

Prise en charge de la douleur en réanimation. Quoi de neuf?

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Qu'en vous pensiez que j'étais mort...

*Mon quotidien dans le coma, de Matthieu Blanchin
(Futuropolis)*



Mme K. 23 ans

Réa J4 pour

- détresse respiratoire aiguë
- syndrome drépanocytaire majeur
- syndrome thoracique aigu
- embolie pulmonaire proximale bilatérale
- infarctus pulmonaires multiples
- crise vaso-occlusive
- nécrose médullaire diffuse
- syndrome douloureux sévère diffus

- ✓ O2 HFNC qsp SpO2 100%
 - ✓ transfusion puis érythrophérèse
 - ✓ protocole analgésie hémato :
 - ✓ paracétamol+nefopam
 - ✓ PCA morphine/droloptan/kétamine
- 2mg 0.1mg 2mg

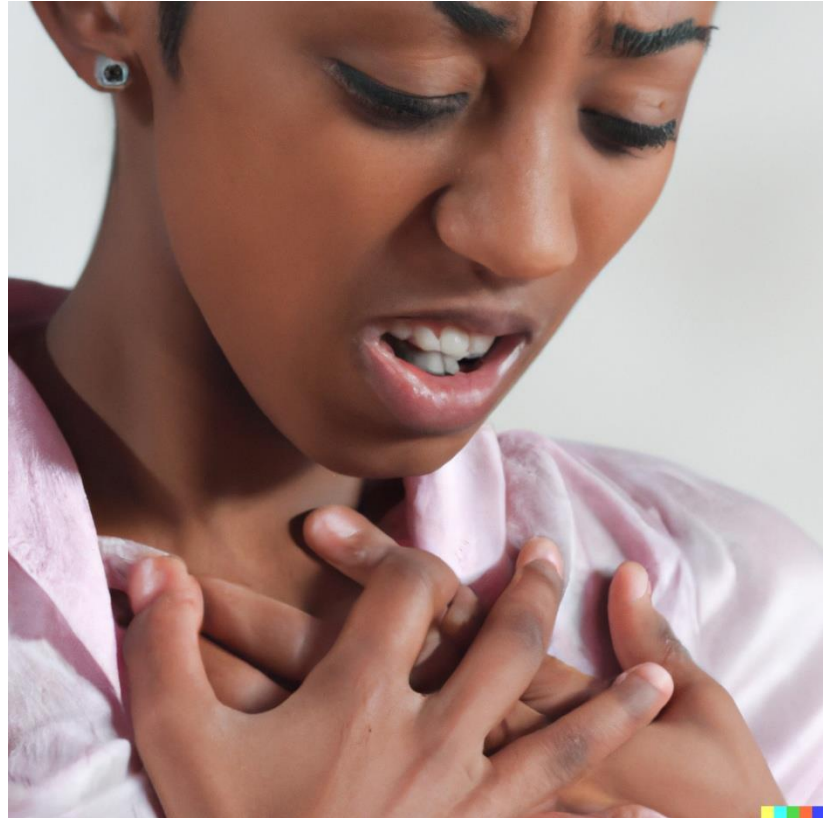


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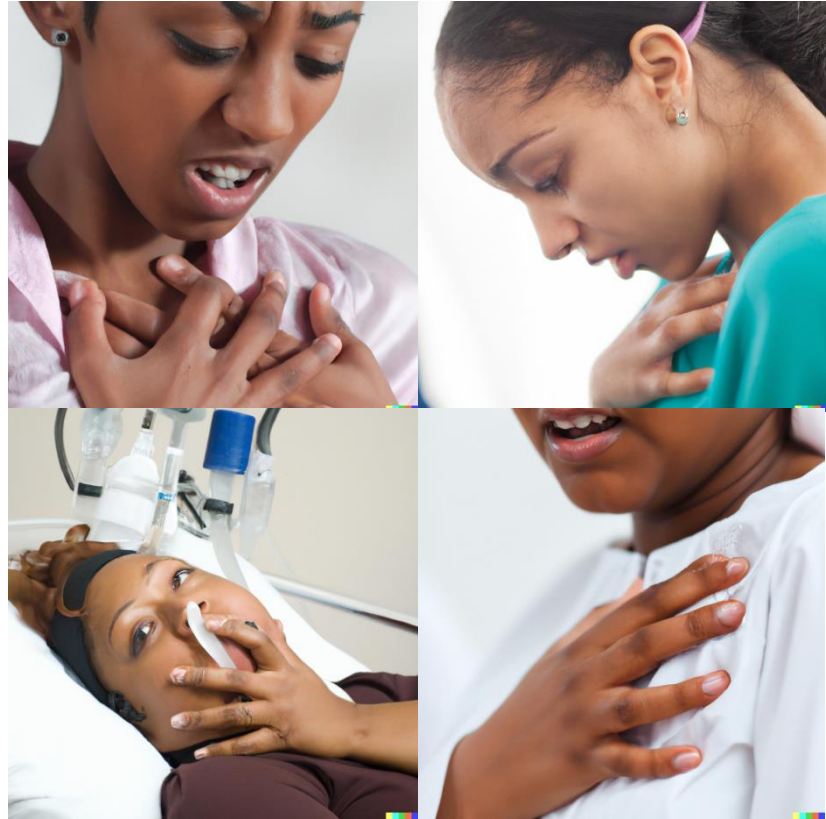


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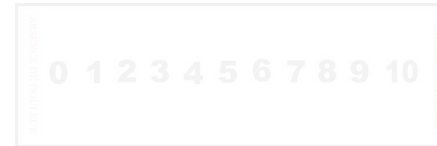


" +4 "	Agitée
" +3 "	
" +2 "	
" +1 "	
" 0 "	Eveillée à endormie Calme
" -1 "	Sédation à Coma
" -2 "	
" -3 "	
" -4 "	
" -5 "	

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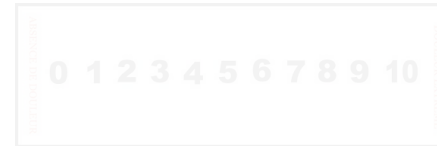


Chaque chose, de Julien Neel (Gallimard)



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" +3 "	
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Chaque chose, de Julien Neel (Gallimard)



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0 1 2 3 4 5 6 7 8 9 10



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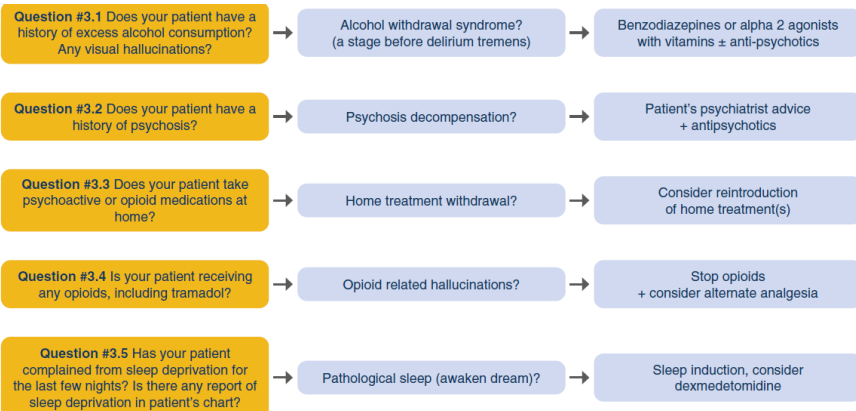
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Delirium in critical illness: clinical manifestations, outcomes, and management

Joanna L. Stollings^{1,2*}, Katarzyna Kotfis³, Gerald Chanques⁴, Brenda T. Pun^{1,5}, Pratik P. Pandharipande^{1,5,6} and E. Wesley Ely^{1,5,7,8}

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Question #1 Do you find any change in your patient's mental status or does your patient have any inappropriate speech?

Use a validated ICU delirium tool derived from DSM criteria (e.g., CAM-ICU, ICDSC)¹

At least minimum criterion met indicating delirium present²

Not all but at least 1 delirium criterion present

No delirium criterion present

Sub-syndromal delirium possible

Differential diagnoses

1. 24/7 - Treat all potential delirium related factors, e.g.

- hypoglycaemia, hypotension, hypoxemia/hypercarbia, **sepsis**...
- correct electrolyte abnormalities (i.e., hypo- and hypernatremia)
- stop or change psychoactive drugs, monitor β -lactam dosing
- systematic bladder scan, assure patient's comfort, empty proxies
- ensure regular bowel movement, nutrition, hydration
- orientate the patient in time, place and disease status
- support senses; visual and hearing aids, limit unnecessary noise

24/7 EMERGENCY SITUATION

- Screen for all possible predisposing delirium factors
Mnemonic use may help (e.g., **Dr DRE**)
- Disease remediation
 - Drug Removal
 - Environment improvement

2. Mobilize the patient as soon as possible

3. Ensure family/friends support for the patient if possible

Question #2 Is delirium stressful for the patient? i.e., are there any:

- severe agitation (RASS>+1)?
- anxiety or fear related to hallucinations and/or delusions?

NO

YES

- Give enough time for the correction of some factors (= be patient)
- Support team and proxies
- Rescreen regularly for predisposing delirium factors

- Avoid benzodiazepines
- Consider anti-psychotics³ or dexmedetomidine

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Question #3.4 Is your patient receiving any opioids, including tramadol?



Opioid related hallucinations?



Stop opioids
+ consider alternate analgesia

0 1 2 3 4 5 6 7 8 9 10

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90% des patients serrant la main à la demande peuvent faire cette échelle! L'intubation n'est pas un facteur d'échec. *Chanques et al. PAIN 2010*

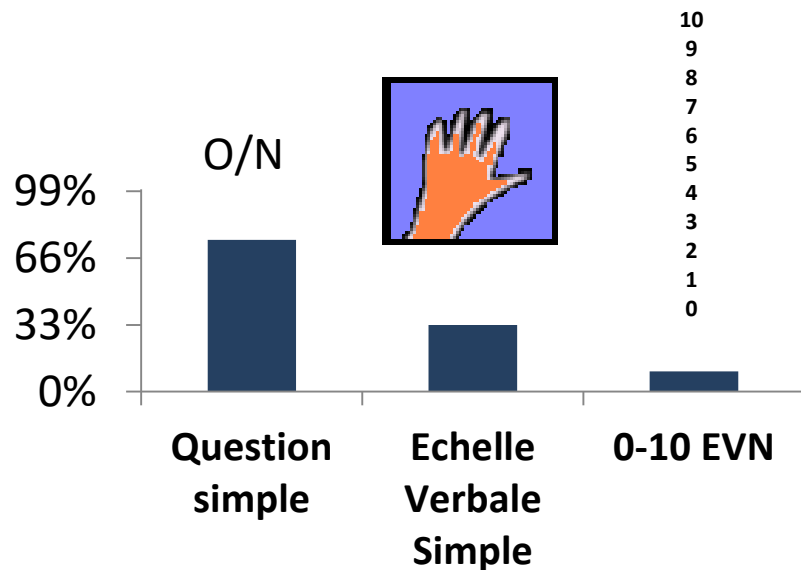


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VOUS AVEZ MAL? ETES VOUS CONFORTABLE?

Ne suffit pas!!



Proportion de faux négatifs chez les patients indiquant un point douloureux.
Chanques et al. PAIN 2010

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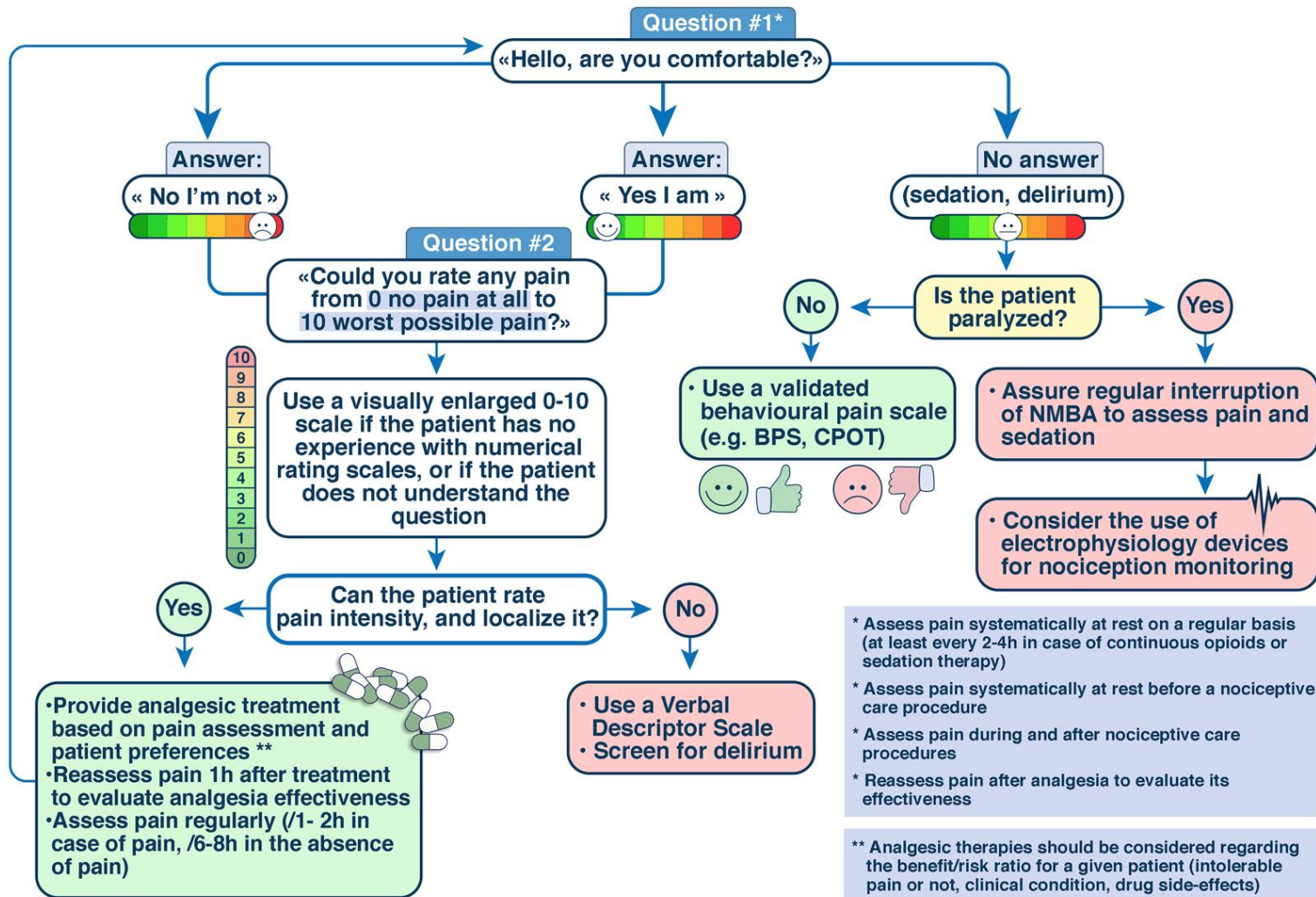
Monitoring pain in the intensive care unit (ICU)

Gerald Chanques^{1*} and Céline Gélinas²



Examples highlighting the syndrome of “I have no pain (answering the YES/NO question “do you have any pain?”) but I rate a number $\neq$ 0 on the numerical scale if it is shown to me”!

Example using a Numeric Rating Scale from 0 (no pain) to 10 (worst possible pain)	Action	Clinical impact
I rate 10, and I really have no pain	Re-explain the use of the scale, some patients may rate analgesia rather than pain.	Moderate
I rate 2, and I consider this is no pain (no need of treatment)	Ask where pain is located, even if 2/10, make a diagnosis (can be a phlebitis, or a skin ulcer that will make the diagnosis of ricketsiosis!)*	Potentially critical
I rate 5, but this is usual when I lay on a bed that it's not mine, you know, I worked 20 years as a builder. I take acetaminophen only when it is 6.	Mobilize as soon as possible (bed seating, standing up if possible, seat in a chair), bed repositioning, consider the use of additional pillows or cushions (and always consider a disease related to critical illness: osteitis, osteoporosis)	Possibly important
I rate 5, but it is alright, I don't want you to order opioids, they make me vomit (or being constipated).	Ask where pain is located, make a diagnosis if different from diagnosis of admission, propose non pharmacological therapies (music therapy, hot-water bottle, cold...); consider non opioids (multimodal analgesia: acetaminophen, nefopam, lidocaïne...)	Possibly important
I rate 8, it is related to the nasogastric tube. I answered NO when you asked me if I had pain, because I got chewed out by your colleague when I said the tube was painful yesterday, I was told not to talk about it because the tube was vital. But if you insist with your pain scale...	Check if the gastric tube is still necessary, remove it as soon as possible (in the present case, bag was empty, and tube was removed immediately, decreasing pain from 8 to 0).	Critical
In all situations of apparent discrepancy between the YES/NO question and the numerical rating...	... ask patients why they answered NO at first!	Important for learning and experience
I rate 7 on the stomach area (the patient has a severe mood disorder, and answered NO to everything: pain, anxiety, thirst, switching on TV, opening curtains...).	Perform a electro-cardiogram (ECG) systematically (in the present case, 40-yo woman admitted for acute on chronic liver failure related to C viral chronic hepatitis refractory to interferon, ECG shows an elevated ST, leading to transfer the patient to the coronarography unit immediately.	Potentially critical
I rate 7, but I cannot localize pain. Or I rate 0 during turning in bed while expressing verbal complaints (Ouch !).	Screen for delirium, consider using a behavioural pain scale.	Critical, lead to delirium management





- ✓ RASS [-5 à +4] = +2
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- ✓ **EVN [0 à 10] = 10**



Un chiffre de suffit pas non plus!!

Diagnostic, souhait d'être soulagé, niveau acceptable



- ✓ RASS [-5 à +4] = +2
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- ✓ **EVN [0 à 10] = 10**



Carnet de santé foireuse de Pozla (Delcourt)

1

2

3

4

Expression du visage (face)

=



Détendue



Partiellement
tendue
= plissement du front



Très tendue
= paupières
crispées



Grimace
= joues crispées

Mouvements des membres supérieurs

=



Aucun mouvement



Partiellement
pliés



Très pliés
(flexion des
doigts)



Rétraction
complète,
opposition aux
soins

En cas de doute, vérifier le tonus par une mobilisation passive du membre

Vocalisation

≠

Absence
de vocalisation
de la douleur

Geignements brefs
« 3 sec et peu
fréquent « 3/min

Geignements
prolongés « 3 sec ou
fréquents « 3/min

Hurllements ou
plaintes verbales
incluant «Aïe!, Ah!»
ou blocage respiratoire

Chanques et al. ICM 2009

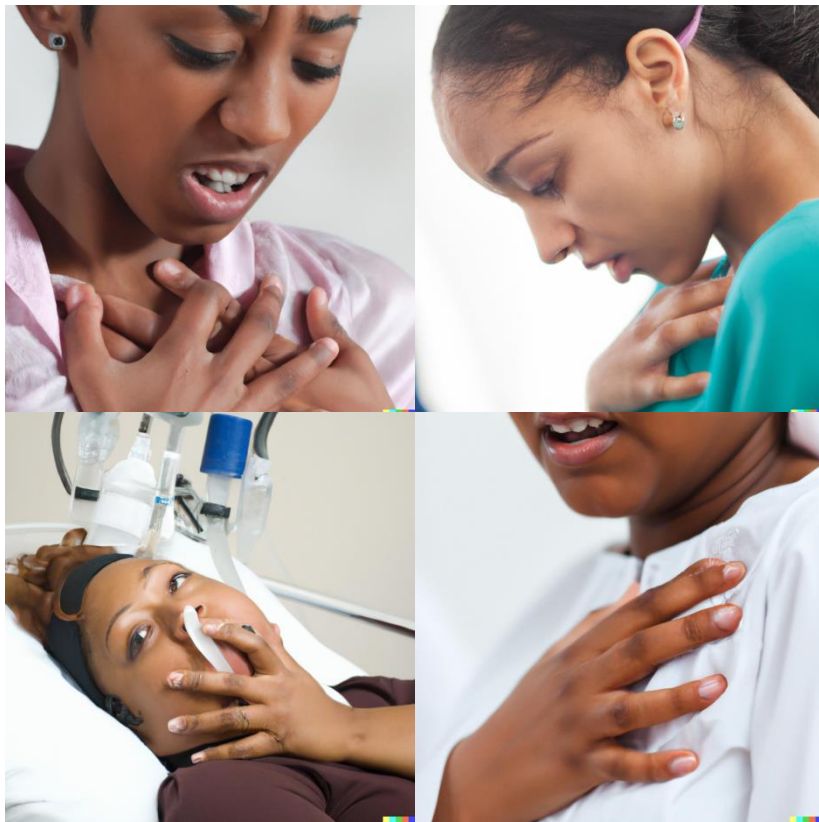
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F1/4 M3/4 V4/4



 DALL-E

- ✓ RASS [-5 à +4] = +2
- ✓ CAM-ICU = négatif
- ✓ EVN [0 à 10] = 10
- ✓ **BPS-NI [3 à 12] = ?**
F?/4 M?/4 V?/4

Les échelles comportementales sont
faites pour standardiser objectivement
l'évaluation du comportement
douloureux = évaluation reproductible



UNIVERSITÉ DE MONTPELLIER
FACULTÉ DE MÉDECINE MONTPELLIER-NÎMES

THÈSE

Pour obtenir le titre de
DOCTEUR EN MÉDECINE

Présentée et soutenue publiquement
Par
Guillaume OLIVIER

Le jeudi 19 octobre 2023

Évaluation du niveau de priorisation à l'accueil des urgences : impact de
l'ethnie et du genre.
Une étude prospective internationale randomisée.

Directeur de thèse : Docteur Fabien COISY

JURY

Président :

Monsieur le Professeur Xavier BOBBIA

Assesseurs :

Monsieur le Professeur Pierre-François PERRIGAULT

Monsieur le Docteur Fabien COISY



Etude européenne, 1563 soignants

Transmission des mêmes données cliniques (douleur thoracique), associées aléatoirement à une photo (parmi 8 possibilités générées par I.A.)



L'évaluation de l'intensité de la douleur et la priorisation de la prise en charge d'urgence varient significativement selon le genre et l'ethnie des patients, la profession et l'expérience des soignants.

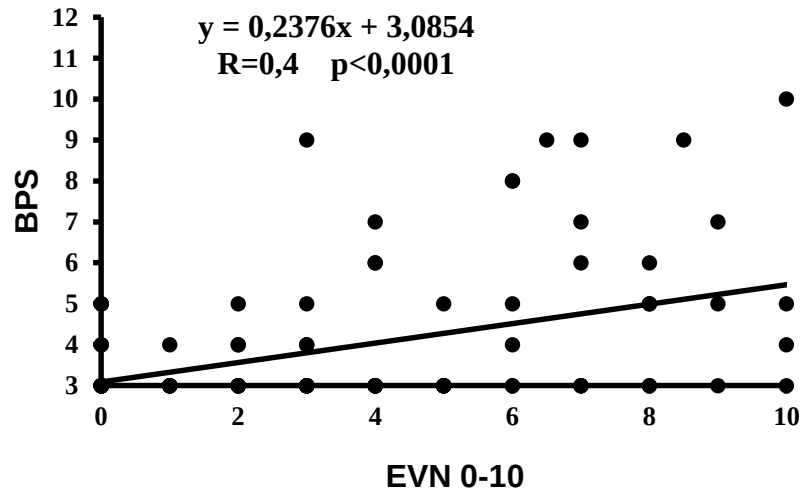
EUROPEAN JOURNAL OF

**Emergency
Medicine**


EUSEM
EUROPEAN SOCIETY FOR EMERGENCY MEDICINE

Olivier et al. 2024





- ✓ RASS [-5 à +4] = +2
- ✓ CAM-ICU = négatif
- ✓ **EVN [0 à 10] ?????**
- ✓ **BPS-NI [3 à 12] = 3**
F1/4 M1/4 V1/4

Les échelles comportementales n'ont pas été construites,
ni validées, pour les patient(e)s capables de communiquer.

Pas de BPS chez le patient capable de faire une EN 0-10!

« Elle dit qu'elle a mal mais le BPS est à 3...
ou, la tension reste basse... »

Médecin



Whipple et al. Pharmacotherapy 1995

Aide-soignant/e



Hall-Lord et al. Heart & Lung 1998

Infimier/ère



Ahlers et al.
Crit Care 2008



Famille

Desbiens et al. CCM 2000

**Nous sous-
évaluons toutes et
tous la douleur
des patient(e)s !**

Indicator	Description	Score
Facial expression	No muscular tension observed	Relaxed, neutral 0
	Presence of frowning, brow lowering, orbit tightening, and levator contraction	Tense 1
	All of the above facial movements plus eyelid tightly closed	Grimacing 2
Body movements	Does not move at all (does not necessarily mean absence of pain)	Absence of movements 0
	Slow, cautious movements, touching or rubbing the pain site, seeking attention through movements	Protection 1
	Pulling tube, attempting to sit up, moving limbs/ thrashing, not following commands, striking at staff, trying to climb out of bed	Restlessness 2
Muscle tension Evaluation by passive flexion and extension of upper extremities	No resistance to passive movements	Relaxed 0
	Resistance to passive movements	Tense, rigid 1
	Strong resistance to passive movements, inability to complete them	Very tense or rigid 2
Compliance with the ventilator (intubated patients)	Alarms not activated, easy ventilation	Tolerating ventilator or movement 0
	Alarms stop spontaneously	Coughing but tolerating 1
	Asynchrony: blocking ventilation, alarms frequently activated	Fighting ventilator 2
OR		
Vocalization (extubated patients)	Talking in normal tone or no sound	Talking in normal tone or no sound 0
	Sighing, moaning	Sighing, moaning 1
	Crying out, sobbing	Crying out, sobbing 2
Total, range		0-8

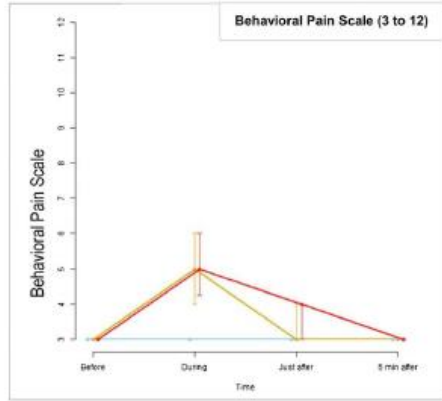
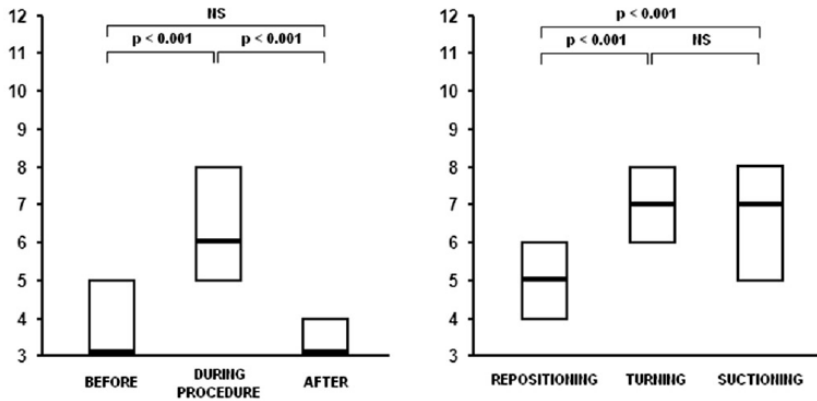
Critical-Care Pain Observational Tool (CPOT)

A Psychometric Analysis Update of Behavioral Pain Assessment Tools for Noncommunicative, Critically Ill Adults.
AACN Advanced Critical Care 2019 Gélinas et al.

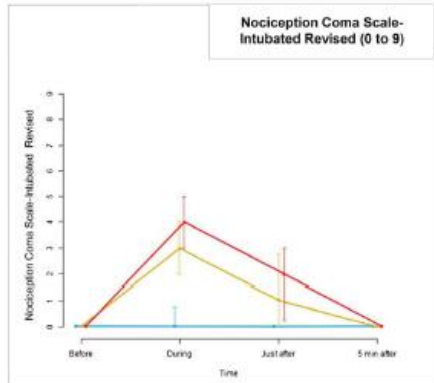
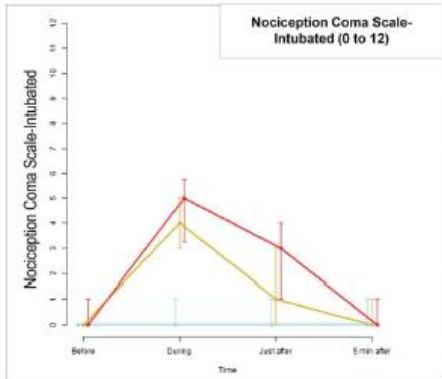
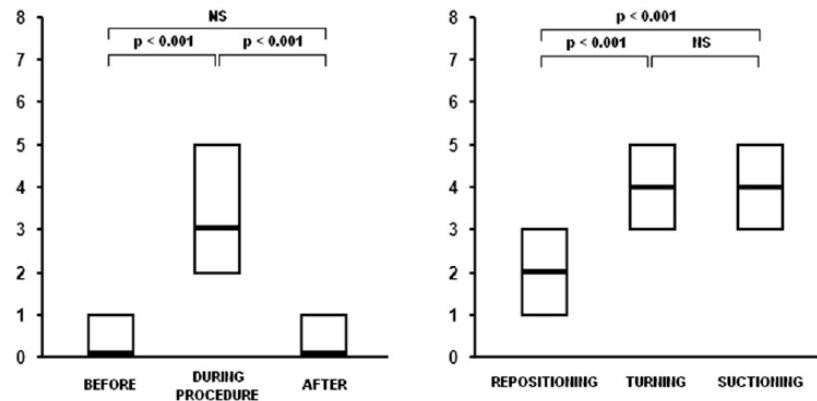
2 outils validés
dans des
dizaines de
langues et
de cultures,
patients intubés
et non intubés

**BPS/BPS-NI
= CPOT**

BPS



CPOT

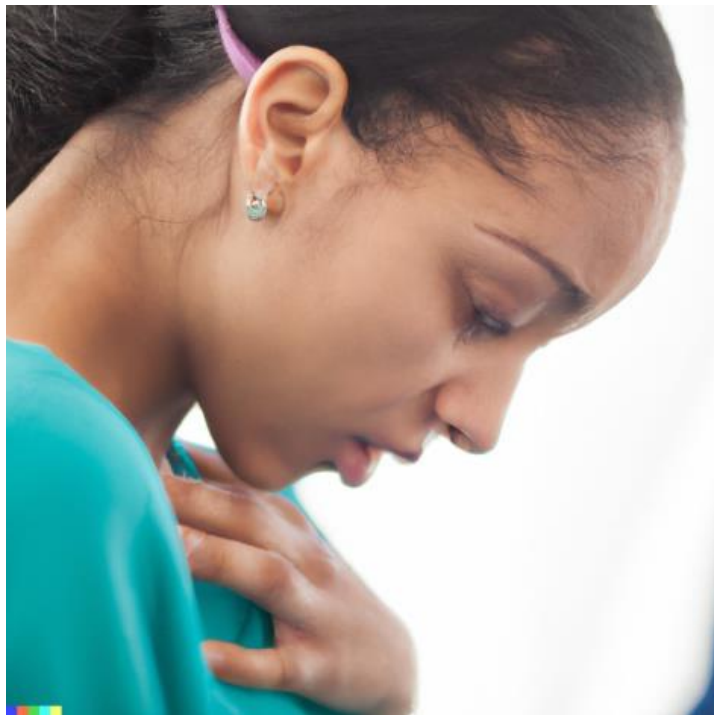


Chanques et al, Crit Care 2014

BPS = CPOT

Bernard... et Perrigault, Chanques PAIN 2019

BPS = Nociception Coma Scale (cérébrolésé)



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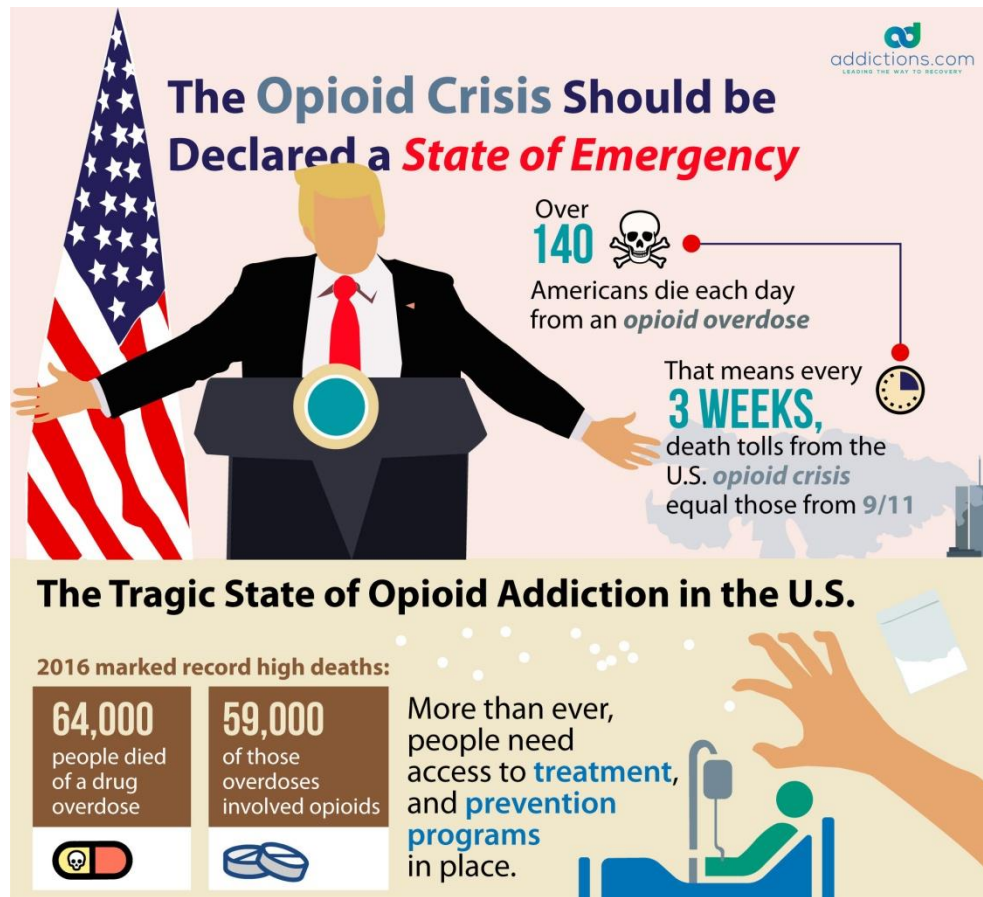
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PM The Role of the Anesthesiologist in Fast-Track Surgery: From Multimodal Analgesia to Perioperative Medical Care

Paul F. White, PhD, MD*

Henrik Kehlet, MD, PhD†

Joseph M. Neal, MD‡

Thomas Schricker, MD, PhD§

Daniel B. Carr, MD||¶

Franco Carli, MD, MPH§§ and the
Fast-Track Surgery Study Group

BACKGROUND: Improving perioperative efficiency and throughput has become increasingly important in the modern practice of anesthesiology. Fast-track surgery represents a multidisciplinary approach to improving perioperative efficiency by facilitating recovery after both minor (i.e., outpatient) and major (inpatient) surgery procedures. In this article we focus on the expanding role of the anesthesiologist in fast-track surgery.

METHODS: A multidisciplinary group of clinical investigators met at McGill University in the Fall of 2005 to discuss current anesthetic and surgical practices directed at improving the postoperative recovery process. A subgroup of the attendees at this conference was assigned the task of reviewing the peer-reviewed literature on this topic as it related to the role of the anesthesiologist as a perioperative physician.

RESULTS: Anesthesiologists as perioperative physicians play a key role in fast-track surgery through their choice of preoperative medication, anesthetics and techniques, use of prophylactic drugs to minimize side effects (e.g., pain, nausea and vomiting, dizziness), as well as the administration of adjunctive drugs to maintain major organ system function during and after surgery.

CONCLUSION: The decisions of the anesthesiologist as a key perioperative physician are of critical importance to the surgical care team in developing a successful fast-track surgery program.

(Anesth Analg 2007;104:1380-96)

The concept of fast-track surgery using multimodal perioperative rehabilitation programs (1) was introduced in the early 1990s to facilitate an early discharge from the hospital and more rapid resumption of normal activities of daily living after elective surgery. The increasing popularity of minimally invasive surgical

techniques has also allowed patients to undergo increasingly complex surgical procedures on an ambulatory and/or short-stay basis (2). Therefore, fast-tracking implies implementation of a perioperative patient care paradigm that reduces the time to discharge home and resumption of activities of daily living after both major (inpatient) and minor (outpatient) surgical procedures.

From the *Department of Anesthesiology and Pain Management, University of Texas Southwestern Medical Center at Dallas, Texas; †Section for Surgical Pathophysiology, The Juliane Marie Centre, Rigshospitalet, Copenhagen, Denmark; ‡Department of Anesthesia, Virginia Mason Medical Center, Seattle, Washington; §Department of Anesthesia, McGill University Health Centre, Montreal, Canada; ¶Department of Anesthesia, Tufts-New England Medical Center, Boston, Massachusetts; and ||Javelin Pharmaceuticals, Cambridge, Massachusetts.

Accepted for publication February 28, 2007.

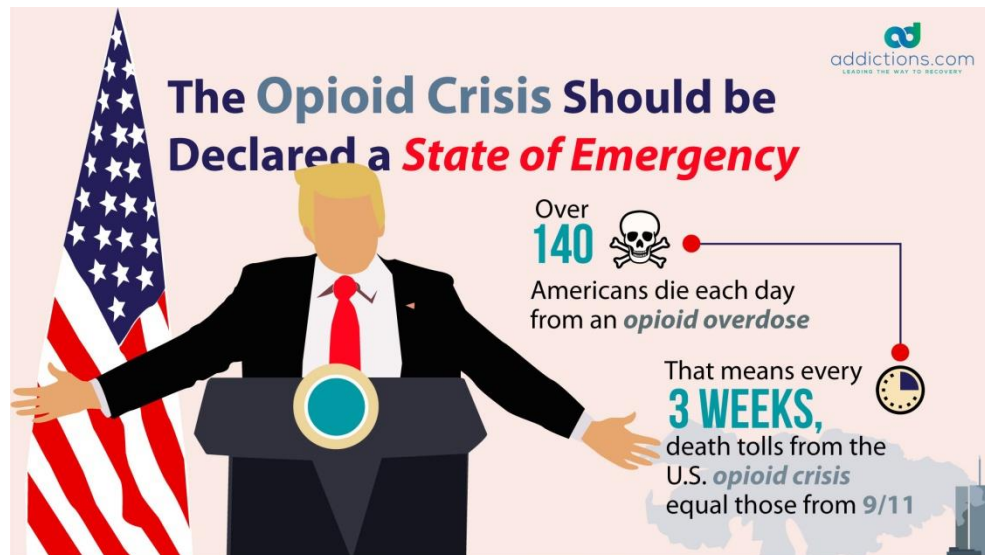
The meeting which generated the interest in this program was supported by an unrestricted educational grant from Ethicon Endo-Surgery, Inc (Cincinnati, OH).

Fast-Track Surgery Study Group consisted of the following individuals: Franco Carli, Wesley Bourne Professor, McGill University Health Center, Montreal, Canada; Daniel B. Carr, Saltonstall Professor of Pain Research, Tufts-New England Medical Center, Boston, MA; Frances Chung, Professor, University of Toronto, Canada; Gerald M. Fried, Adair Chair of Surgical Education, Steinberg-Bernstein Chair of Minimally Invasive Surgery and Surgical Innovation, McGill University Health Center, Montreal, Canada; Henrik Kehlet, Professor, The

Juliane Marie Centre, Copenhagen, Denmark; Nancy E. Mayo, James McGill Professor, McGill University Health Center, Montreal, Canada; Joseph M. Neal, Clinical Professor, Virginia Mason Medical Center, Seattle, WA; Thomas Schricker, Associate Professor, McGill University Health Center, Montreal, Canada; Anthony J. Senagore, Professor and Chairman, Medical University of Ohio; Daniel I. Sessler, Vice Dean and Associate VP for Health Affairs, Interim Chair and L&S Wexley Professor of Anesthesiology, University of Louisville, KY; Paul F. White, Professor and Holder of the Margaret Milam McDermott Distinguished Chair in Anesthesiology, University of Texas Southwestern Medical Center at Dallas, TX; Douglas Wilmore, Professor, Harvard Medical School, Boston, MA; Gerald S. Zavorsky, Assistant Professor, McGill University Health Center, Montreal, Canada.

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DOI: 10.1213/01.ane.0000263034.96885.e1



The Tragic State of Opioid Addiction in the U.S.

2016 marked record high deaths:

64,000
people died
of a drug
overdose



59,000
of those
overdoses
involved opioids



More than ever,
people need
access to **treatment**,
and **prevention**
programs
in place.



Résumé cadre : Recommandations de Pratiques Cliniques pour la Prévention et la Gestion de la Douleur, de l'Agitation/Sédation, de la Confusion Mentale, de l'Immobilité, et des Altérations du Sommeil chez les Patients Adultes en Soins Critiques.

Devlin et al. Crit Care Med 2018

Recommandations PADIS (Pain Agitation Delirium Immobility & Sleep disruption) SCCM 2018
Traduction/endorsement SFAR/SRLF 2020

Nous recommandons d'utiliser

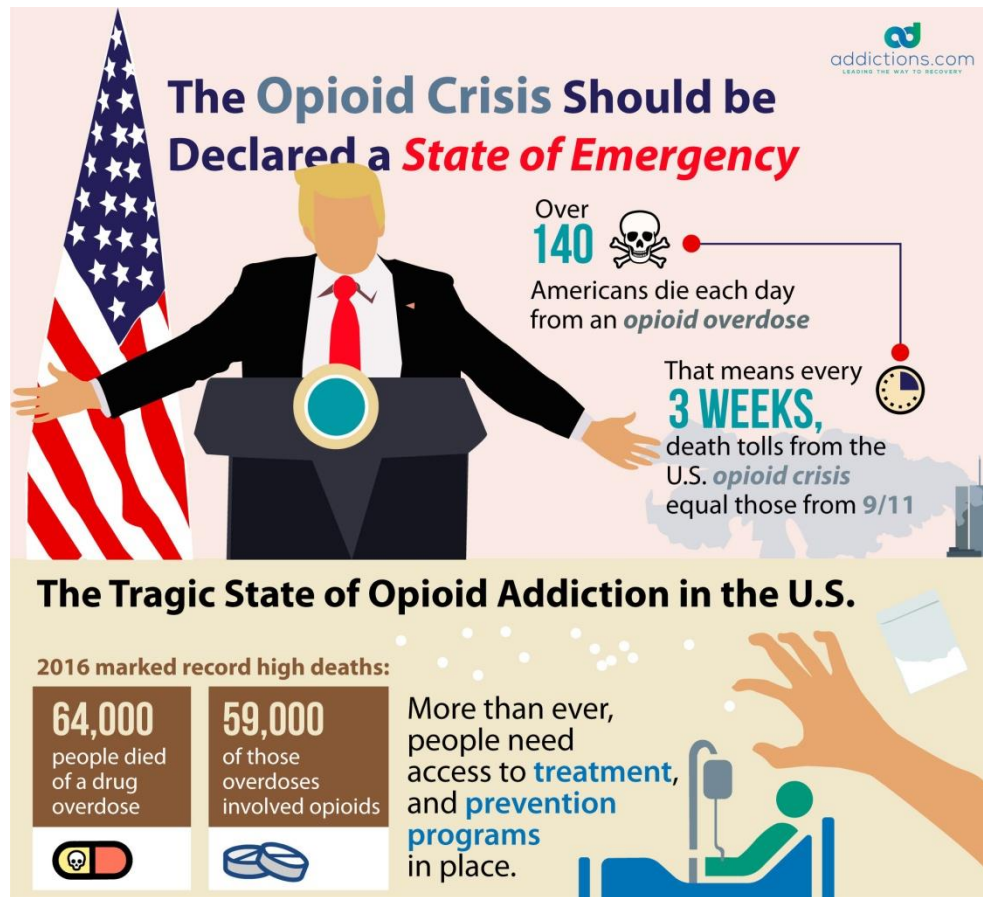
- ✓ Gabapentine (neuropathie)

Nous suggérons d'utiliser

- ✓ Gabapentine (postop CV)
- ✓ Paracétamol
- ✓ Néfopam
- ✓ Kétamine

Nous ne recommandons pas en routine

- ✓ AINS
- ✓ Lidocaïne



Résumé cadre : Recommandations de Pratiques Cliniques pour la Prévention et la Gestion de la Douleur, de l'Agitation/Sédation, de la Confusion Mentale, de l'Immobilité, et des Altérations du Sommeil chez les Patients Adultes en Soins Critiques.

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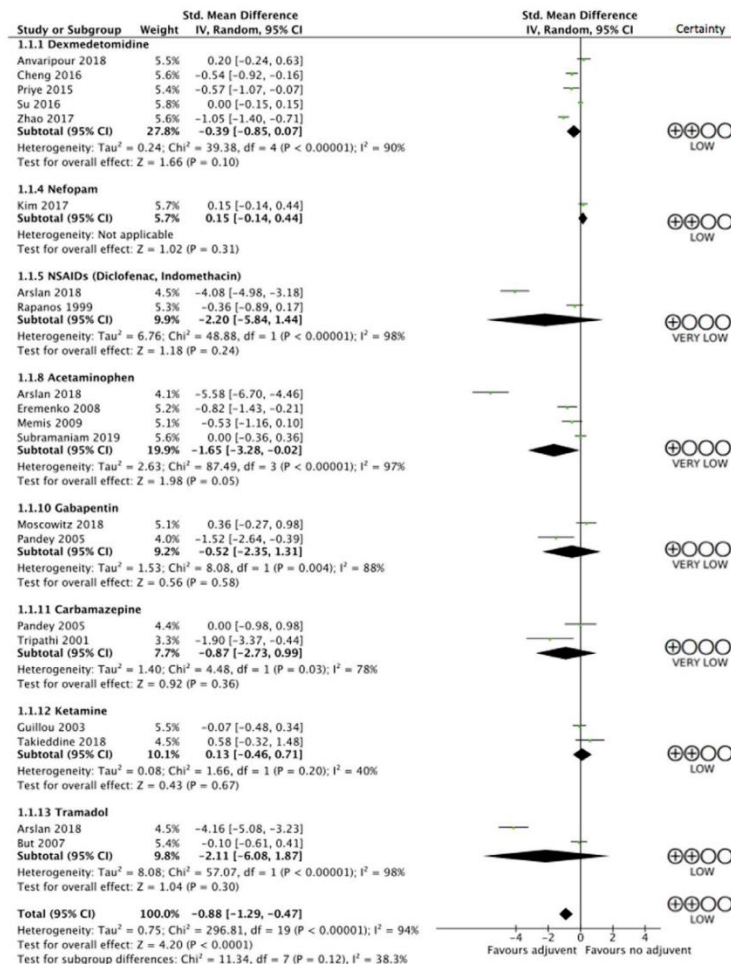
✓ Néfopam

✓ Kétamine

Nous ne recommandons pas en routine

✓ AINS

✓ Lidocaïne



Adjuvant Analgesic Use in the Critically Ill: A Systematic Review and Meta-Analysis. *Wheeler et al. Crit Care Expl 2020*

ACCPM 2018

Low doses of ketamine reduce delirium but not opiate consumption in mechanically ventilated and sedated ICU patients: A randomised double-blind control trial

Sebastien Perbet^{a,b}, Franck Verdonk^{c,d}, Thomas Godet^{a,b}, Matthieu Jabaudon^{a,b}, Christian Chartier^a, Sophie Cayot^a, Renaud Guerin^a, Dominique Morand^a, Jean-Etienne Bazin^a, Emmanuel Futier^{a,b}, Bruno Pereira^e, Jean-Michel Constantin^{a,b,*}



Protocole
d'analgosédation
ciblé sur BPS
(poso mini efficace)

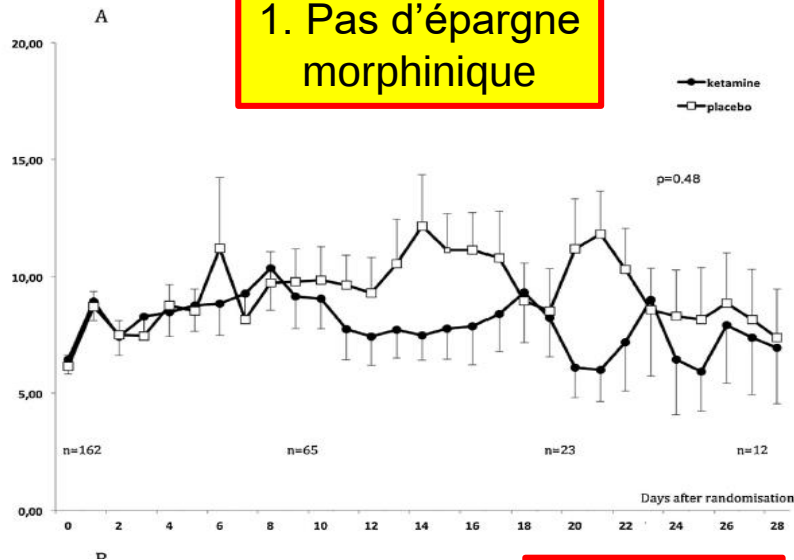


1. Pas d'épargne
morphinique

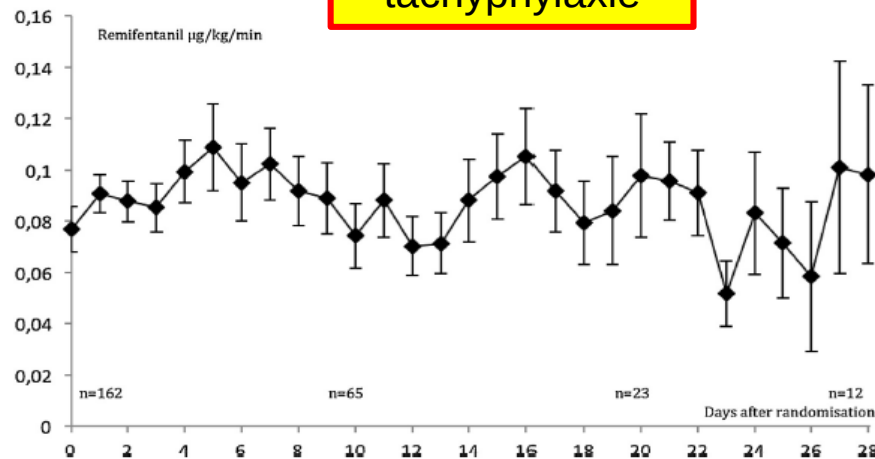
mais...

2. Pas de
tachyphylaxie

Dose de remifenta



Jours de réa →



Jours de réa →

PROTOCOLE D'ANALGO-SEDATION

Le BPS l'emporte sur le RASS (↔ d'abord le sufentanil si nécessaire)
Sufentanil (5µg/ml) Midazolam(1mg/ml) Propofol (10mg/ml)

Débuter hypnotique et sufenta vit 2ml/h

AU REPOS

+/-TITRATION

Toujours MODIFICATION VITESSE CONTINUE !!!

1) Si BPS ≥ 5 quelque soit le RASS

*Titrer sufenta : bolus de 1 ml/2 min jusqu'à BPS 3-4 (max 10 ml)

*ET ↑ sufenta de 1 ml/h (allo médecin si >10ml/h)

2) Si BPS 3-4 avec RASS

RASS -5 ou inférieur à la cible

*↓ mdz ou ppf de 1ml/h

*ET ↓ sufenta de 1ml/h

Ciblé

Pas de Changement

Supérieur à la cible

*Titrer mdz ou ppf bolus 1ml/2min (max 10 ml) jusqu'à RASS cible

* ET ↑ mdz ou ppf

(allo médecin si mdz>10ml/ ou ppf>30ml/h)

ABCDEF-R

A = **A**nalgésie = top priorité

B = **B**ien faire les épreuves d'arrêt

C = **C**hoix des drogues et recherche d'une posologie minimale efficace



Diminuer les opioïdes majeurs (PADIS 2018)

D = **D**elirium, prévention, dépistage

E = **E**xercice actif précoce

F = **F**amille autonomisée, valorisée

I

R = **R**espiratory management

Ely (CCM 2017) The ABCDEF bundle: science and philosophy
Chanques et al. (ICM 2020) Analgesia & Sedation for ARDS

Cholangitis in three critically ill patients after a severe CoVID-19 infection

Cyrille Gourjault^{a,*,1}, Hassan Tarhini^{a,*,1}, Mayda Rahi^a, Michael Thy^a, Diane Le Pluart^a, Christophe Rioux^a, Marion Parisey^c, Sophie Ismael^a, Ali al rida Aidibi^d, Valerie Paradis^{e,f}, Jade Ghosn^{a,b}, Yazdan Yazdanpanah^{a,b}, François-Xavier Lescure^{a,b}, Anne Gervais^a

Kétamine

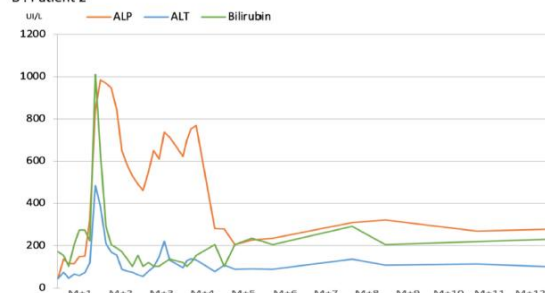
Main characteristics of patients presenting with cholangitis post Covid-19 infection.

	Patient 1	Patient 2	Patient 3
Ketamine (grams)	25	27	6
ASAT (UI/L)	55	58	118
ALAT (UI/L)	23	44	39
GGT (UI/L)	48	62	25
ALP (UI/L)	80	41	31
Bilirubin (μmol/L)	18	10	21
LDH (UI/L)	630	695	5 260
ICU stay			
Period (days)	23	52	74

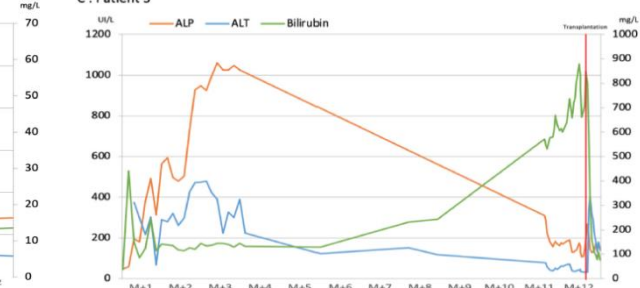
A : Patient 1



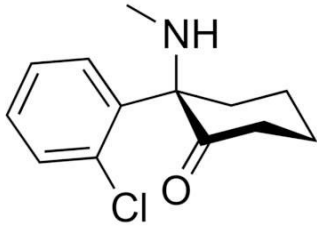
B : Patient 2



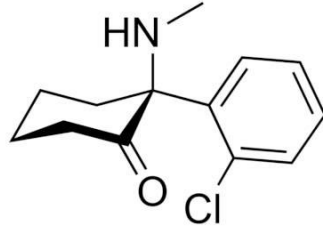
C : Patient 3



Ketamine Is A Equal Mixture Of Two Isomers



Arketamine - (R)-ketamine



Esketamine - (S)-ketamine

efficacité **1**

efficacité **4**



kétamine racémique

(=50% R + 50% S)

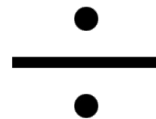
efficacité **2**



Eskesia®
(Eskétamine)

efficacité **4**

moins
d'EIM?



par 2 la poso

Mme K. 23 ans

Réa J4 pour

- détresse respiratoire aiguë
- syndrome drépanocytaire majeur
- syndrome thoracique aigu
- embolie pulmonaire proximale bilatérale
- infarctus pulmonaires multiples
- crise vaso-occlusive
- nécrose médullaire diffuse
- syndrome douloureux sévère diffus

- ✓ O2 HFNC qsp SpO2 100%
- ✓ transfusion puis érythrophérèse
- ✓ protocole analgésie hémato :
- ✓ paracétamol+nefopam
- ✓ PCA morphine/droloptan/kétamine
2mg 0.1mg 2mg

✓ RASS [-5 à +4] = **+2**

✓ CAM-ICU = négatif

✓ EVN [0 à 10] = **10**

✓ BPS-NI [3 à 12] = **8**

F1/4 M3/4 V4/4

Mme K. 23 ans

Réa J4 pour

- détresse respiratoire aiguë
- syndrome drépanocytaire majeur
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 - ✓ protocole analgésie hémato :
 - ✓ paracétamol+nefopam
 - ✓ PCA morphine/droleptan/kétamine
- 2mg 0.1mg 2mg



- ✓ paracétamol+nefopam
 - ✓ rémifentanyl / dexmédétomidine
- 6µg/kg/h 0,4 µg/kg/h

Disparition des hallucinations

- ✓ RASS [-5 à +4] = **-1**
 - ✓ CAM-ICU = négatif
 - ✓ EVN [0 à 10] = **9-10**
 - ✓ BPS-NI [3 à 12] = **3**
- F1/4 M1/4 V1/4

H48

Mme K. 23 ans

Réa J4 pour

- détresse respiratoire aiguë
- syndrome drépanocytaire majeur
- syndrome thoracique aigu
- embolie pulmonaire proximale bilatérale
- infarctus pulmonaires multiples
- crise vaso-occlusive
- nécrose médullaire diffuse
- syndrome douloureux sévère diffus

- ✓ O2 HFNC qsp SpO2 100%
- ✓ transfusion puis érythrophérèse
- ✓ protocole analgésie hémato :
- ✓ paracétamol+nefopam
- ✓ PCA morphine/droleptan/kétamine

2mg 0.1mg 2mg



- ✓ paracétamol+nefopam
- ✓ rémifentanyl / dexmédétomidine
↑12µg/kg/h 0,4 µg/kg/h

Disparition des hallucinations

- ✓ RASS [-5 à +4] = **0**
- ✓ CAM-ICU = négatif
- ✓ EVN [0 à 10] = **8**
- ✓ BPS-NI [3 à 12] = **3**

mais **8** à la pression des muscles

H48

Mme K. 23 ans

Réa J4 pour

- détresse respiratoire aiguë
- syndrome drépanocytaire majeur
- syndrome thoracique aigu
- embolie pulmonaire proximale bilatérale
- infarctus pulmonaires multiples
- crise vaso-occlusive
- nécrose médullaire diffuse
- syndrome douloureux sévère diffus

- ✓ O2 HFNC qsp SpO2 100%
- ✓ transfusion puis érythrophérèse
- ✓ protocole analgésie hémato :
- ✓ paracétamol+nefopam
- ✓ PCA morphine/droleptan/kétamine

2mg 0.1mg 2mg



- ✓ paracétamol+nefopam
- ✓ rémifentanyl / dexmédétomidine
↑12µg/kg/h 0,4 µg/kg/h
- + ketoprofène 100mg 1 dose
- + lidocaïne 1mg/kg/h

Disparition des hallucinations

- ✓ RASS [-5 à +4] = **0**
- ✓ CAM-ICU = négatif
- ✓ EVN [0 à 10] = **4!!!**
- ✓ BPS-NI [3 à 12] = **3**

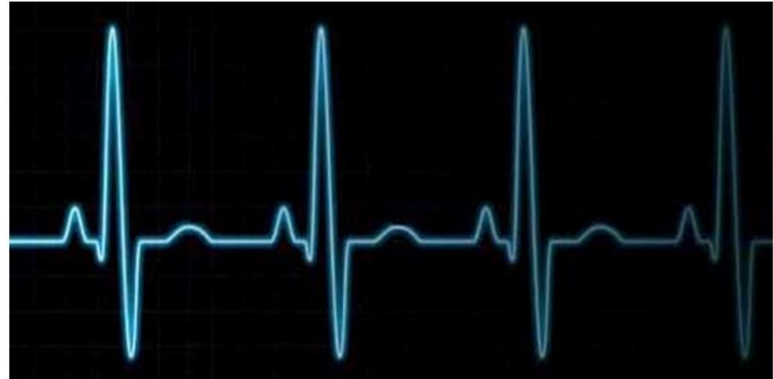
Monitoring

K+, Mg++, Ca++
Albumine
Foie, rein
QTc

Quid du monitoring (scopes) ?

→ variables physiologiques
(fréquence cardiaque, tension...)

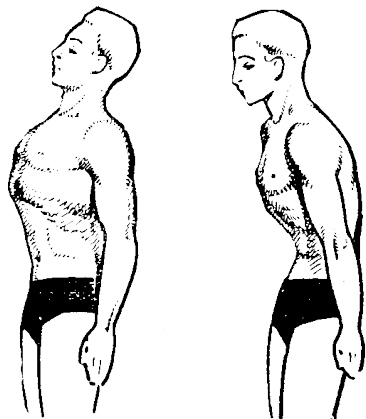
Moins pertinents et
sensibles que les
échelles cliniques



Expérience



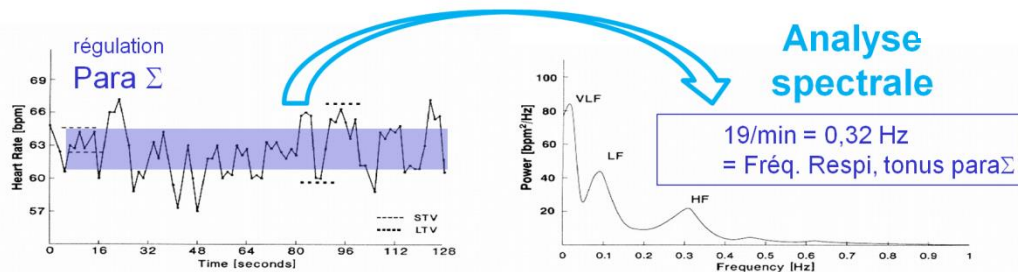
Le pouls s'accélère puis ralentit à chaque cycle ventilatoire = adaptation balance Σ / Para Σ



inspiration

expiration

$$TF[x(t)] = X(f) = \int_{-\infty}^{+\infty} x(t) e^{-j2\pi ft} dt$$



Heart Rate Variability. Annals of Internal Medicine 1993

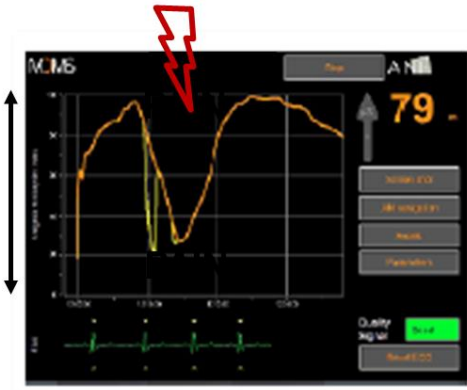
ANI

100

42

0

stimulation
nociceptive



Analgesia
Nociception
Index

Heart
Rate
Variability

Expérience



Le pouls s'accélère puis ralentit à chaque cycle ventilatoire = adaptation balance Σ / Para Σ

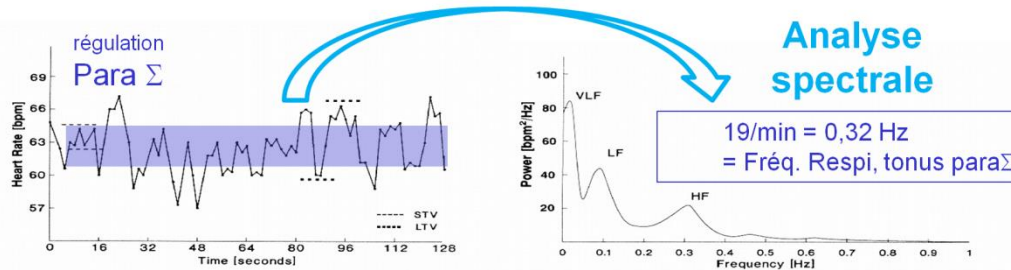


inspiration



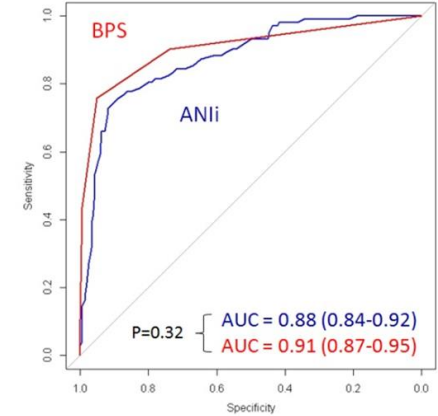
expiration

$$TF[x(t)] = X(f) = \int_{-\infty}^{+\infty} x(t) e^{-j2\pi ft} dt$$



Heart Rate Variability. Annals of Internal Medicine 1993

Bronchoaspiration



Procédure **très** douloureuse

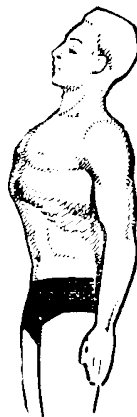
ANI détecte la stimulation comme le BPS

Chanques, Tarri, Ride et al.
BJA 2017

Expérience



Le pouls s'accélère puis ralentit à chaque cycle ventilatoire = adaptation balance Σ / Para Σ

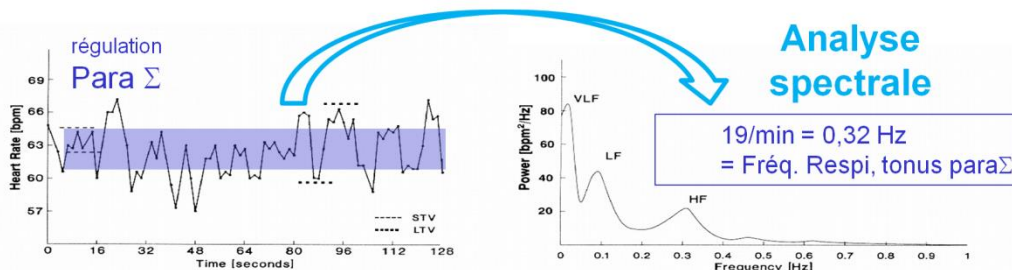


inspiration



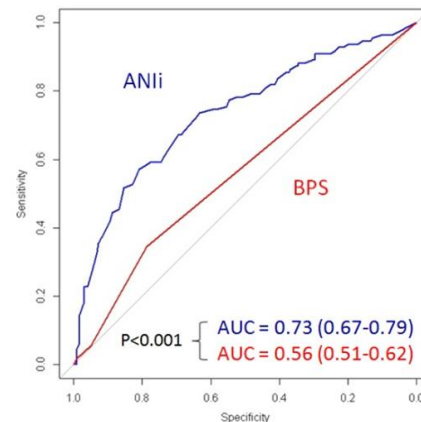
expiration

$$TF[x(t)] = X(f) = \int_{-\infty}^{+\infty} x(t) e^{-j2\pi ft} dt$$



Heart Rate Variability. Annals of Internal Medicine 1993

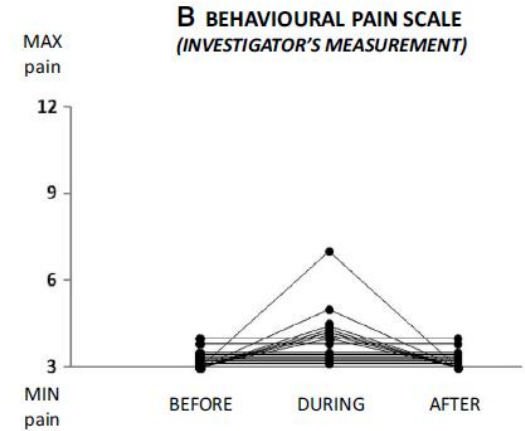
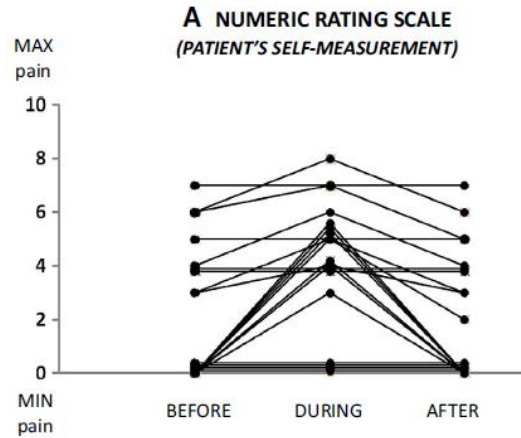
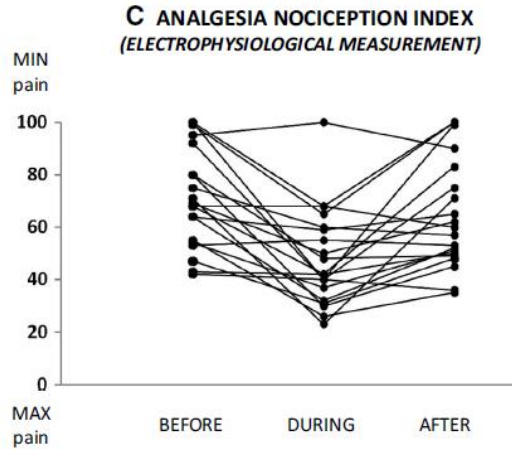
Pansement de KT



Procédure **peu** douloureuse

**ANI est +
sensible que
le BPS**

Chanques, Tarri, Ride et al.
BJA 2017



Un simple pansement de cathéter peut être douloureux (soluté alcoolique)!

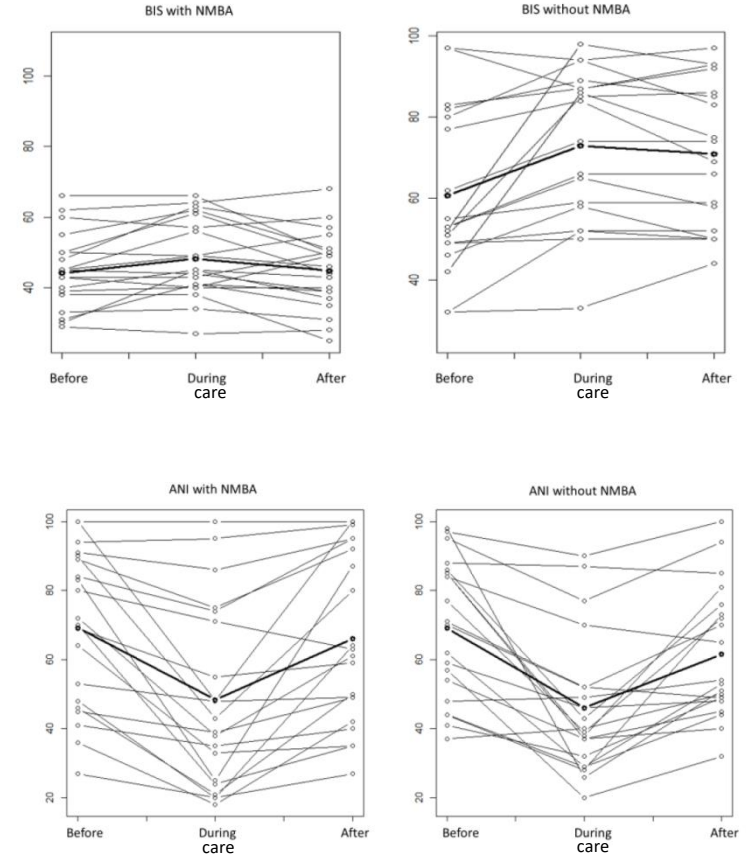
L'ANI bien corrélée à l'EVN, le BPS est Non Applicable car patients capables de communiquer (non confus).

PAIN ASSESSMENT IN PARALYZED CRITICALLY ILL PATIENTS TREATED BY NEUROMUSCULAR BLOCKING AGENTS.

Voeltzel J. MD thesis, Montpellier Univ 2020

Physiological parameters	Effect of the nociceptive procedure			Effect of the recovery from paralysis		
	value	SE	p	value	SE	p
BIS	6.39	2.59	0.015	19.97	2.77	0.0000
ANI	-21.42	3.12	0.0000	-2.29	3.37	0.50

La variabilité de la fréquence cardiaque (ex : ANI) pourrait être indiquée pour évaluer la douleur et l'inconfort en pendant la curarisation.



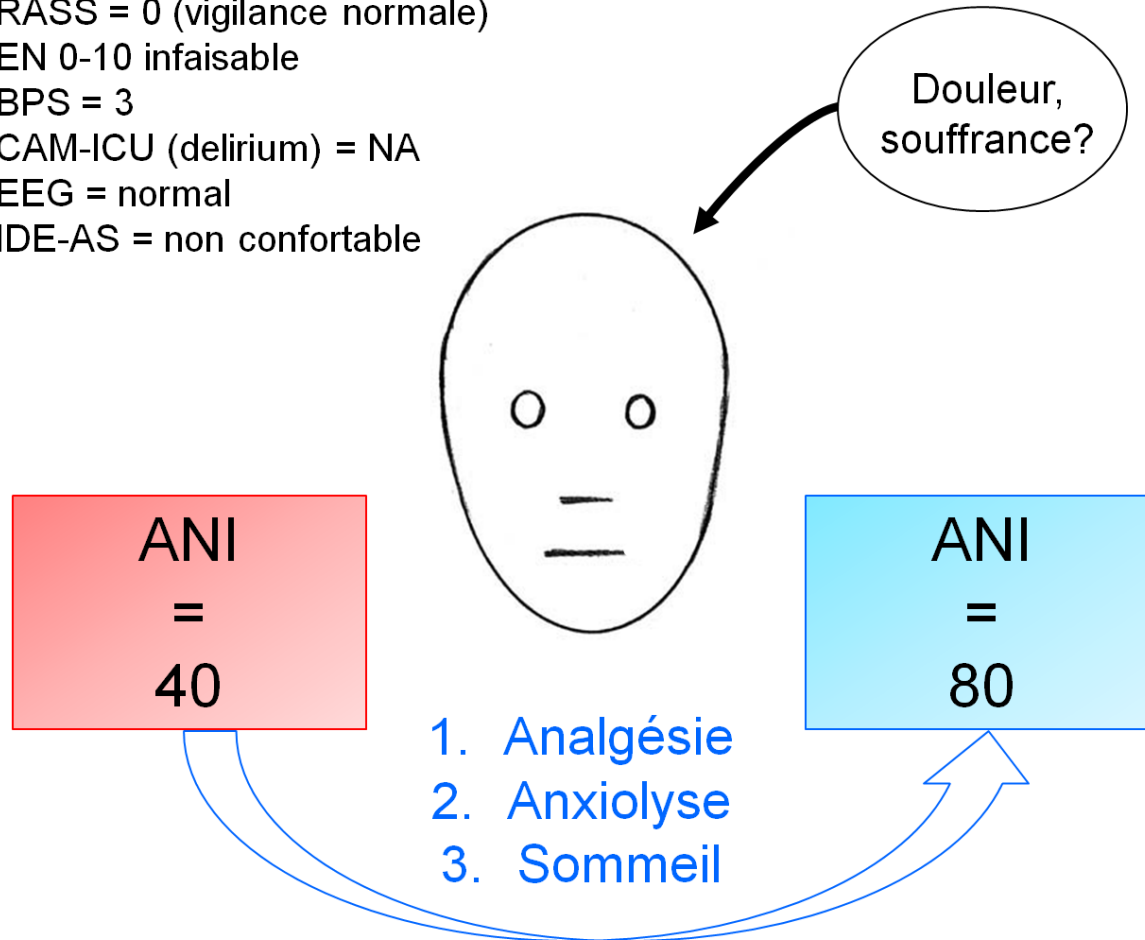
Raimbert, C. MD thesis, Montpellier Univ 2021

- de l'inconfort global physique et psychique
- de l'anxiété
- de la sensation de manque de repos

Correlation between ANI (before/after) and NRS (before/after) on all sessions

	ANI/NRS Overall Discomfort	ANI/ NRS Pain	ANI/ NRS Anxiety	ANI/ NRS Thrust	ANI /NRS Dyspnea	ANI / NRS Lack of Rest
Correlation between ANI (before/after) and NRS (before/after) on all sessions						
Nb	398	404	404	404	404	397
r = Spearman's Correlation Coefficient	-0,13	-0,13	-0,12	0,07	-0,01	-0,11
<i>p</i>	0,007	0,006	0,02	0,13	0,78	0,03
			0,007			
			0,02			

- RASS = 0 (vigilance normale)
- EN 0-10 infaisable
- BPS = 3
- CAM-ICU (delirium) = NA
- EEG = normal
- IDE-AS = non confortable





Use of Fine Art to Enhance Visual Diagnostic Skills

Jacqueline C. Dolev, MD

JAMA, September 5, 2001—Vol 286, No. 9

Learning to look: developing clinical observational skills at an art museum

Charles L Bardes,¹ Debra Gillers¹ & Amy E Herman²

Context Clinical diagnosis involves the observation, description, and interpretation of visual information. These skills are also the special province of the visual arts. We describe an educational collaboration between a medical school and an art museum, designed for the purpose of developing student skills in observation, description, and interpretation.

Objectives In the programme, medical students first examine painted portraits, under the tutelage of art educators and medical school faculty. Then, the students examine photographs of patients' faces and apply the same skills.

Conclusion This programme, well-received by students and faculty, appeared to help the students not only in improving their empirical skills in observation, but also in developing increased awareness of emotional and character expression in the human face.

Keywords Art; curriculum; education, medical, undergraduate/*methods; museums; observation/*methods; visual perception.

Medical Education 2001;35:1157–1161

RESEARCH ARTICLE

Open Access



More than visual literacy: art and the enhancement of tolerance for ambiguity and empathy

Miriam Ethel Bentwich* and Peter Gilbey

Abstract

Background: Comfort with ambiguity, mostly associated with the acceptance of multiple meanings, is a core characteristic of successful clinicians. Yet past studies indicate that medical students and junior physicians feel uncomfortable with ambiguity. Visual Thinking Strategies (VTS) is a pedagogic approach involving discussions of art works and deciphering the different possible meanings entailed in them. However, the contribution of art to the possible enhancement of the tolerance for ambiguity among medical students has not yet been adequately investigated. We aimed to offer a novel perspective on the effect of art, as it is experienced through VTS, on medical students' tolerance of ambiguity and its possible relation to empathy.

Methods: Quantitative method utilizing a short survey administered after an interactive VTS session conducted within mandatory medical humanities course for first-year medical students. The intervention consisted of a 90-min session in the form of a combined lecture and interactive discussions about art images. The VTS session and survey were filled by 67 students in two consecutive rounds of first-year students.

Results: 67% of the respondents thought that the intervention contributed to their acceptance of multiple possible meanings, 52% thought their visual observation ability was enhanced and 34% thought that their ability to feel the sufferings of other was being enhanced. Statistically significant moderate-to-high correlations were found between the contribution to ambiguity tolerance and contribution to empathy (0.528–0.744; $p \leq 0.01$).

Conclusions: Art may contribute especially to the development of medical students' tolerance of ambiguity, also related to the enhancement of empathy. The potential contribution of visual art works used in VTS to the enhancement of tolerance for ambiguity and empathy is explained based on relevant literature regarding the embeddedness of ambiguity within art works, coupled with reference to John Dewey's theory of learning. Given the situational nature of the tolerance for ambiguity in this context, VTS provides a path for enhancing ambiguity tolerance that is less conditioned by character traits. Moreover, the modest form of VTS we utilized, not requesting a significant alteration in the pre-clinical curricula, suggests that enhancing the tolerance of ambiguity and empathy among medical students may be particularly feasible.

Background

Visual Thinking Strategies (VTS) is a pedagogic approach involving discussions of works of art aimed to encourage learners to look carefully, verbalize their observations and ideas, and interact with others regarding their interpretations of the images [1]. A key common goal for employing VTS classes is the enhancement of visual observation or visual literacy [1–5], which is the

ability to 'read', interpret, and understand information presented in pictorial or graphic images [6].

VTS, as a pedagogic approach concerning the discussion of art works in medical education, can also be placed within the larger context of medical humanities studies in medical schools. These studies pertain to realms such as literature, narrative, poetry, theater, and visual arts in medical educational programs [7, 8]. Incorporating various medical humanities courses into the curriculum of medical schools is aimed to offer students practical tools for self-reflection and communication with patients, along with an increased sense of empathy

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Faculty of Medicine, Bar-Ilan University, Salfed Campus, P.O. Box 1589, Ramat Gan, Israel



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ESSAI

SUR

L'ICONOLOGIE MÉDICALE,

OU SUR

LES RAPPORTS D'UTILITÉ

QUI EXISTENT ENTRE L'ART DU DESSIN
ET L'ÉTUDE DE LA MÉDECINE;

PAR J. LORDAT,

Chevalier de la Légion d'honneur, Professeur de Physiologie à la Faculté de Médecine de Montpellier, Président des Jurys de Médecine; Membre-Correspondant de l'Académie royale de Médecine de Paris, des Sociétés royales de Médecine de Marseille et de Toulouse, de l'Académie royale de Médecine de Barcelone, etc., etc.



A MONTPELLIER,

DE LA TYPOGRAPHIE DE MADAME VEUVE PICOT, NÉE FONTENAY,
IMPRIMEUR DU ROI.

1855.

C'est ce qui me fait désirer que les Médecins perfectionnent beaucoup la Séméiotique des diverses sortes de douleurs, par des observations portant sur les traits du corps entier, et que les Artistes veuillent se joindre à eux pour exprimer de concert le résultat de leurs recherches.

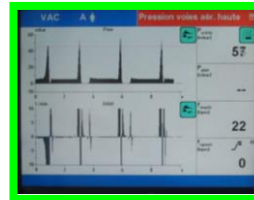
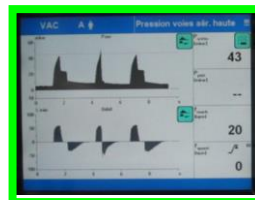
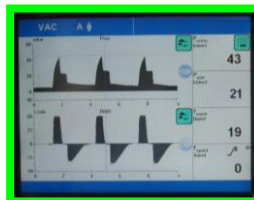
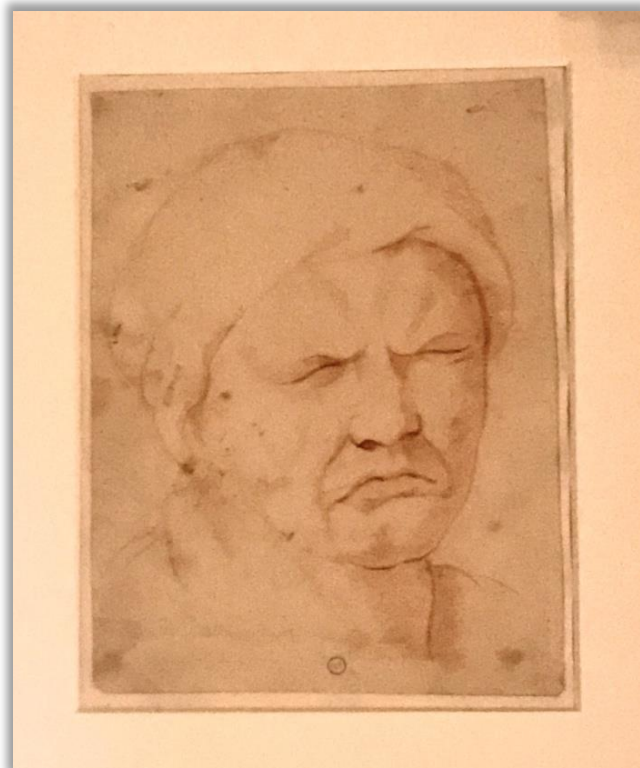
Echelle BPS en réanimation (de 3→12)

1

2

3

4



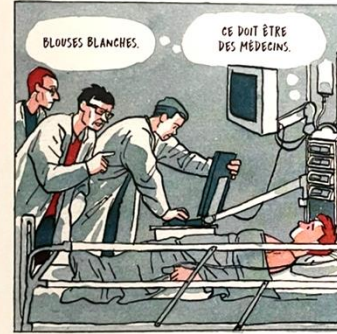
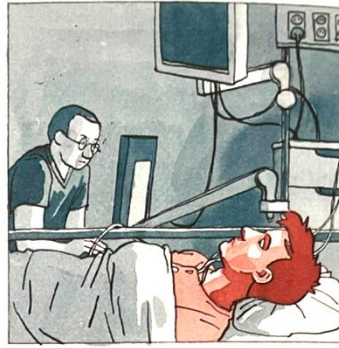
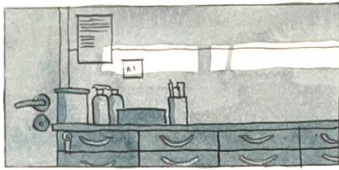


Le médecin est obligé aussi de reconnaître dans l'homme purement vital des modes d'être que ni les sens, ni l'imagination ne peuvent représenter : il pourra imiter l'artiste et s'élever, comme lui, des formes que notre œil contemple, à des notions que l'intelligence seule peut concevoir.

Milon de Croton dévoré par un lion.
Pierre Puget (1620-1694). Sanguine.
Musée Atger, Faculté de médecine
Montpellier-Nîmes



Le lion. Richard II van Orley (1663-1732)
Musée Atger, Faculté de médecine
Montpellier-Nîmes



DES BD POUR MIEUX SOIGNER

Retrouvez des bandes dessinées de médecine narrative
à la BU Médecine UPM et à la BU Médecine Nîmes.



LIVRET BIBLIOGRAPHIQUE



Memento mori

Auteur : Takalo, Tiitu
Editeur : Sarbacane - 2021

Cote : MN BD TAK
ISBN : 978-2-37731-615-1

Un soir blanc de décembre, au sud de la Finlande, Tiitu s'endort paisiblement dans son lit douillet. Elle est loin de se douter que sa vie est sur le point de basculer : une hémorragie cérébrale va la conduire au bord du précipice. Mais tout ne fait que commencer. Survivre. Guérir. Réapprendre à marcher, à dessiner, à admirer le ciel étoilé. A aimer. Retrouver l'envie de vivre.

Champs : Somatique
Matière : Neurologie
Thème : AVC

Items :
N° 91. Déficit neurologique récent
N° 92. Déficit moteur et/ou sensitif des membres
N° 340. Accidents vasculaires cérébraux

Résumé cadre : Recommandations de Pratiques
Cliniques pour la Prévention et la Gestion de la
Douleur, de l'Agitation/Sédation, de la Confusion
Mentale, de l'Immobilité, et des Altérations du
Sommeil chez les Patients Adultes en Soins Critiques.

Devlin et al. Crit Care Med 2018

*Recommandations PADIS (Pain Agitation Delirium
Immobility & Sleep disruption) SCCM 2018*

Traduction/endossement SFAR/SRLF 2020



Update...

2023-2025

Pain

Agitation

Delirium

Immobility

Sleep disruption

~~Pain~~ → Anxiety
(Dyspnea)
(Thirst)

RESEARCH

Open Access

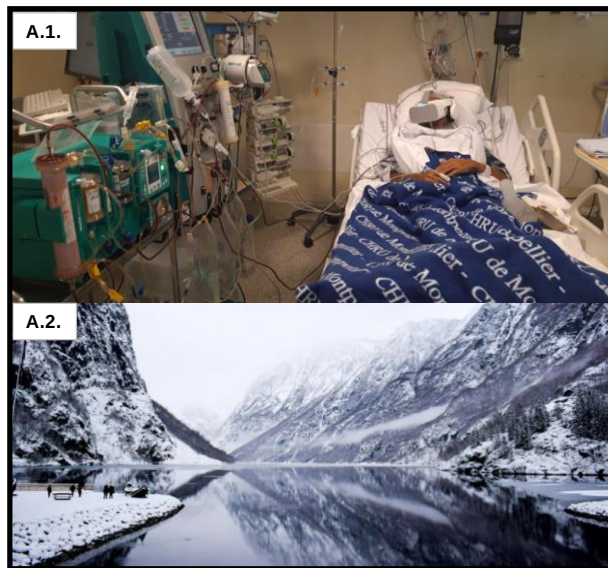


Discomfort improvement for critically ill patients using electronic relaxation devices: results of the cross-over randomized controlled trial E-CHOISIR (Electronic-CHOIce of a System for Intensive care Relaxation)

Lili Merliot-Gailhousset¹, Chloé Raimbert¹, Océane Garnier¹, Julie Carr¹, Audrey De Jong¹, Nicolas Molinari², Samir Jaber¹ and Gerald Chanques^{1*}

- 60 patients
- 62 ans
- Inclus à J3 de réa
- DDS = 8 jours

Symptôme	EN 0-10 médiane
Inconfort global	4
Douleur	2
Dyspnée	2
Anxiété	3
Manque de repos	5
Soif	6



Analyse multivariée (comparaison de chaque dispositif par rapport au standard)

Outcome principal : variation de l'inconfort global

VR
images de synthèse

Outcomes secondaires : variation de :
exploratrices

douleur

VR
images de synthèse

anxiété

VR
images réelles

VR
images de synthèse

manque repos

VR
images réelles

dyspnée

Musicothérapie
p=0.057

soif

Rien...?

Top 5 des
symptômes
de souffrance
en réa





La panacée
n'existe pas.
Il faut douter et
écouter, essayer et
faire au mieux...



Pot de pharmacie, Pierre Favier (1650)
Musée Fabre, Montpellier