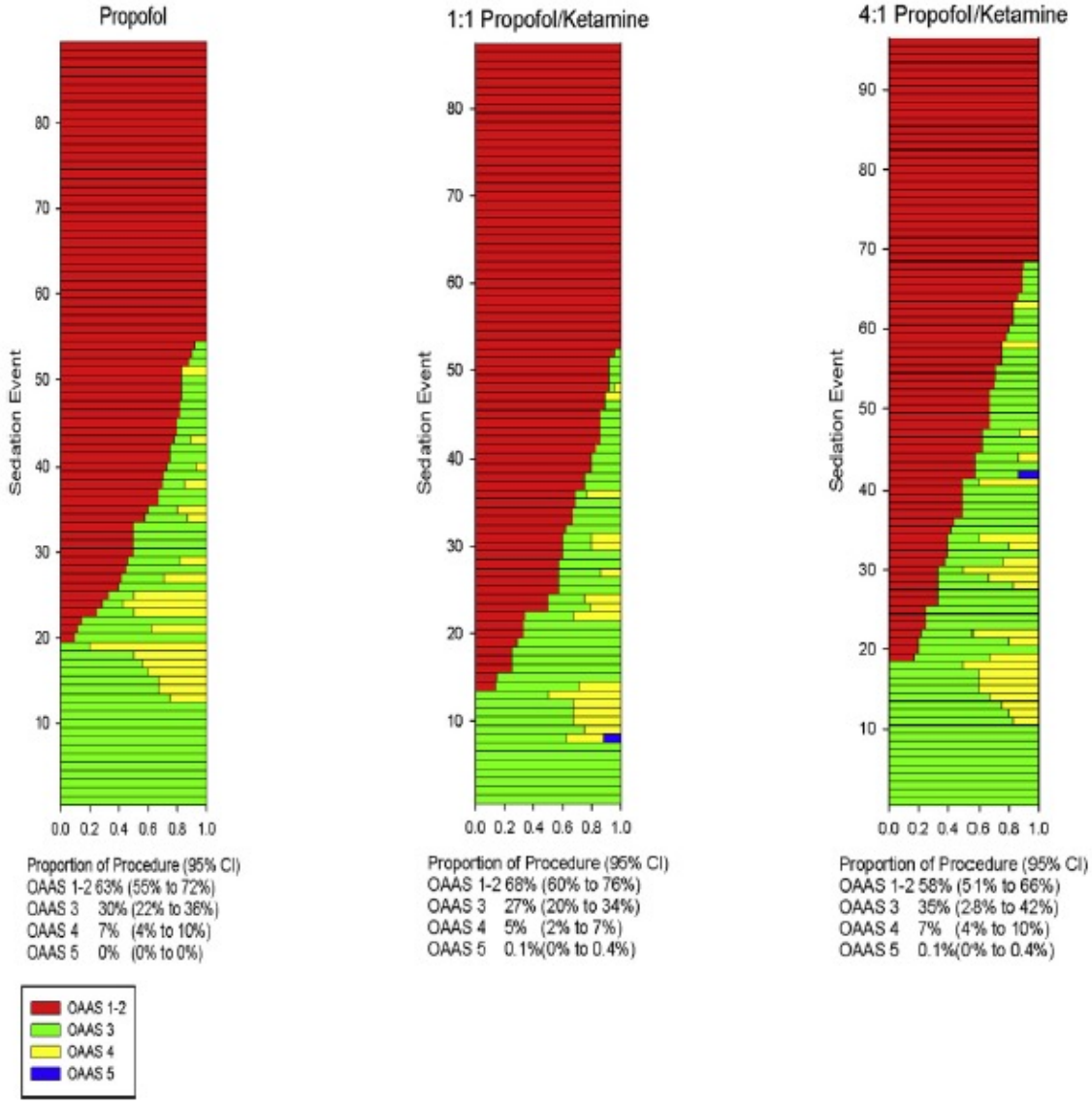

Figure 3. Proportion of each procedure at each OAAS level.

Randomized, Double-Blinded, Clinical Trial of Propofol, 1:1 Propofol/Ketamine, and 4:1 Propofol/Ketamine for Deep Procedural Sedation in the Emergency Department

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Temps de récupération

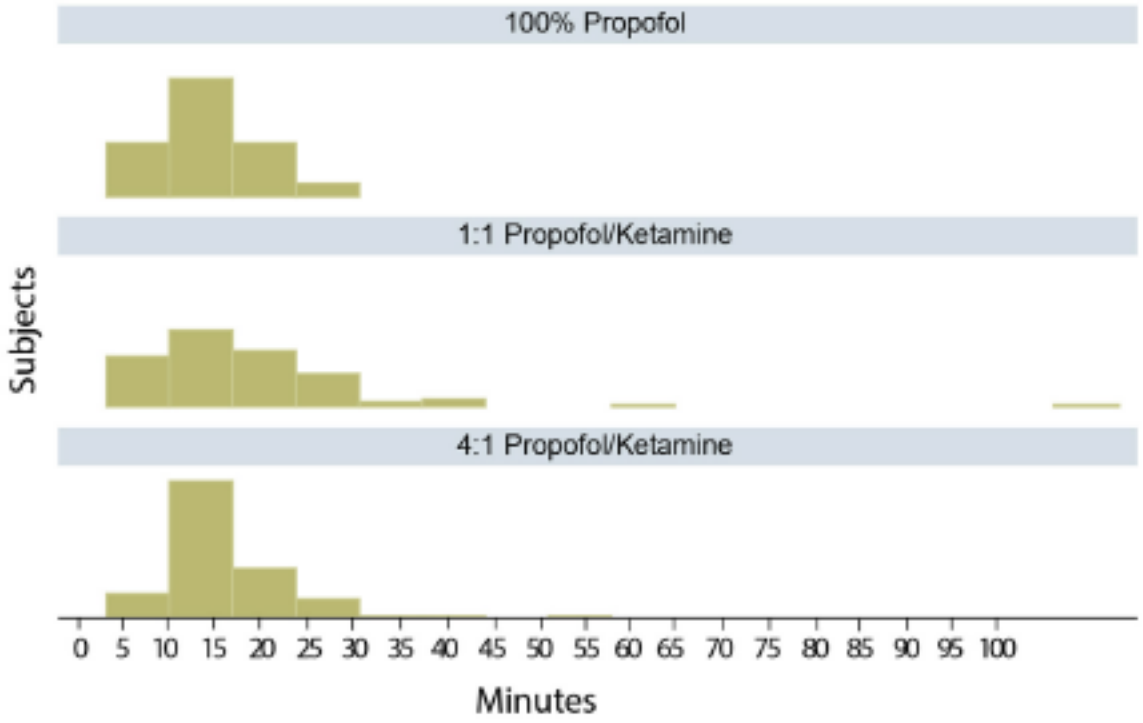

Figure E1. Total time. A single case from the 1:1 group with a recovery time of 223 minutes and a total time of 231 minutes was not included in the figure.

Academic Emergency Medicine
Official Journal of the Society for Academic Emergency Medicine

PROGRESSIVE CLINICAL PRACTICE

Ketamine-Propofol Versus Propofol Alone for Procedural Sedation in the Emergency Department: A Systematic Review and Meta-analysis

Justin W. Yan, MD, MSc, FRCPC, Shelley L. McLeod, MSc, and Alla Iansavitchene, MLIS

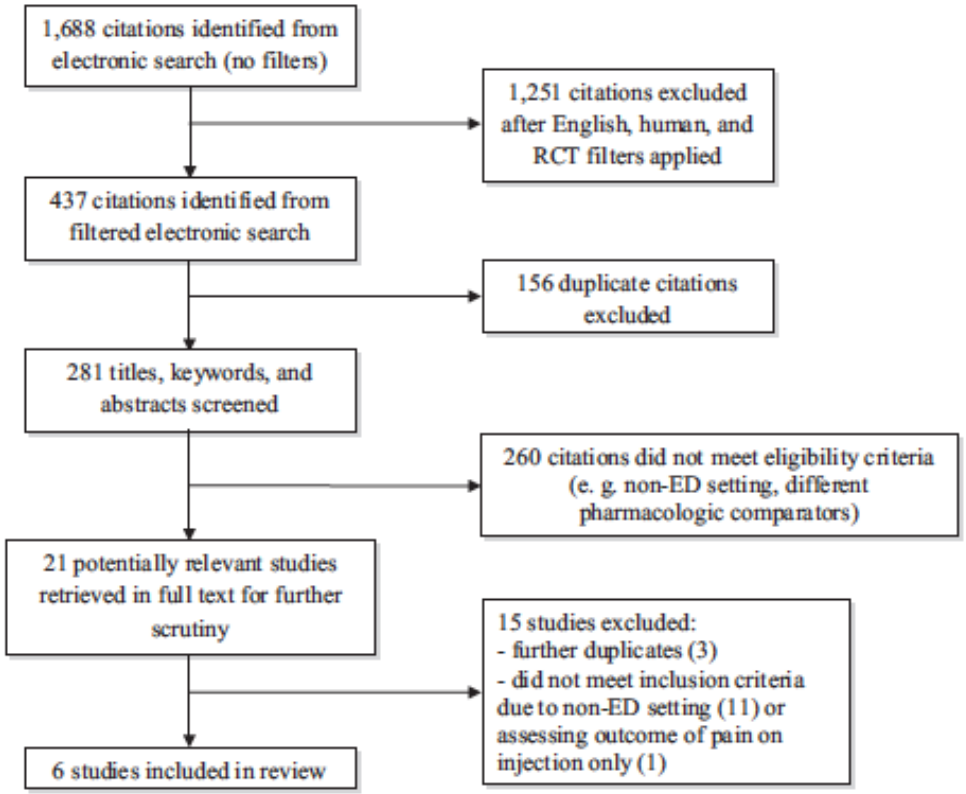

Figure 1. Flow diagram of included studies. RCT = randomized controlled trial.

Academic Emergency Medicine
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PROGRESSIVE CLINICAL PRACTICE

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Justin W. Yan, MD, MSc, FRCPC, Shelley L. McLeod, MSc, and Alla Iansavitchene, MLIS

Trial
Andolfatto (2012)[19]
David (2011)[20]
Del Pizzo (2011)[21]
Miner (2015)[18]
Phillips (2010)[1]
Sawas (2013)[22]
Summary score

Le débat reste ouvert !

Conclusions: The premise of combining ketamine with propofol is based on the many synergies that theoretically exist between these two agents. In this study, K-P had a lower frequency of adverse respiratory events in patients undergoing PSA in the ED compared to propofol alone.

Les conditions de sécurité sont-elles les mêmes en France / USA ?

Minneapolis
Health Department

France - CHU


Abercrombie & Fitch Emergency Department
Emergency

Adverse Events With Ketamine Versus Ketofol for Procedural Sedation on Adults: A Double-blind, Randomized Controlled Trial

Fabien Lemoel, MD, Julie Contenti, MD, Didier Giolito, MD, Mathieu Boiffier, MD, Jocelyn Rapp, MS, Jacques Istria, MD, Marc Fournier, MD, François-Xavier Ageron, MD and Jacques Levraut, MD, PhD

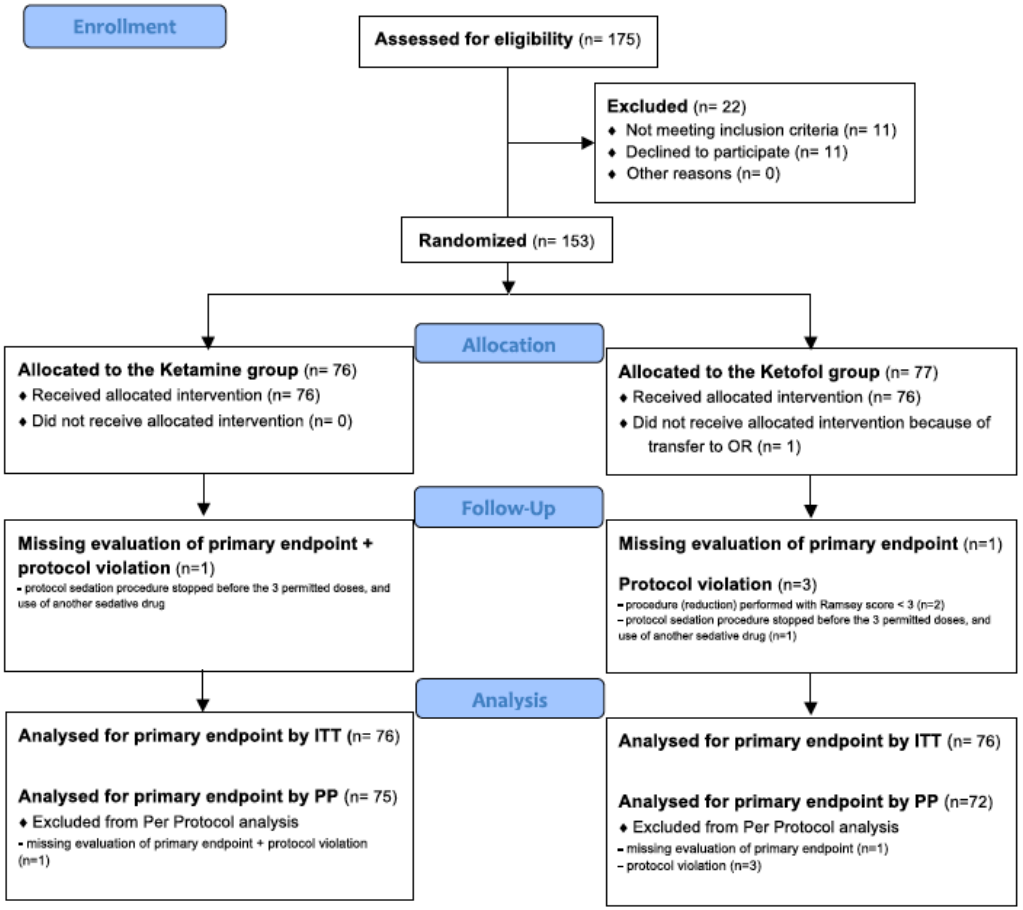

Figure 1. The CONSORT flow chart. ITT = intention to treat; PP = per protocol; OR = operating room. [Color figure can be viewed at wileyonlinelibrary.com]

Adverse Events With Ketamine Versus Ketofol for Procedural Sedation on Adults: A Double-blind, Randomized Controlled Trial

Fabien Lemoel, MD, Julie Contenti, MD, Didier Giolito, MD, Mathieu Boiffier, MD, Jocelyn Rapp, MS, Jacques Istria, MD, Marc Fournier, MD, François-Xavier Ageron, MD and Jacques Levraut, MD, PhD

Table 1
Characteristics of the Study Subjects

Characteristics	Ketamine (n = 76)	Ketofol (n = 76)
Age (y)		
Median (IQR)	47 (25–68)	49 (28–65)
Range	18–94	18–94
Age distribution (y), No. (%)		
18–21	8 (10)	8 (11)
22–49	32 (42)	28 (37)
50–74	24 (32)	33 (43)
75 or older	12 (16)	7 (9)
Male, No. (%)	43 (57)	37 (49)
Ideal body weight (kg)		
Median (IQR)	72 (62–77)	67 (62–77)
Range	47 to >100	42 to > 100
ASA class, No. (%)		
Class 1	51 (67.1)	53 (69.7)
Class 2	25 (32.9)	23 (30.3)
Procedure, No. (%)		
Fracture reduction	41 (53.9)	37 (48.7)
Dislocation reduction	44 (57.9)	45 (59.2)
Other indication	0	1 (1.3)
Localization, No. (%)		
Lower limb	36 (47.4)	33 (43.4)
Upper limb	40 (52.6)	43 (56.6)

ASA = American Society of Anesthesiologists; IQR = interquartile range.

Table 2
Depth of Sedation and Number of Doses Required Between Study Groups

	Ketamine (n = 76)	Ketofol (n = 76)	Difference
Depth of sedation with Ramsay score (%)			
<4	5 (6.6)	11 (14.5)	–7.9 (–18.2 to 2.2)
4	36 (47.4)	29 (38.2)	9.2 (–6.4 to 24.2)
5	22 (29.0)	23 (30.3)	–1.3 (–15.6 to 13.0
6	13 (17.1)	13 (17.1)	0 (–12.1 to 12.1
Number of doses required			
Only one full dose	53 (69.7)	43 (56.6)	13.2 (–2.1 to 27.6)
One extra dose	16 (21.1)	16 (21.1)	0 (–13.0 to 13.0)
Two extra doses	7 (9.2)	17 (22.4)	–13.2 (–24.7 to –1.5)

Data are reported as n (%) or percent (95% CI).

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CONCLUSION

Compared with ketamine, ketofol for ED procedural sedations on adults improves patient recovery and comfort by limiting the incidence of psychodysleptic events and unpleasant recoveries, with a 22% absolute reduction in our study (number needed to treat = 5). Nonpharmacologic interventions as well as medications required by these recovery reactions seem also to be less frequent with ketofol. Furthermore, alongside a low incidence of respiratory and hemodynamic events, another advantage of ketofol over ketamine would be its favorable digestive profile, as our study pointed out a threefold reduction of emesis for patients who received ketofol. When propofol deep sedation is not a valuable or available sedative option, ED physicians may therefore prefer to use ketofol rather than ketamine alone for ED procedural sedations on adults.

Results: A total of 152 patients completed the study, 76 in each arm. Compared with ketamine, ketofol determined a 22% reduction in recovery reactions incidence ($p < 0.01$) and less clinical and pharmacologic interventions required by these reactions. There was no serious adverse event in both groups. Rates in hemodynamic or respiratory events as well as satisfaction scores were similar. Significantly fewer patients experienced emesis with ketofol, with a threefold reduction in incidence compared with ketamine.

Conclusion: We found a significant reduction in recovery reactions and emesis frequencies among adult patients receiving emergency procedural sedations with ketofol, compared with ketamine.

KETOFOL ?

Ketofol for Procedural Sedation Revisited: Pro and Con

Steven M. Green, MD*; Gary Andolfatto, MD; Baruch S. Krauss, MD, EdM

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In summary, ketofol is effective and not harmful; however, emergency physicians should not assume that adding ketamine provides any objective benefit over propofol. It is possible that researchers will ultimately identify subsets of patients for whom ketofol may present a measurable advantage; however, there is no evidence to confirm this.

propofol

Dans quelles conditions ?

- **Décret n°94-1050 du 5 décembre 1994 relatif aux conditions techniques de fonctionnement des établissements de santé en ce qui concerne la pratique de l'anesthésie et modifiant le code de la santé publique (troisième partie : Décrets)**

Structured sedation programs in the emergency department, hospital and other acute settings: protocol for systematic review of effects and events

Siobhán McCoy[1,2], Abel Wakai[3], Carol Blackburn[1,2], Michael Barrett[1,2,6], Adrian Murphy[2], Maria Brenner[4], Philip Larkin[4], Gloria Crispino-O'Connell[2], Savithiri Ratnapalan[5] and Ronan O'Sullivan[1,2,6,7*]

Objectives

We hypothesize that programs of education for healthcare professionals using procedural sedation outside the operating theatre are beneficial in improving patient care, safety, practitioner competence and reducing adverse event rates.

Discussion: This review will cohere evidence on the effectiveness of structured PSPs on sedation events and patient outcomes within the hospital and other acute care settings. In addition, it will examine key components identified within a PSP associated with patient safety and improved patient outcomes.

Clinical Practice Advisory: Emergency Department Procedural Sedation With Propofol

Recovery and Discharge

As with any procedural sedation, patients should be monitored until they have returned to their baseline mental status. The exact timing of patient observation before discharge will be variable because of the nature of propofol redistribution and the clinical circumstances. The redistributive nature of

Surveillance prolongée identique à une SSPI

Clinical Policy: Procedural Sedation and Analgesia in the Emergency Department

[Ann Emerg Med. 2014;63:247-258.]

From the American College of Emergency Physicians Clinical Policies Subcommittee (Writing Committee) on Procedural Sedation and Analgesia:
Steven A. Godwin, MD (Subcommittee Chair)

CRITICAL QUESTIONS

1. In patients undergoing procedural sedation and analgesia in the emergency department, does preprocedural fasting demonstrate a reduction in the risk of emesis or aspiration?

Recommendations

Level A recommendations. None specified.

Level B recommendations. Do not delay procedural sedation in adults or pediatrics in the ED based on fasting time. Preprocedural fasting for any duration has not demonstrated a reduction in the risk of emesis or aspiration when administering procedural sedation and analgesia.

Level C recommendations. None specified.

Standard-risk patient[a]

Oral intake in the prior 3 hours	Procedural Urgency[b]			
	Emergent Procedure	*Urgent Procedure*	*Semi-Urgent*	*Non-Urgent*
Nothing	All levels of sedation	All levels of sedation	All levels of sedation	All levels of sedation
Clear liquids only	All levels of sedation	All levels of sedation	Up to and including brief deep sedation	Up to and including extended moderate sedation
Light snack	All levels of sedation	Up to and including brief deep sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only
Heavier snack or meal	All levels of sedation	Up to and including extended moderate sedation	Minimal sedation only	Minimal sedation only

Higher-risk patient[a]

Oral intake in the prior 3 hours	Procedural Urgency[b]			
	Emergent Procedure	*Urgent Procedure*	*Semi-Urgent*	*Non-Urgent*
Nothing	All levels of sedation	All levels of sedation	All levels of sedation	All levels of sedation
Clear liquids only	All levels of sedation	Up to and including brief deep sedation	Up to and including extended moderate sedation	Minimal sedation only
Light snack	All levels of sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only	Minimal sedation only
Heavier snack or meal	All levels of sedation	Up to and including dissociative sedation; non-extended moderate sedation	Minimal sedation only	Minimal sedation only

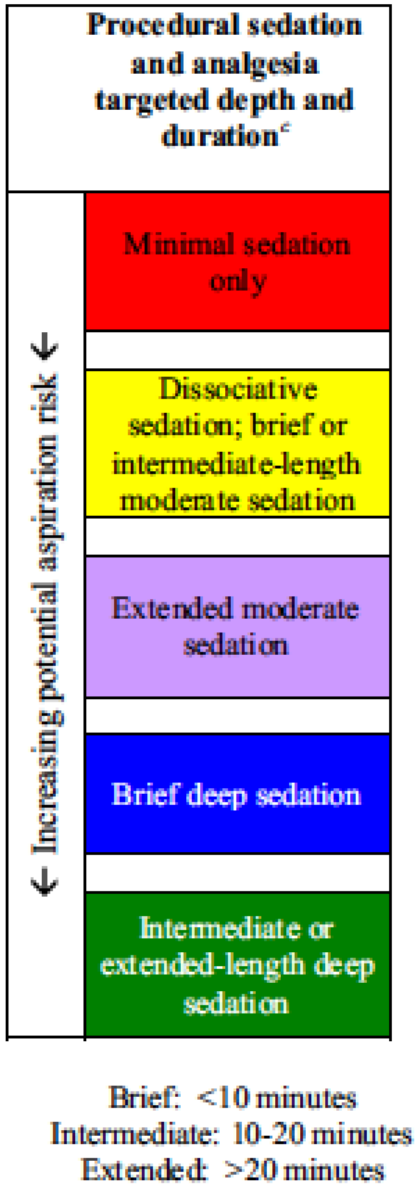


Figure. Prudent limits of targeted depth and length of ED procedural sedation and analgesia according to presedation assessment of aspiration risk

Clinical Practice Advisory: Emergency Department Procedural Sedation With Propofol

Personnel

The standard ED sedation team includes 2 individuals: a nurse dedicated to patient monitoring and an emergency physician performing the procedure while prepared for resuscitation if required.[21] Emergency physicians are, by the nature of their residency training, qualified to administer deep sedation and prepared to rescue patients from inadvertent or excessive sedation. The specific controversy with ultrashort-acting agents such as propofol is whether there should be an emergency physician separate from the procedure who is wholly dedicated to drug administration and patient monitoring.

IDE dédiée

Urgentiste formé

± Urgentiste dédié à la surveillance

physician present. Nevertheless, the provision of an emergency physician dedicated to sedation oversight seems prudent whenever feasible.

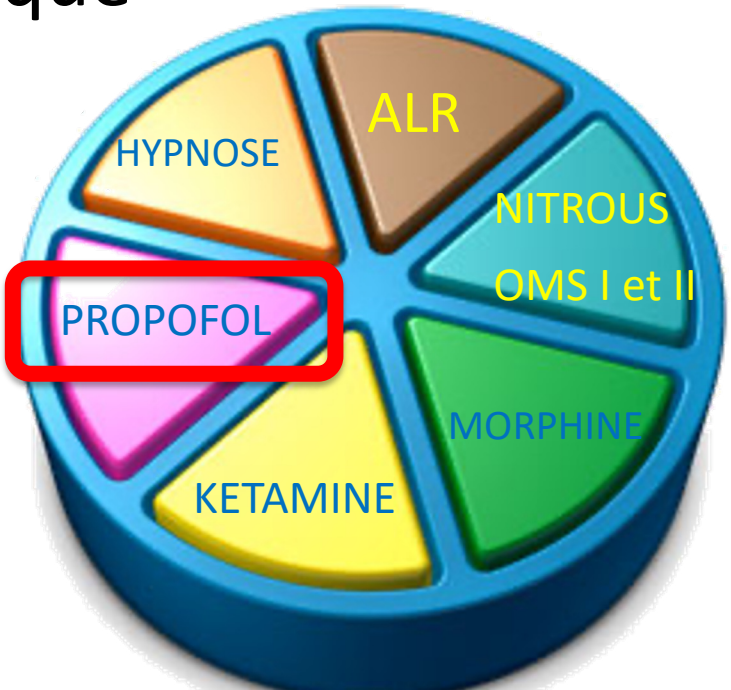
Une potion universelle ?

…. pas pour tous


10 : 32 : 09 : 22
ULANC
VIGNY

Cas clinique

- Homme 28 ans
- ATCD : asthme – traitement ventoline
- Sportif professionnel en trampoline
- Luxation de cheville hyperalgique
- EN à 10/10
- Distance : 40 min de l'hôpital



Une histoire vraie : Quelle stratégie Analgésique ?

Homme de 30 ans,

Pas d'ATCD

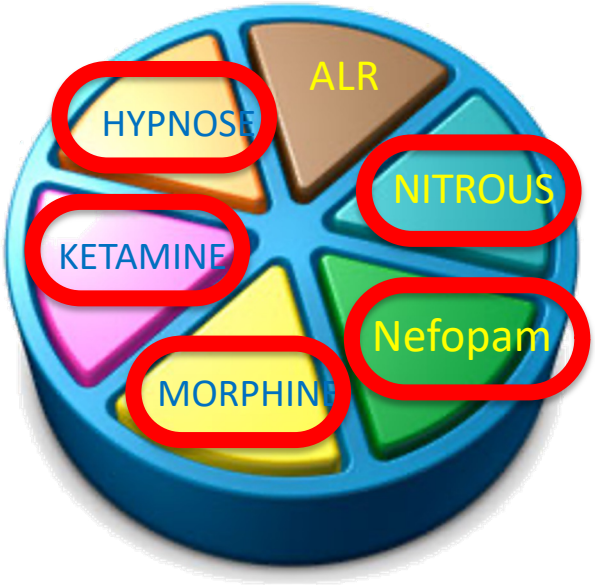
Sportif haut niveau

Base de loisir de Cergy

Fracture luxation de hanche

EN 10/10

Quizz



Une histoire vraie : Quelle stratégie Analgésique ?

Homme de 22 ans,

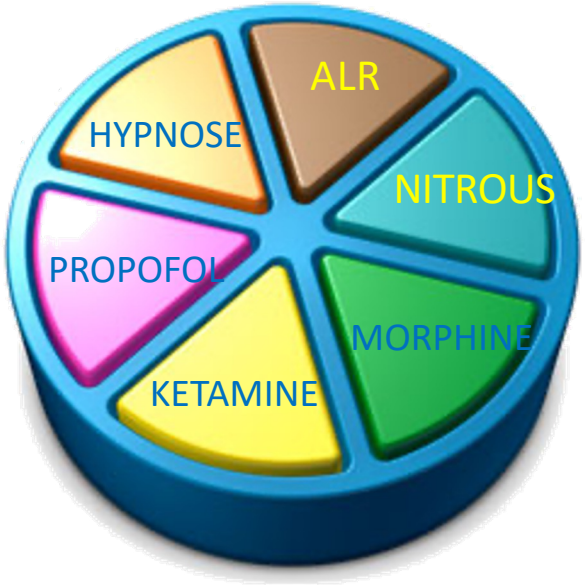
Pas d'ATCD

Rugby professionnel

Luxation d'épaule

EN ?

Quizz



Situation clinique : Stratégie Analgésique ?

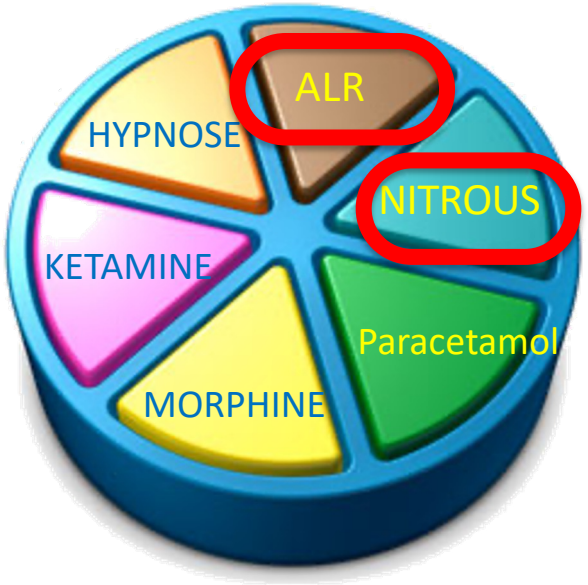
Quizz

Femme de 85 ans - SMUR

ATCD : HTA, I cardiaque, dans sa baignoire

Fr fermée du col fémoral

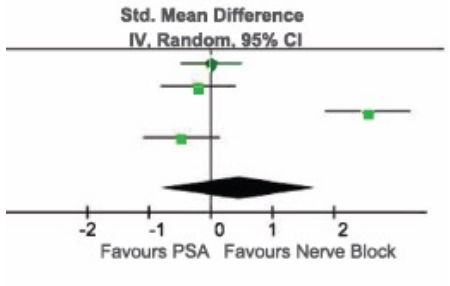
EN : 10/10



JACEP Open 2023;4:e12886.

Procedural sedation and analgesia versus nerve blocks for reduction of fractures and dislocations in the emergency department: A systematic review and meta-analysis

Maybritt I. Kuypers MD[1] | Lars I. Veldhuis MD[2] | Francis Mencl MD[3] | Anne van



Conclusion: Based on the available evidence, NBs performed by emergency physicians are as effective as PSA in managing pain during orthopedic reductions in the ED. NBs are associated with fewer adverse events and shorter LOS in the ED. The quality of evidence is low.

PREHOSPITAL TRAUMA ANALGESIA

Stephen H. Thomas, MD, MPH*† and Sanjay Shewakramani, MD*

The Journal of Emergency Medicine, Vol. 35, No. 1, pp. 47–57, 2008

CONCLUSION

The literature is imperfect, but there is clear evidence supporting the safety of prehospital analgesia. EMS providers should assess the available information in light of their own systems, and consider how they can safely improve pain relief. In balancing the laudable desire to "do no harm," those designing out-of-hospital pain relief protocols should keep in mind that "*primum non nocere*" also means it is unacceptable to allow patients to suffer needlessly.

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Je vous remercie de votre attention

Questions ?

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