



Reste-t-il encore de la place pour l'ALR à l'heure de l'OFA* ?

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RASA
2021



Hôpitaux de Toulouse



*Opioid free anesthesia

Liens d'intérêt

Je déclare avoir reçu des honoraires en tant que conférencier par Sanofi pour cette présentation
Pas d'autre lien d'intérêt

*Sanofi ne recommande en aucun cas l'usage des produits en dehors de leurs indications approuvées.
Merci de consulter le résumé des caractéristiques du(es) produit(s) avant de le(s) prescrire.
Les informations ci-après sont fournies pour un usage médical et scientifique uniquement,
et sont destinées exclusivement aux participants de cette manifestation scientifique.*

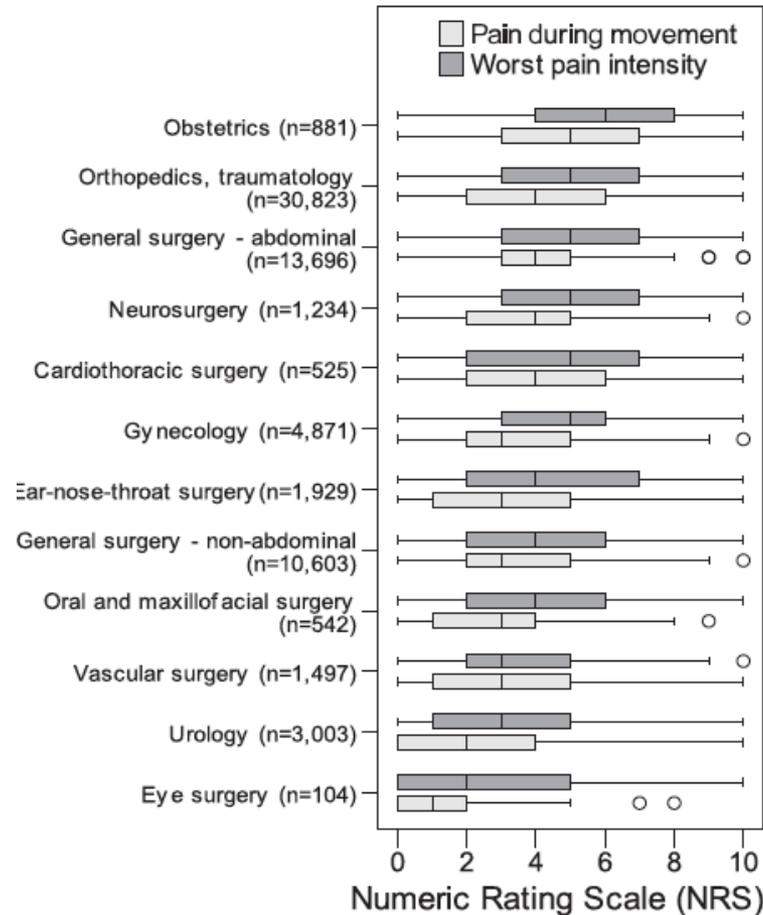
Lien d'intérêt

La douleur ça fait mal !

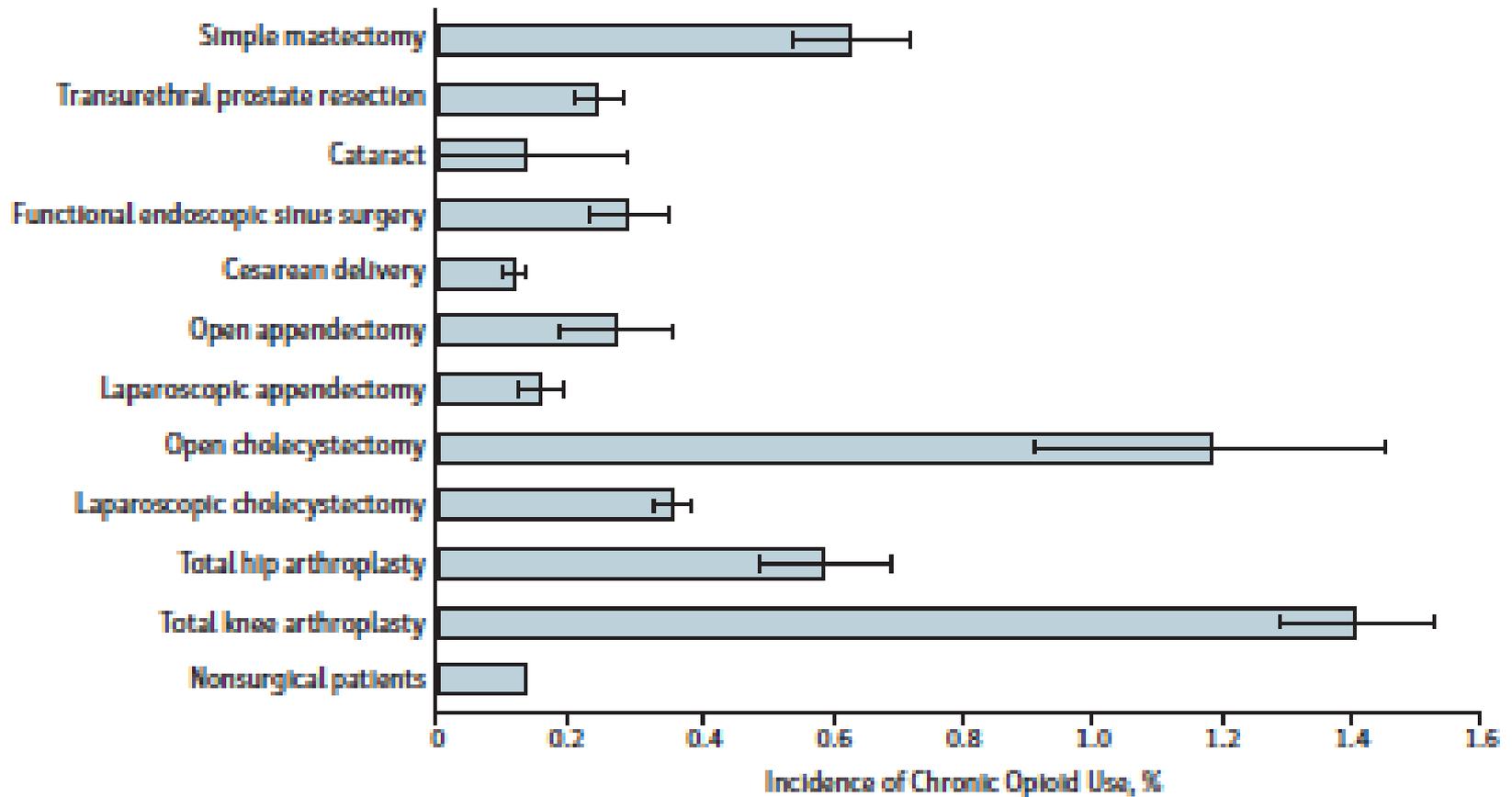
Jacques II de Chabannes seigneur de La Palice

Painful procedures

n = 70 518



Douleur Chronique



Facteurs de risque de la douleur chronique

- Génétique
- Intensité douleur péri opératoire +++
- Sévérité de la douleur durant les 4 premiers jours post opératoires +++
- Exposition aux opiacés +++

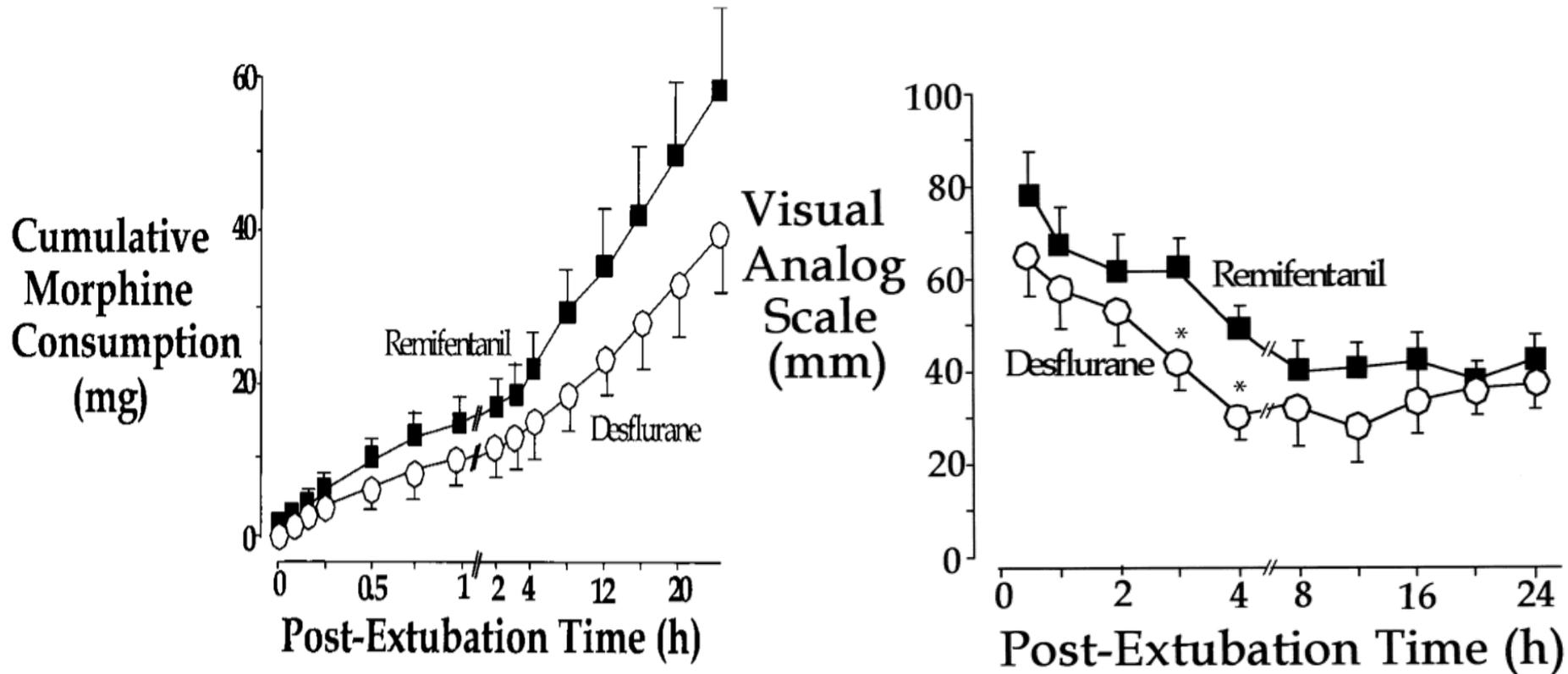
Fletcher et al. EJA 2015
Kampe et al. Pain Med 2016
Inacio et al. BMJ Open 2016

Predictive Factors of Severe Postoperative Pain in the Postanesthesia Care Unit

	Odds ratio	95% Confidence interval	<i>P</i>
High sufentanil dose ^a	2.68	[1.68–4.29]	<0.001
General anesthesia (vs regional)	3.96	[1.14–13.81]	0.03
Preoperative analgesics	1.91	[1.15–3.18]	0.01

^a High dose sufentanil = dose >0.6 µg/kg.

Hyperalgésie induite par le rémifentanyl



Opioides

ADVERSE EVENT	BUPRENORPHINE (%)	FENTANYL (%)	HYDROMORPHONE		SUFENTANIL		TOTAL (%)
			(%)	MEPERIDINE (%)	MORPHINE (%)	(%)	
Respiratory	NR	19/609 (3.1)	5/134 (3.7)	0/160 (0)	17/481 (3.5)	3/212 (1.4)	44/1596 (2.8)
Pruritus	2/23 (8.7)	87/514 (16.9)	63/158 (39.9)	25/169 (14.8)	100/541 (18.5)	14/184 (7.6)	291/1589 (18.3)
Gastrointestinal	12/23 (52.2)	228/722 (31.6)	59/158 (37.3)	57/256 (22.3)	240/636 (37.7)	34/239 (14.2)	630/2034 (31.0)
Urinary retention	3/23 (13.0)	19/172 (11.0)	13/107 (12.1)	4/97 (4.1)	60/186 (32.3)	13/55 (23.6)	112/640 (17.5)
CNS effects	NR	29/347 (8.4)	59/138 (42.7)	112/165 (67.9)	90/300 (30.0)	42/147 (28.6)	332/1097 (30.3)

Abbreviation: NR, not reported.

Opioides

Table 1. Incidence of Side Effects by Route; Summary Data from Randomized Controlled Trials

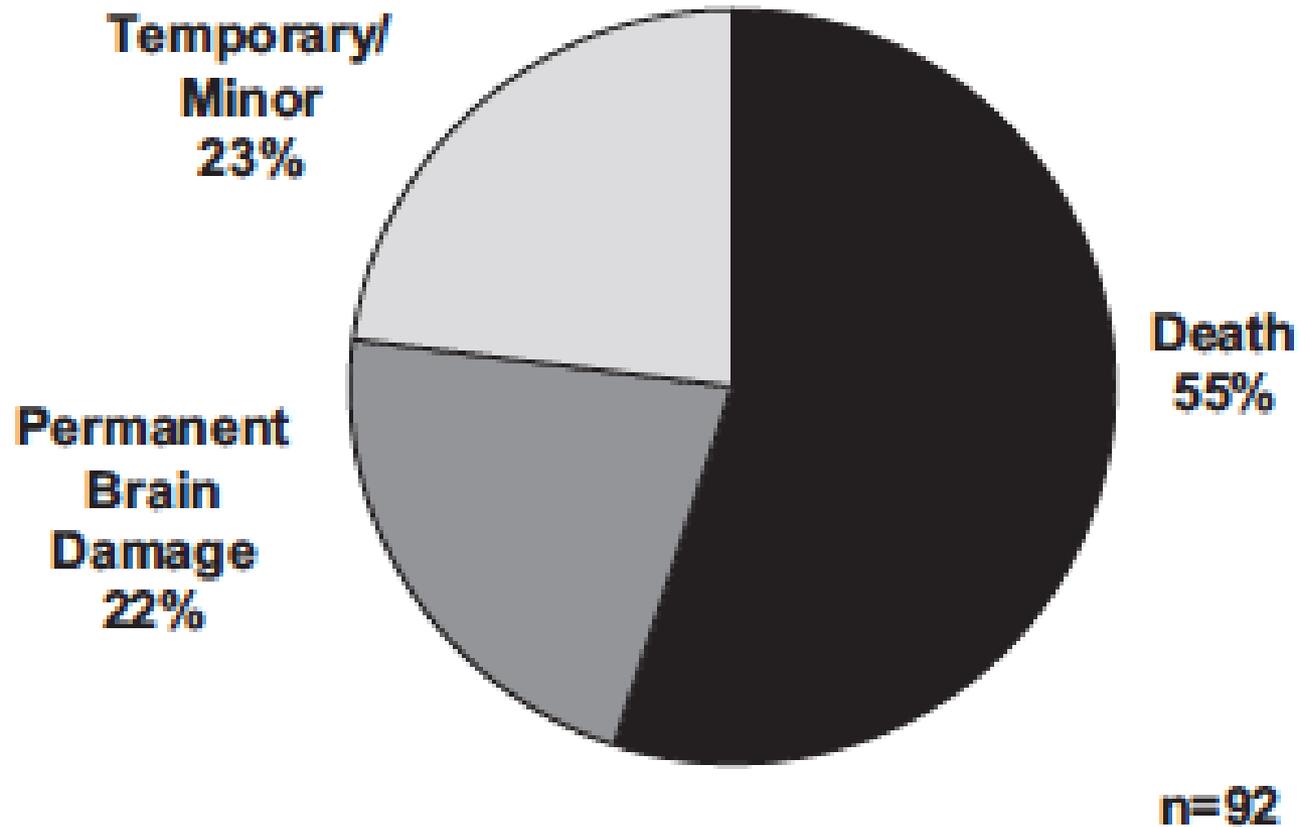
<i>ADVERSE EVENT</i>	<i>EPIDURAL (%)</i>	<i>PCA (%)</i>	<i>INTRATHECAL (%)</i>	<i>INTRAVENOUS/ INTRAMUSCULAR (%)</i>	<i>TRANSDERMAL (%)</i>	<i>ORAL (%)</i>	<i>TOTAL (%)</i>
Respiratory	12/635 (1.9)	8/442 (1.8)	3/182 (1.6)	4/164 (2.4)	17/154 (11.0)	0/19 (0)	44/1596 (2.8)
Pruritus	149/636 (23.4)	82/557 (14.7)	28/162 (17.3)	7/40 (17.5)	27/194 (13.9)	NR	291/1589 (18.3)
Gastrointestinal	158/688 (23.0)	282/761 (37.1)	29/170 (17.1)	71/252 (28.2)	88/144 (61.1)	5/19 (26.3)	630/2034 (31.0)
Urinary retention	36/138 (26.1)	36/220 (16.4)	32/90 (35.6)	4/97 (4.1)	4/95 (4.2)	NR	112/640 (17.5)
CNS effects	79/447 (17.7)	132/389 (33.9)	11/60 (18.3)	104/137 (75.9)	6/64 (9.4)	NR	332/1097 (30.3)

Abbreviation: NR, not reported.

Opioides

	All Claims (n = 92)	Neuraxial† (n = 36)	PCA (n = 49)	IV bolus (n = 49)
	n (%)	n (%)	n (%)	n (%)
Opioid				
Morphine	59 (64)	17 (47)	33 (67)	29 (59)
Fentanyl	23 (25)	19 (53)	2 (4)	5 (10)
Meperidine	22 (24)	1 (3)	6 (12)	14 (29)
Hydromorphone	23 (25)	0 (0)	14 (29)	13 (27)
Other‡	11 (12)	4 (12)	1 (2)	1 (2)
Continuous infusion of opioids				
Yes §		27 (75)	16 (33)	
No		9 (25)	4 (8)	
Unknown		0 (0)	29 (59)	

Opioides



La crise des opioïdes

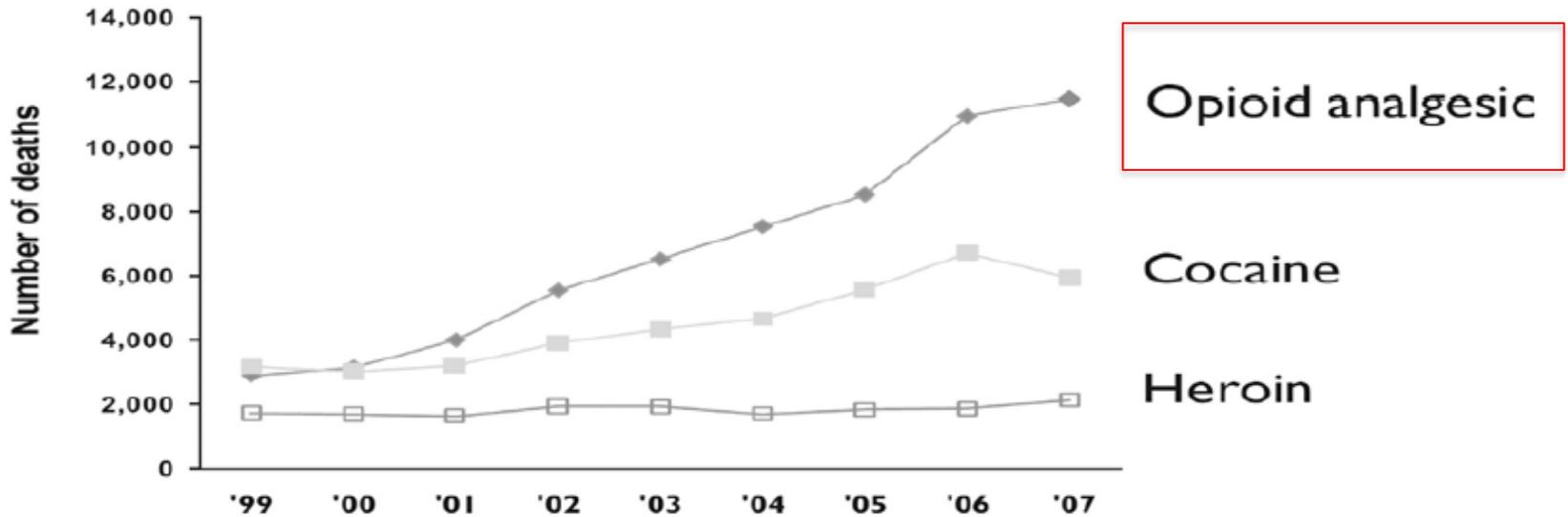
Drug	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	% of Change from 1997
Methadone	518,737	692,675 (34%)	964,982 (39%)	1,428,840* (48%)	1,892,691 (32%)	2,649,559 (40%)	3,683,881 (39%)	4,730,157 (28%)	5,362,815 (13%)	6,621,687 (23%)	7,228,219 (9%)	1293%
Oxycodone	4,449,562	6,579,719 (48%)	9,717,600 (48%)	15,305,913 (58%)	19,927,286 (30%)	22,376,892 (12%)	26,655,152 (19%)	29,177,530 (9%)	30,628,973 (5%)	37,034,220 (21%)	42,977,043 (16%)	866%
Fentanyl Base	74,086	90,618 (22%)	107,141 (18%)	146,612* (37%)	186,083 (27%)	242,027 (30%)	317,200 (31%)	370,739 (17%)	387,928 (5%)	428,668 (11%)	463,340 (8%)	525%
Hydromorphone	241,078	260,009 (8%)	292,506 (12%)	346,574* (18%)	400,642 (16%)	473,362 (18%)	579,372 (22%)	655,395 (13%)	781,287 (19%)	901,663 (15%)	1,011,028 (12%)	319%
Hydrocodone	8,669,311	10,389,503 (20%)	12,101,621 (16%)	14,118,637 (17%)	15,594,692 (10%)	18,822,619 (21%)	22,342,174 (19%)	24,081,900 (8%)	25,803,543 (7%)	29,856,368 (16%)	32,969,527 (10%)	280%
Morphine	5,922,872	6,408,322 (8%)	6,804,935 (6%)	7,807,511 (15%)	8,810,700 (13%)	10,264,264 (16%)	12,303,956 (20%)	14,319,243 (16%)	15,054,846 (5%)	17,507,148 (16%)	19,051,426 (9%)	222%
Codeine	25,071,410	26,018,054 (4%)	23,917,088 (-8%)	23,474,865* (-2%)	23,032,641 (-2%)	22,633,733 (-2%)	21,865,409 (-3%)	20,264,555 (-7%)	18,960,038 (-6%)	18,762,919 (-1%)	18,840,329 (0.4%)	-25%
Meperidine (Pethidine)	5,765,954	5,834,294 (1%)	5,539,592 (-5%)	5,494,898* (-1%)	5,450,204 (-1%)	5,412,389 (-1%)	5,239,932 (-3%)	4,856,644 (-7%)	4,272,520 (-12%)	4,160,033 (-3%)	3,936,179 (-5%)	-32%
Total	50,713,010	56,273,194 (11%)	59,445,465 (6%)	35,962,089.84 (15%)	75,294,939 (11%)	82,874,845 (10%)	92,987,076 (12%)	98,456,163 (6%)	101,251,950 (6%)	115,272,706 (14%)	126,477,091 (10%)	149%

DISPENSED PRESCRIPTIONS MN		2007	2008	2009	2010	2011
Total US Market		3,825	3,866	3,949	3,993	4,024
1	Antidepressants	237	241	247	254	264
2	Lipid Regulators	233	242	254	260	260
3	Narcotic Analgesics	231	239	241	244	238
4	Antidiabetics	165	166	169	172	173
5	Ace Inhibitors (Plain & Combo)	159	163	166	168	164
6	Beta Blockers (Plain & Combo)	162	164	163	162	161
7	Respiratory Agents	147	147	152	153	153
8	Anti-Ulcerants	134	139	146	147	150
9	Diuretics	137	135	132	131	128
10	Anti-Epileptics	102	110	116	122	128

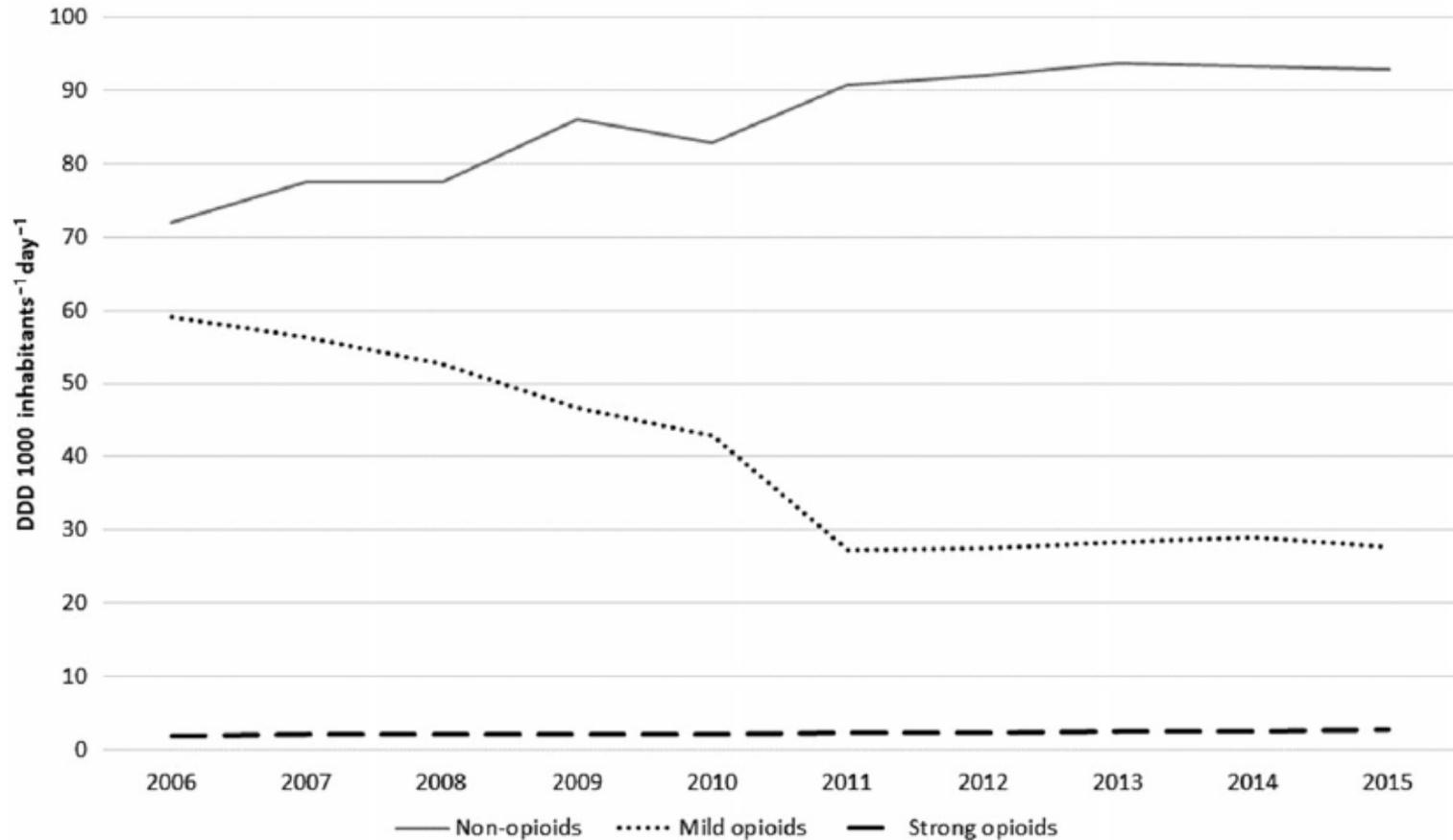


Deaths

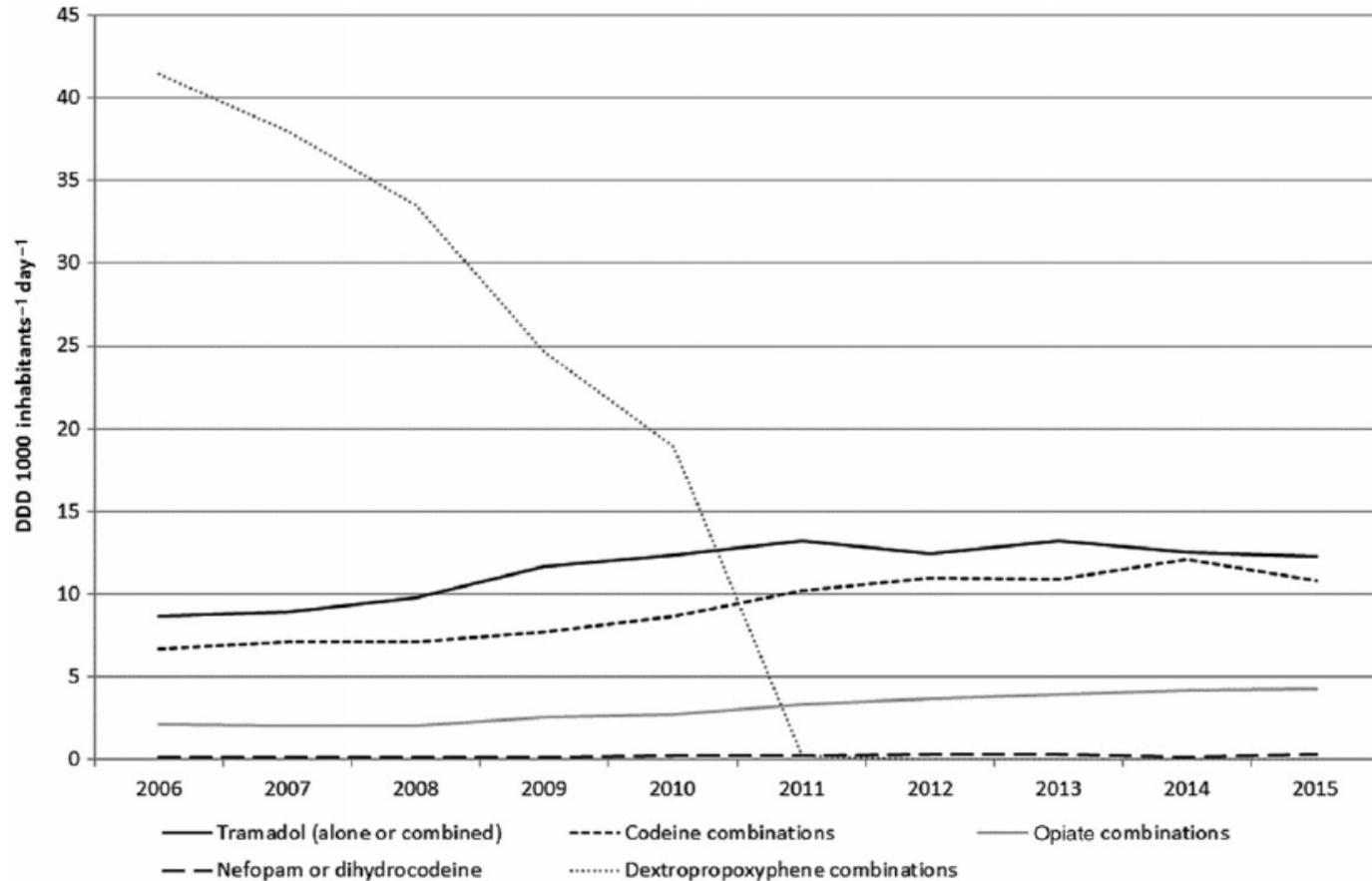
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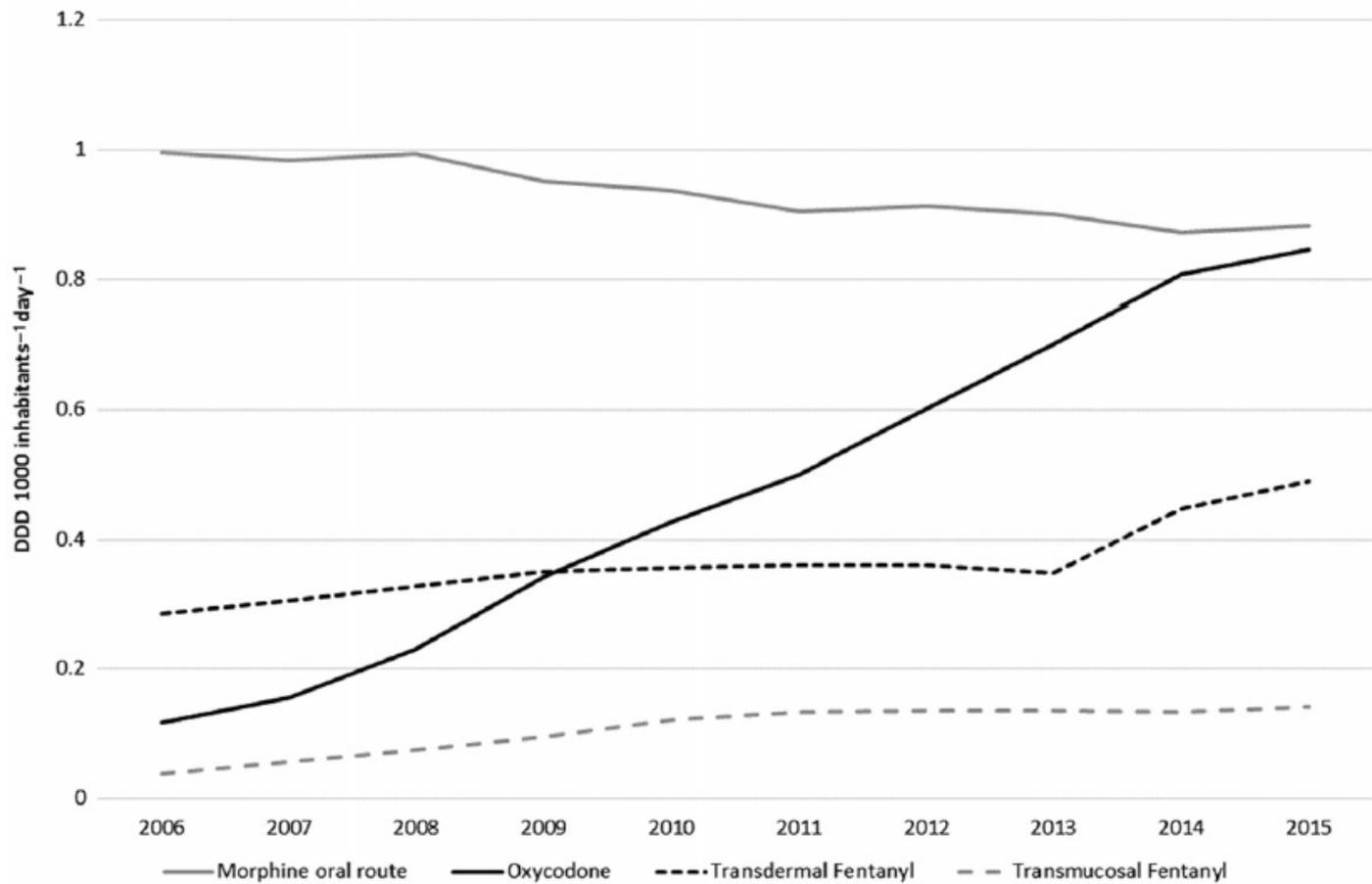
La tendance en France



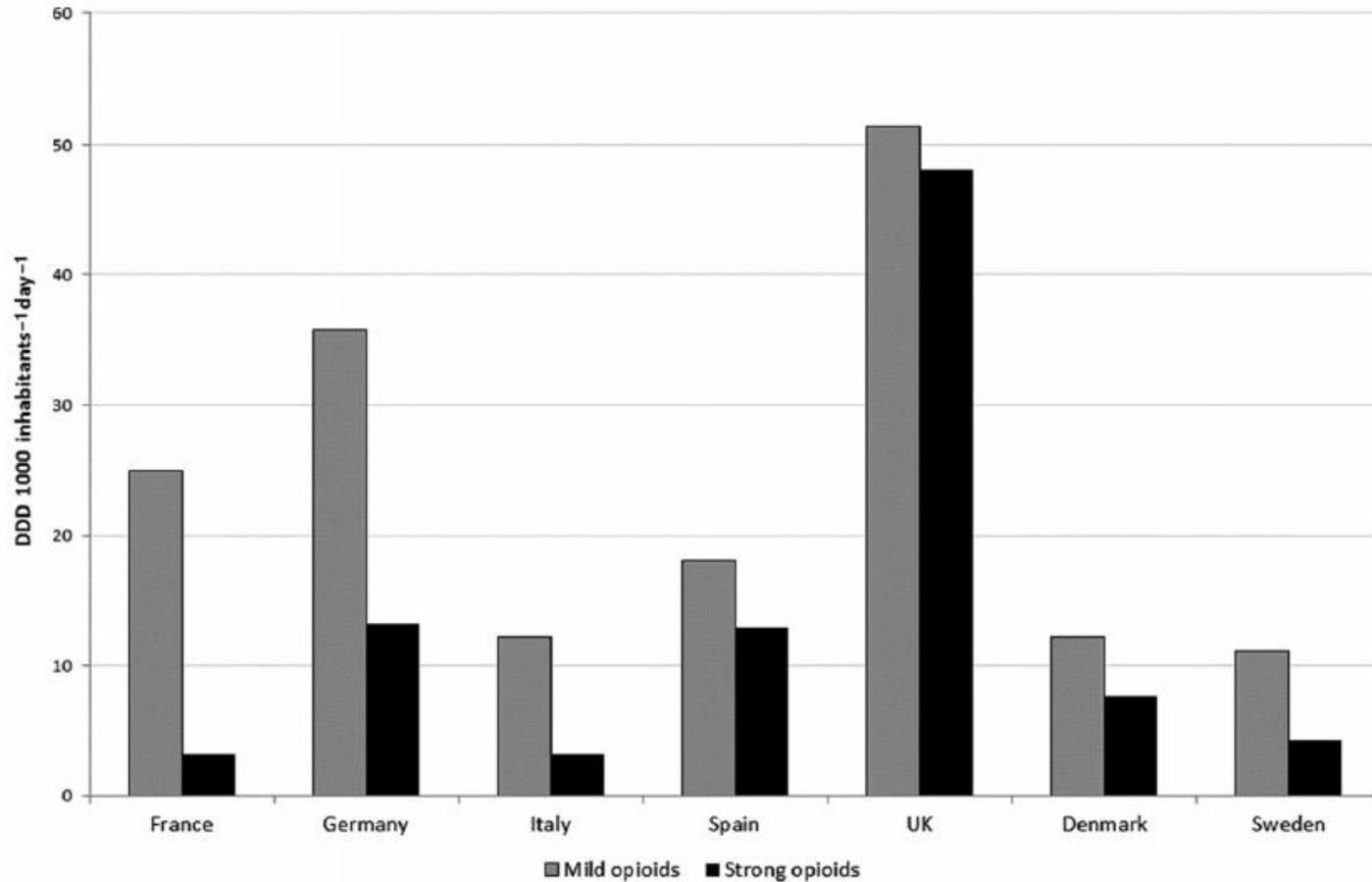
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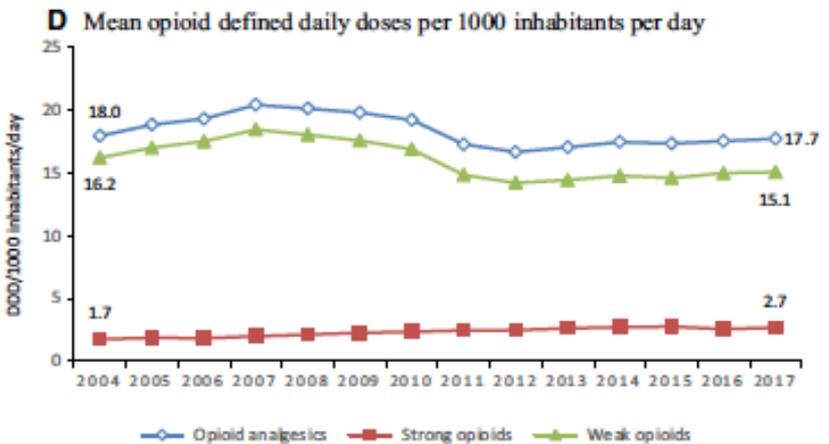
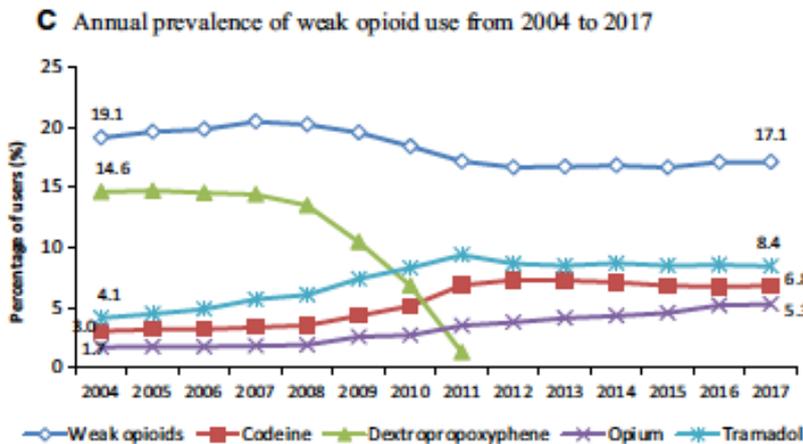
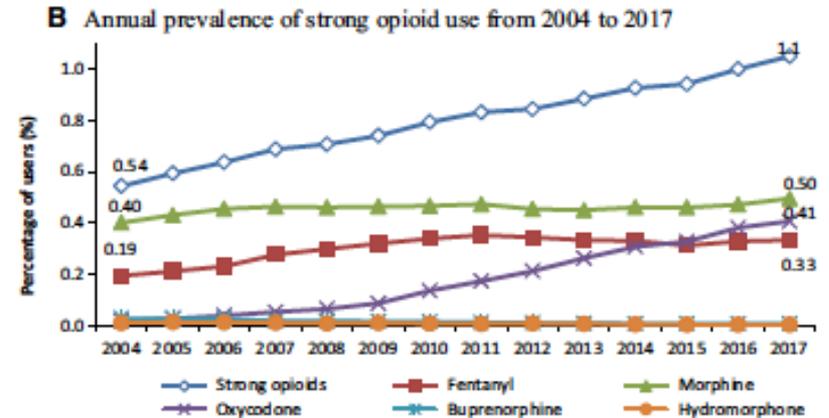
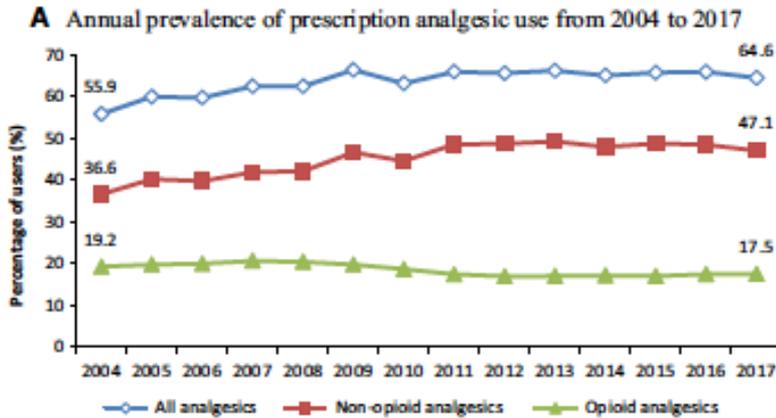
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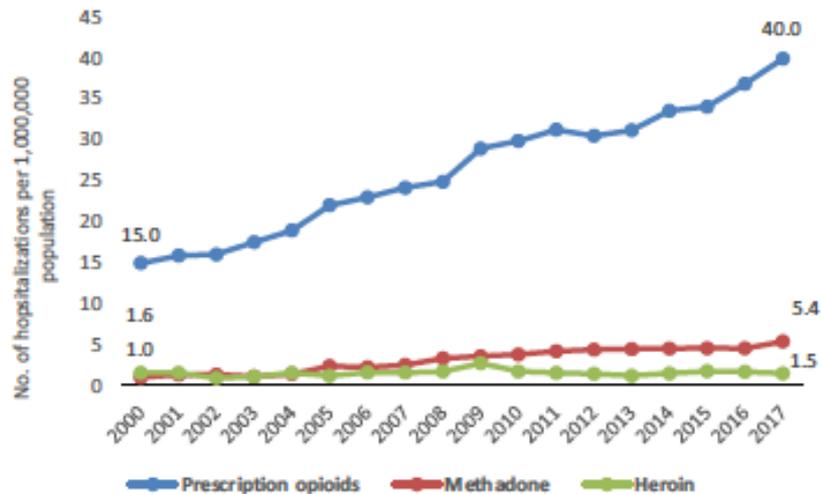


La petite crise des opioïdes en France

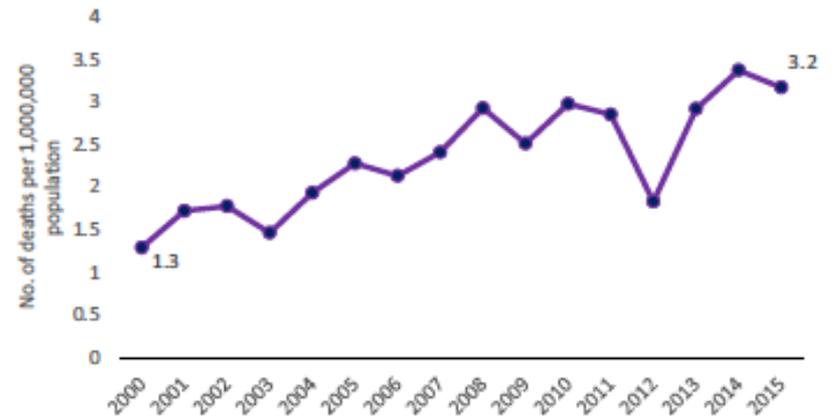


La petite crise des opioïdes en France

C Opioid-related hospital admissions from 2000 to 2017 in France^a



D Opioid-related deaths from 2000 to 2015 in France^{a, b}



Readmission Rates after Major Operating Room Procedures

Variable	Odds Ratio (95% CI)
Opioid abuse or dependence	1.26 (1.22–1.30)

Reasons for readmission

	Patients with Opioid Abuse or Dependence (N = 13,337)	Patients without Opioid Abuse or Dependence (N =1,380,962)	P Value
Acute respiratory failure	129 (1.0)	15,288 (1.1)	0.29
Acute heart failure	99 (0.7)	21,763 (1.6)	< 0.0001*
Acute renal failure	260 (2.0)	32,404 (2.4)	0.10
Infections	3,542 (27.0)	261,485 (18.9)	< 0.0001*
Device- and procedure-related infections	1,110 (8.3)	106,194 (7.7)	0.10
Sepsis	919 (6.9)	90,402 (6.6)	0.32
Cellulitis and other subcutaneous infections	659 (4.9)	17,239 (1.3)	< 0.0001*
Bone and joint infections	371 (2.8)	7,185 (0.5)	< 0.0001*
Pneumonia	278 (2.1)	32,855 (2.4)	0.16
Central nervous system abscess	88 (0.7)	1,690 (0.1)	< 0.0001*
Endocarditis	61 (0.5)	634 (0.1)	< 0.0001*
Abdominal abscess and peritonitis	48 (0.4)	5,677 (0.4)	0.48
Nonhealing wounds/dehiscence	223 (1.7)	20,520 (1.5)	0.27
Psychiatric disorders	371 (2.8)	8,152 (0.6)	< 0.0001*
Opioid-related			
Opioid dependence	60 (0.5)	144 (0.01)	< 0.0001*
Other drug dependence	21 (0.2)	130 (0.01)	0.01
Opioid overdose	135 (1.0)	1,563 (0.1)	< 0.0001*
Drugs other than opioids			
Overdose of other drugs	66 (0.5)	1,342 (0.1)	< 0.0001*
Drug withdrawal (except alcohol)	154 (1.2)	704 (0.05)	< 0.0001*
Drug mental disorders	24 (0.2)	376 (0.03)	0.07
Pain diagnoses			
Acute pain	129 (1.0)	6,638 (0.5)	< 0.0001*

Reasons for readmission

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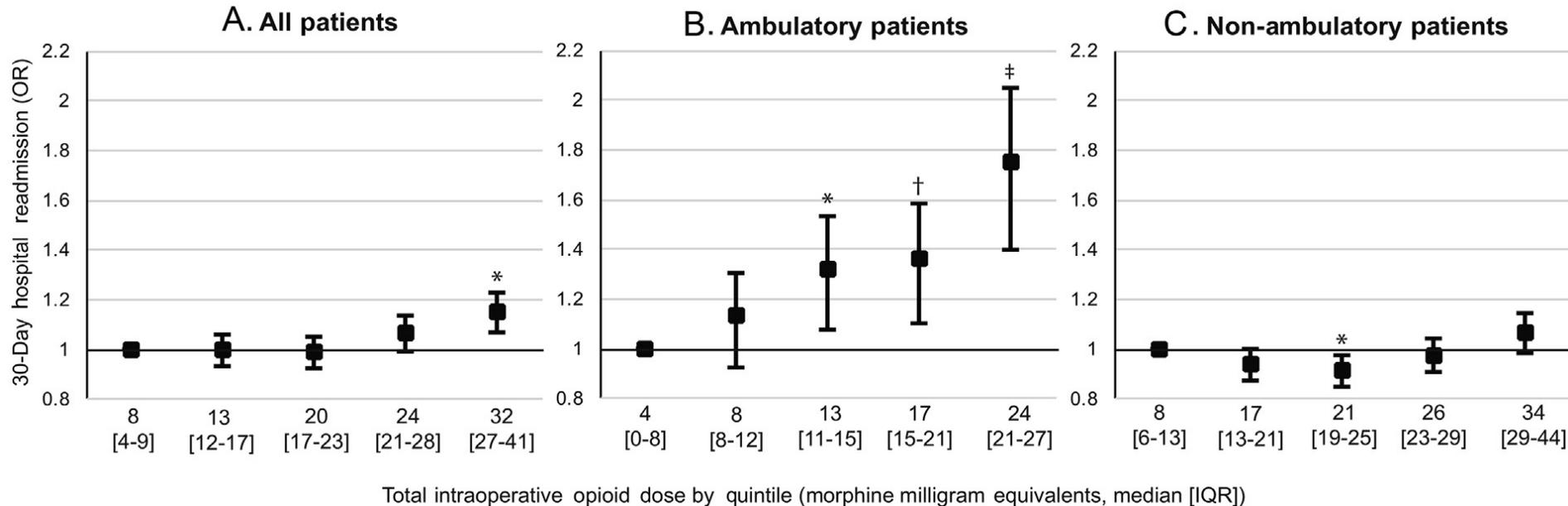
Length of stay and hospital cost at initial admission

Outcome	Patients with Opioid Abuse or Dependence (N = 94,903)	Patients without Opioid Abuse or Dependence (N = 15,921,938)	P Value
Unadjusted			
Length of stay on initial admission, days	10 (10–10)	5 (5–5)	< 0.0001*
Cost of stay on initial admission, \$	27,422 (27,214–27,634)	19,409 (19,398–19,421)	< 0.0001*
Adjusted†			
Length of stay on initial admission, days	6 (6–6)	4 (4–4)	< 0.0001*
Cost of stay on initial admission, \$	18,528 (18,424–18,632)	16,617 (16,610–16,624)	< 0.0001*

Length of stay and hospital cost at Readmission

Outcome	Patients with Opioid Abuse or Dependence (N = 13,337)	Patients without Opioid Abuse or Dependence (N = 15,921,938)	P Value
Unadjusted			
Length of stay on readmission, days	7 (7–7)	6 (6–6)	< 0.0001*
Cost of stay on readmission, \$	15,248 (14,898–15,606)	14,564 (14,532–14,597)	0.01
Adjusted†			
Length of stay on readmission, days	6 (5–6)	5 (5–5)	< 0.0001*
Cost of stay on readmission, \$	12,258 (11,978–12,545)	12,220 (12,185–12,256)	0.79

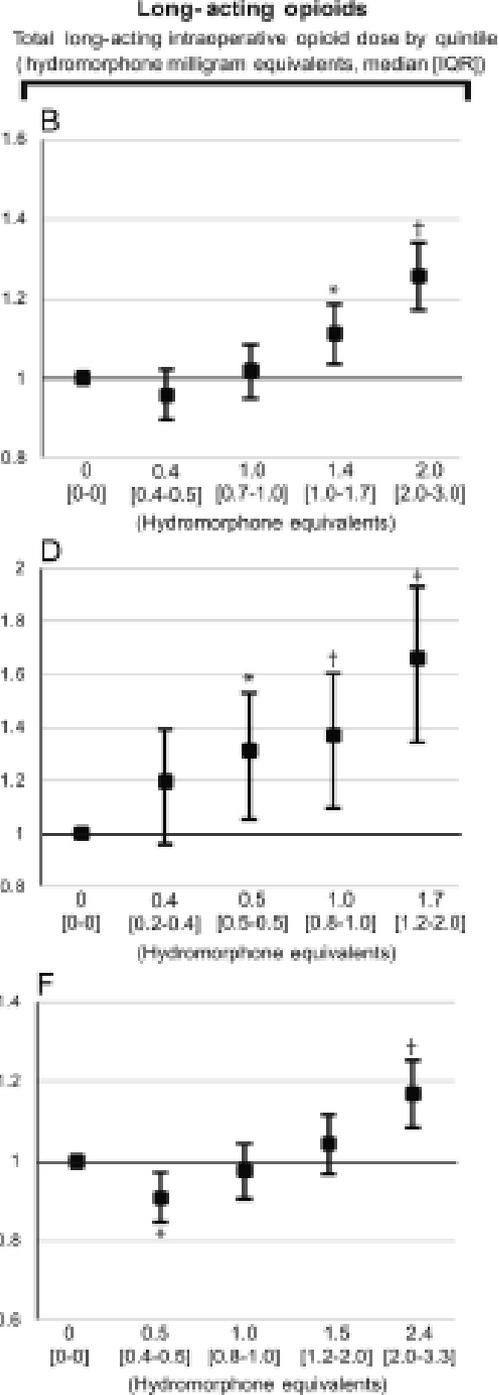
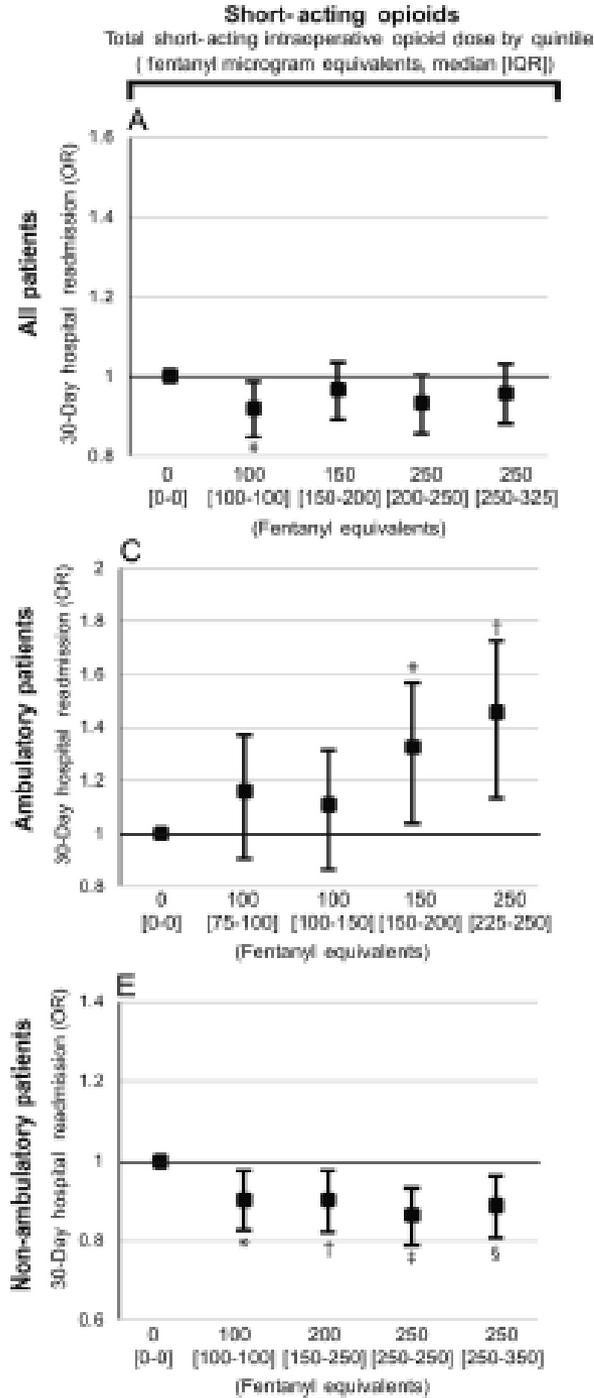
Association between intraoperative opioid administration and 30-day readmission



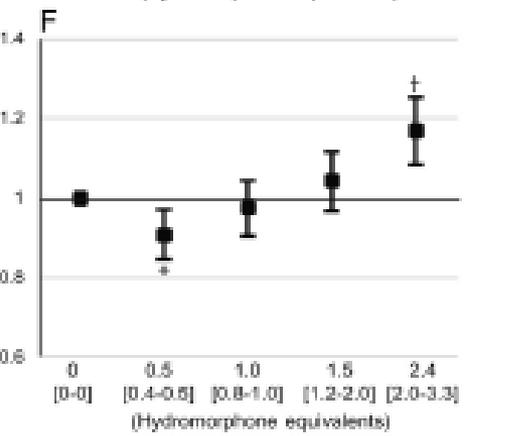
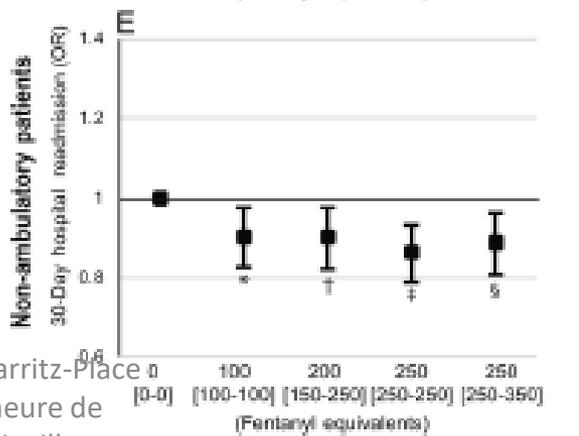
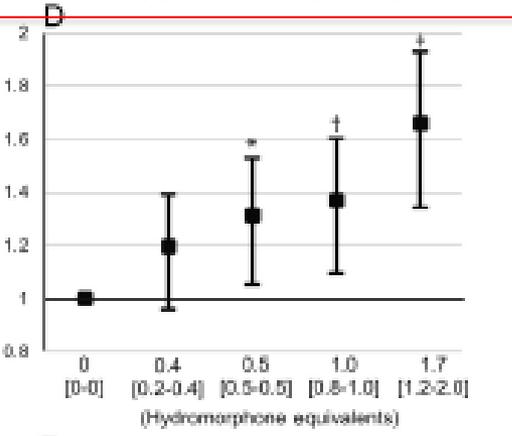
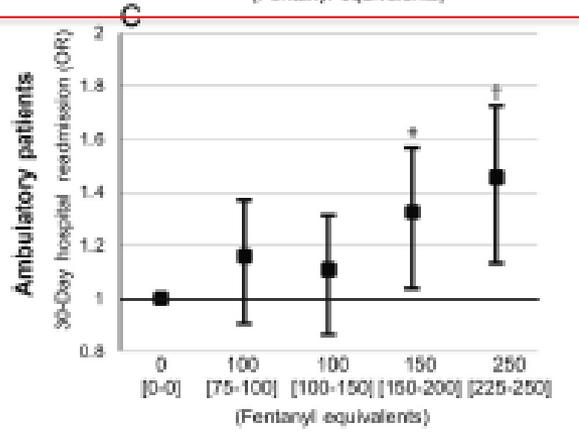
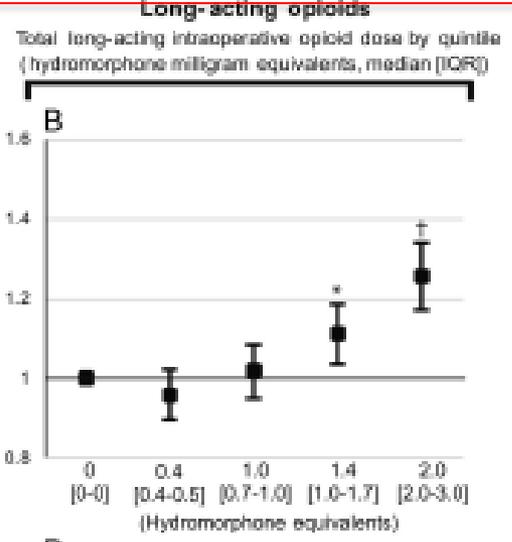
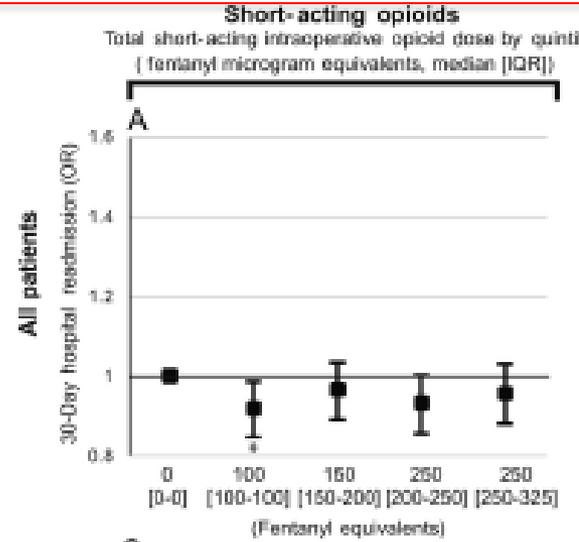
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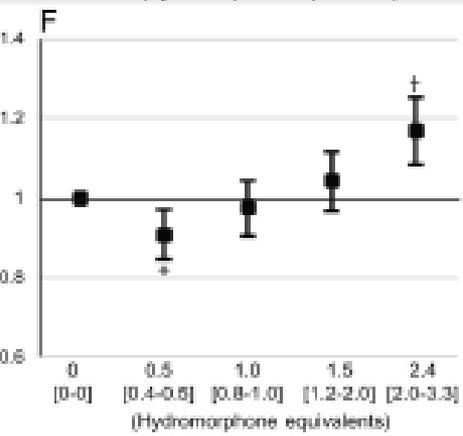
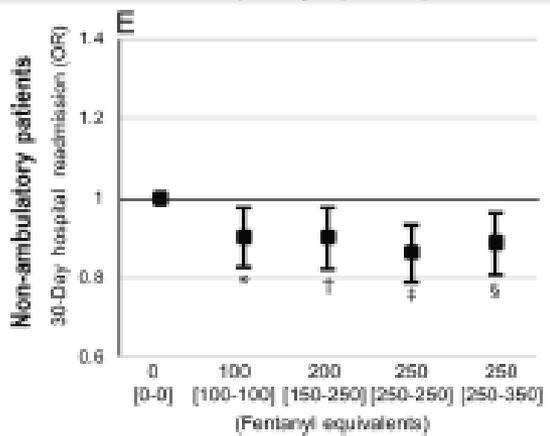
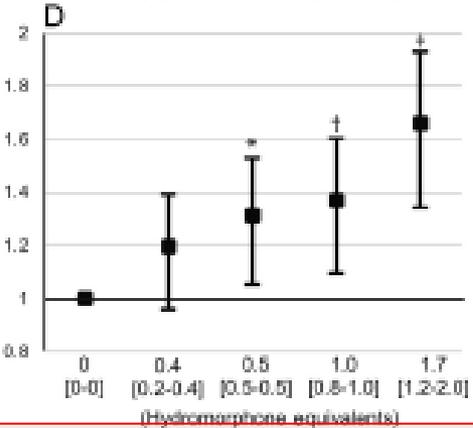
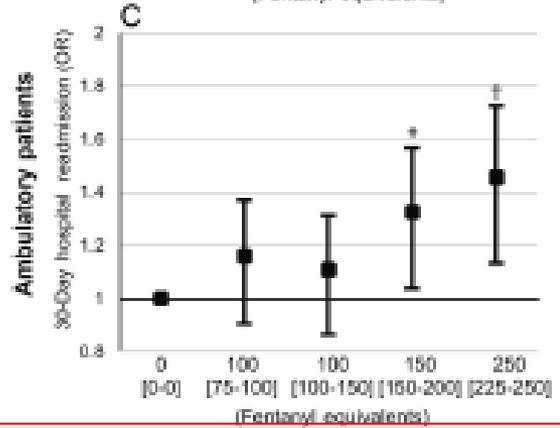
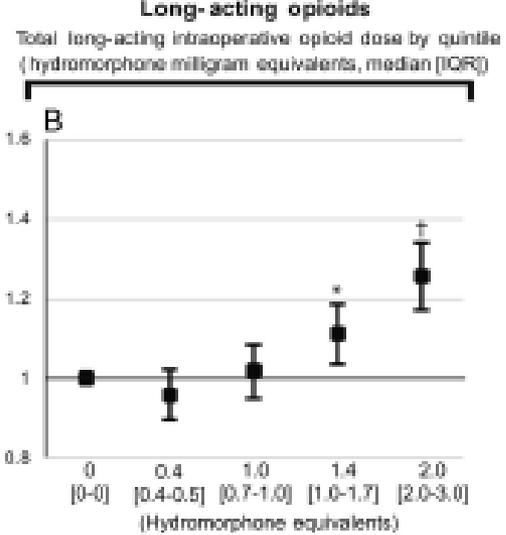
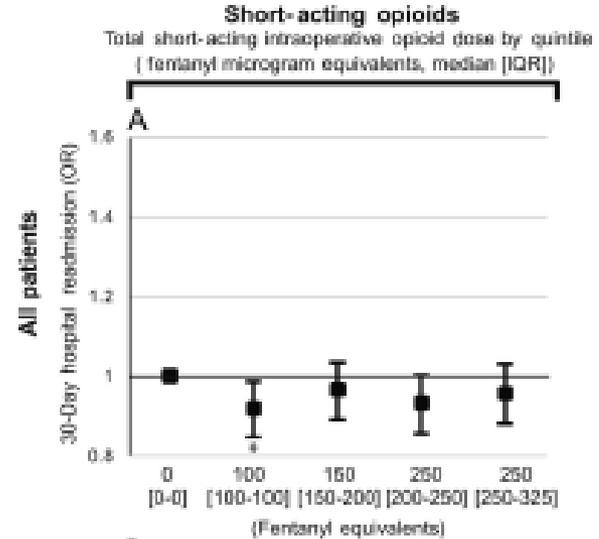
RS_2021-10_Biarritz-Place de l'OFA à
l'heure de l'ALR_Pr Minville

Long et al. BJA 2018



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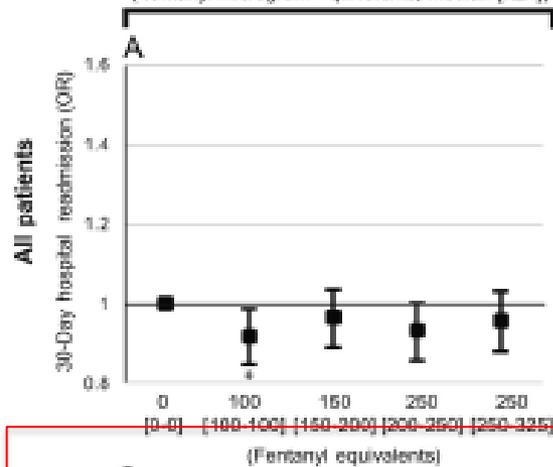




Long et al. BJA 2018

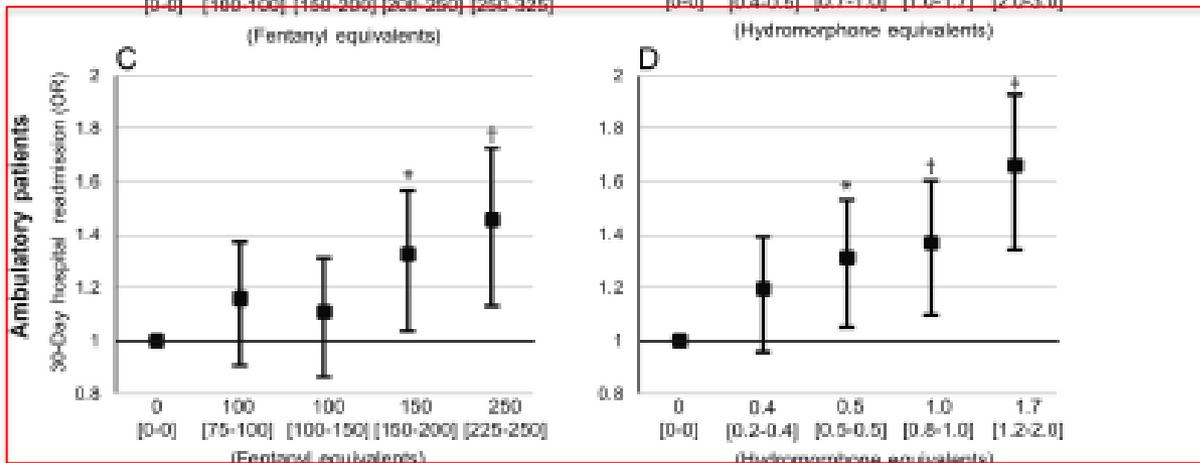
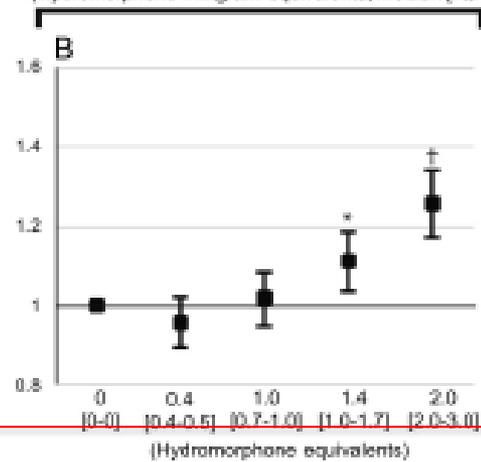
Short-acting opioids

Total short-acting intraoperative opioid dose by quintile
(fentanyl microgram equivalents, median [IQR])

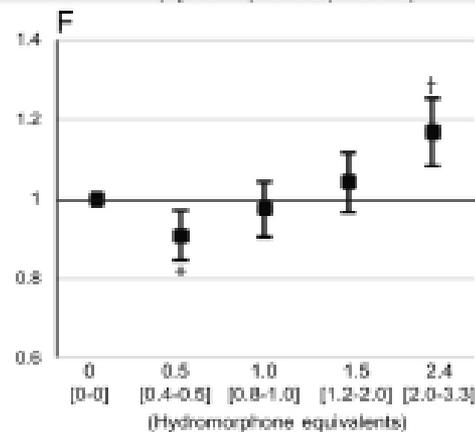
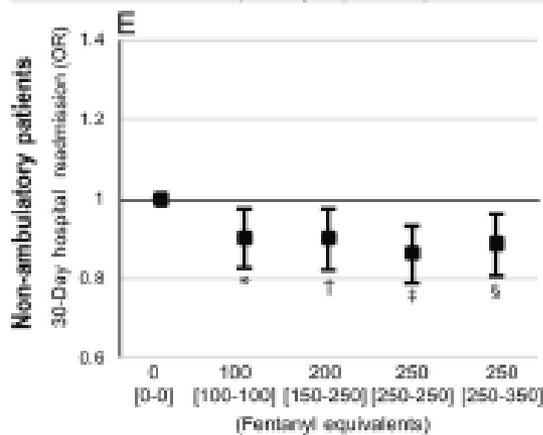


Long-acting opioids

Total long-acting intraoperative opioid dose by quintile
(hydromorphone milligram equivalents, median [IQR])



Attention si
> 30 mg morphine



Long et al. BJA 2018

Comment diminuer les opioïdes ?

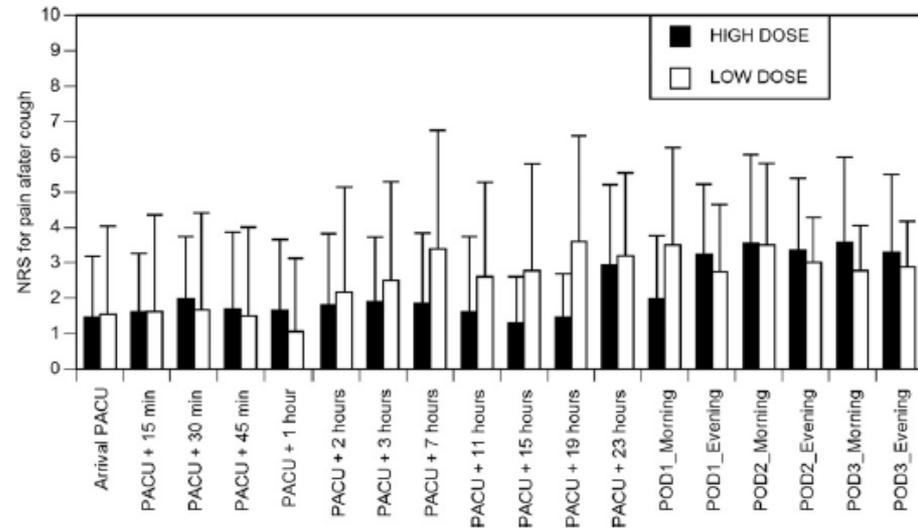
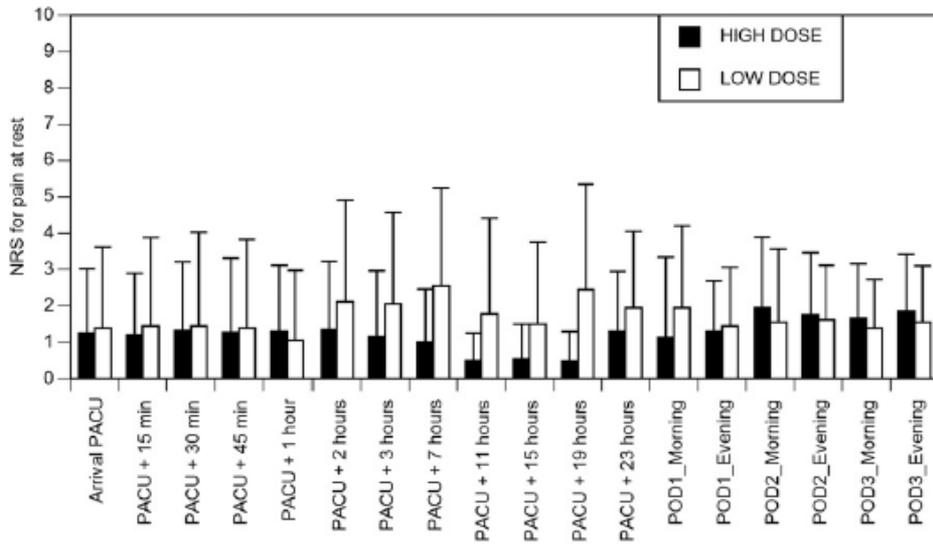
Opioid prescription

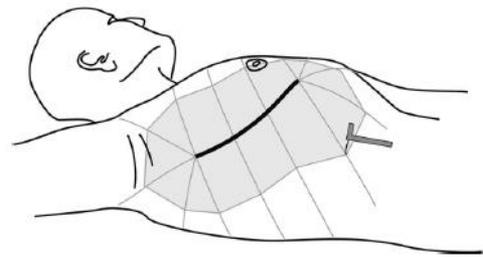
- Orthopedic surgeons are overprescribing opioids.
- Orthopedic trauma surgeons should tailor their postoperative opioid prescriptions to the individual patient and utilize alternative options in order to control postoperative pain.

Opioid prescription

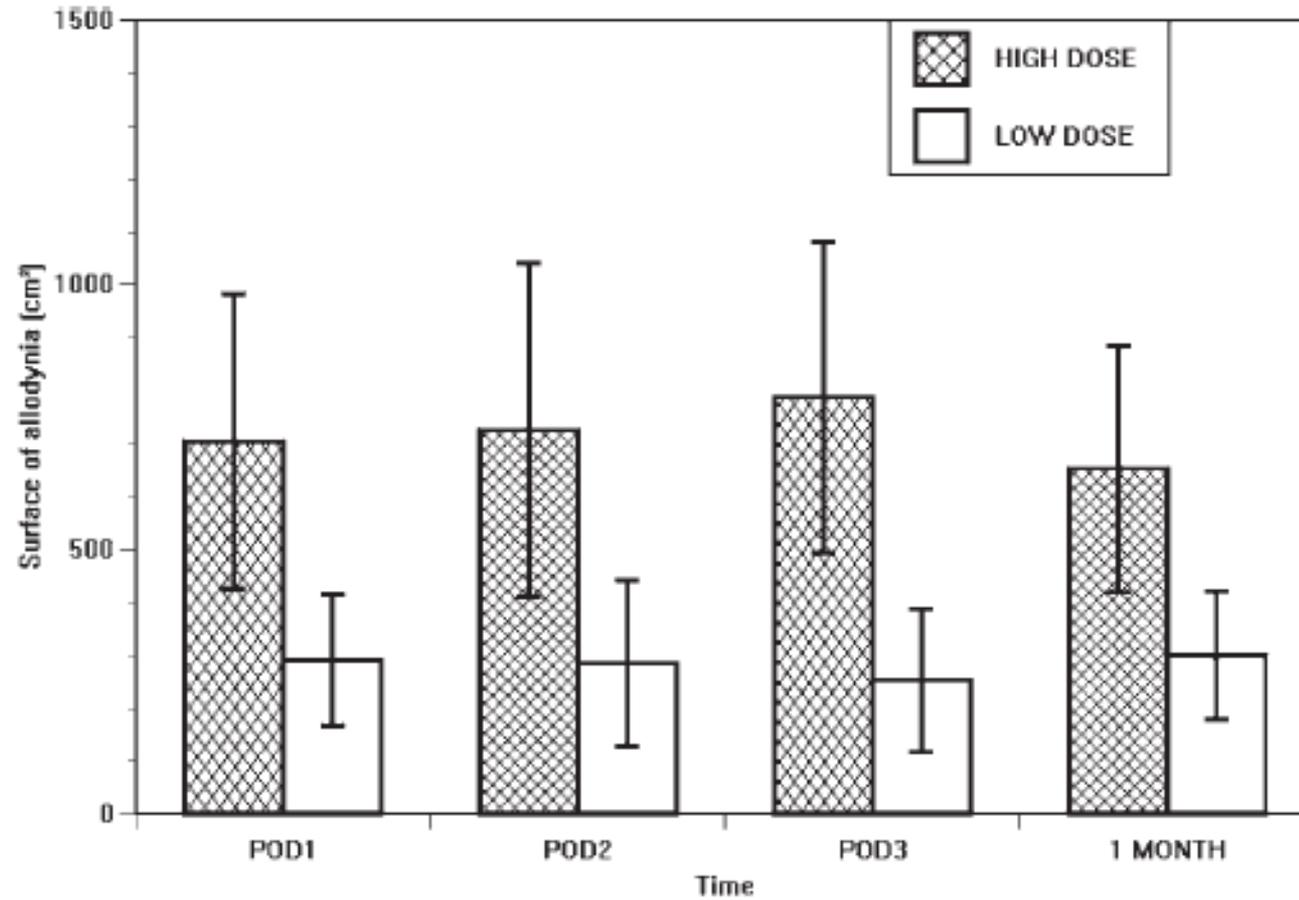
- Opioid-sparing strategies
- Minimally invasive surgical techniques
- Intraoperative multimodal drug injection and nerve blockade are viable alternatives for postoperative pain control and can help decrease systemic opioid use.

L'anesthésie loco régionale ?





ALR



ALR

Table 3. Number of Patients with Pain

	High-Dose Group N = 20	Low-Dose Group N = 18	RR [95% CI]	<i>p</i> Value
1 month postop	16 (80%)	12 (66.7%)	1.2 [0.81-1.78]	0.364
3 months postop	15 (75%)	5 (27.8%)	2.7 [1.23-5.93]	0.013
6 months postop	16 (80%)	5 (27.8%)	2.9 [1.32-6.26]	0.008
End of study	14 (70%)	3 (16.7%)	4.2 [1.44- 12.27]	0.009

Abbreviations: CI, confidence interval; RR, relative risk of the high-dose group compared with the low-dose group.

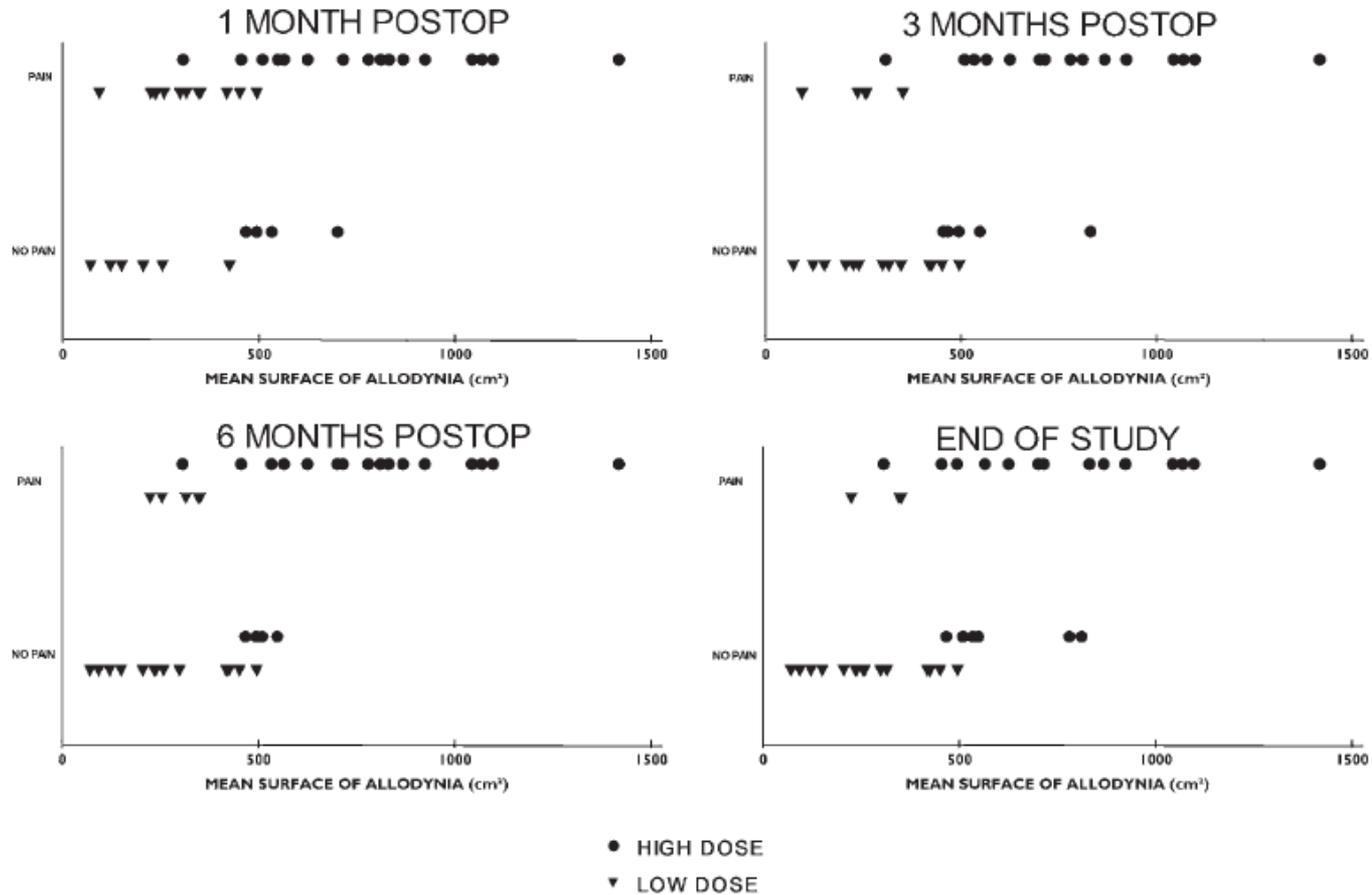
ALR

Table 5. Number of Patients with DN4 Neuropathic Pain Diagnostic Questionnaire Score ≥ 4

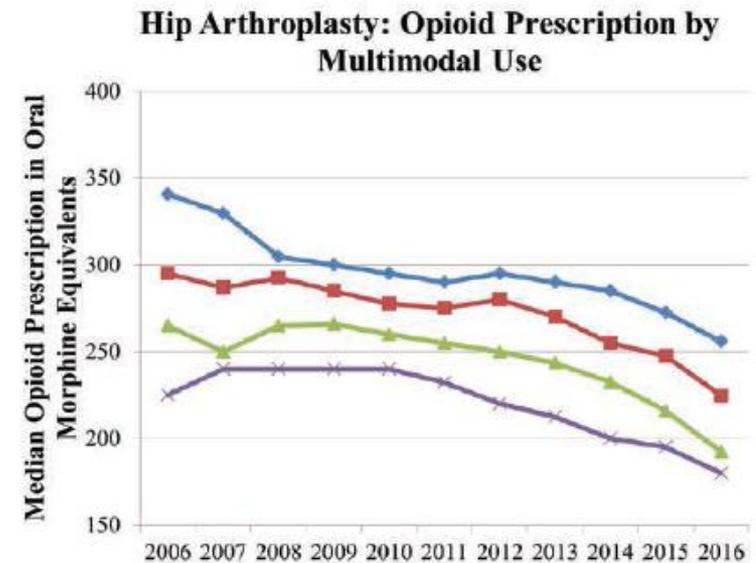
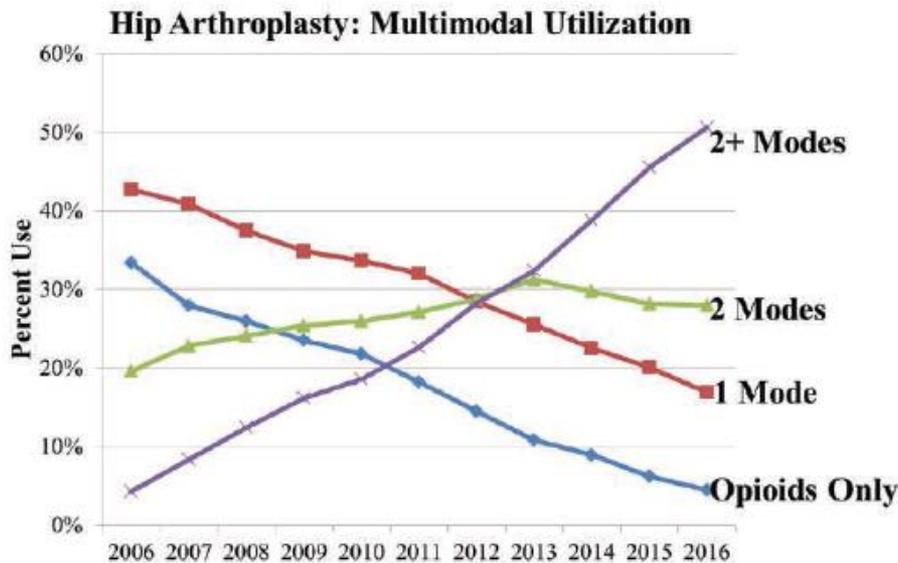
	High-Dose Group N = 20	Low-Dose Group N = 18	RR [95% CI]	<i>p</i> Value
1 month postop	16 (80%)	5 (27.8%)	2.88 [1.32-6.26]	0.008
3 months postop	10 (50%)	3 (16.7%)	3.00 [0.98-9.21]	0.055
6 months postop	11 (55%)	3 (16.7%)	3.30 [1.09-9.98]	0.034
End of study	11 (55%)	2 (11.1%)	4.95 [1.26-19.39]	0.022

Abbreviations: CI, confidence interval; RR, relative risk of the high-dose group compared with the low-dose group.

ALR



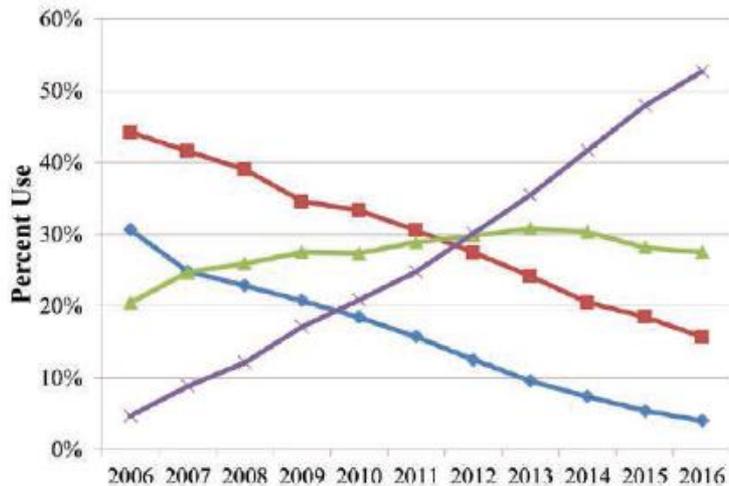
Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization



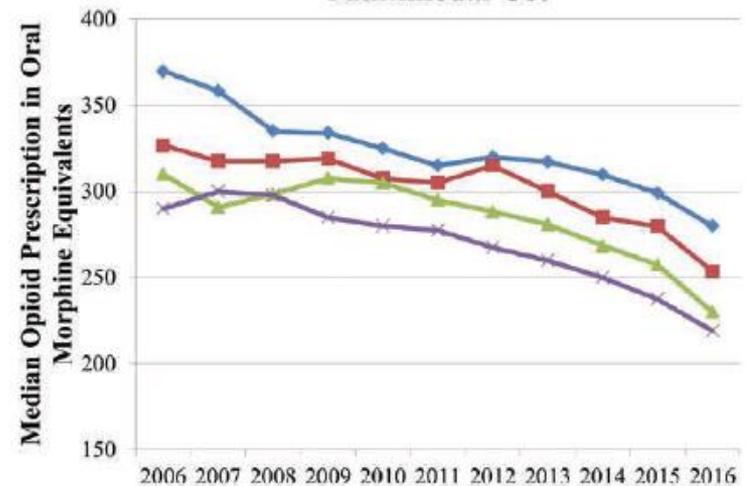
Total hip/knee arthroplasties (N = 512,393 and N = 1,028,069, respectively)

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

Knee Arthroplasty: Multimodal Utilization



Knee Arthroplasty: Opioid Prescription by Multimodal Use



Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Hip arthroplasties, multimodal modality				
NSAIDs	-5.5% (-5.9; -5.1%)*	-1.3% (-1.7; -0.9%)*	-10.9% (-11.3; -10.4%)*	-8.2% (-8.8; -7.6%)*
COX-2 inhibitors	-9.2% (-9.6; -8.8%)*	-4.8% (-5.2; -4.3%)*	-10.5% (-11.0; -10.0%)*	-16.6% (-17.2; -16.0%)*
Ketamine	4.4% (3.6; 5.3%)*	2.5% (1.5; 3.5%)*	4.1% (3.0; 5.3%)*	4.7% (3.1; 6.2%)*
Gabapentin/pregabalin	0.3% (-0.2; 0.7%)	-1.9% (-2.4; -1.4%)*	1.4% (0.7; 2.0%)*	4.7% (3.9; 5.6%)*
Steroids	3.0% (1.8; 4.2%)*	2.4% (1.0; 3.8%)*	0.1% (-1.4; 1.7%)	5.4% (3.3; 7.5%)*
APAP	-3.1% (-3.5; -2.7%)*	0.2% (-0.2; 0.7%)	-4.3% (-4.9; -3.8%)*	-3.4% (-4.1; -2.7%)*
Peripheral nerve block	-4.0% (-4.8; -3.1%)*	-5.1% (-6.0; -4.1%)*	-2.0% (-3.1; -0.8%)*	-5.3% (-6.7; -3.8%)*

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Hip arthroplasties, multimodal modality				
NSAIDs	-5.5% (-5.9; -5.1%)*	-1.3% (-1.7; -0.9%)*	-10.9% (-11.3; -10.4%)*	-8.2% (-8.8; -7.6%)*
COX-2 inhibitors	-9.2% (-9.6; -8.8%)*	-4.8% (-5.2; -4.3%)*	-10.5% (-11.0; -10.0%)*	-16.6% (-17.2; -16.0%)*
Ketamine	4.4% (3.6; 5.3%)*	2.5% (1.5; 3.5%)*	4.1% (3.0; 5.3%)*	4.7% (3.1; 6.2%)*
Gabapentin/pregabalin	0.3% (-0.2; 0.7%)	-1.9% (-2.4; -1.4%)*	1.4% (0.7; 2.0%)*	4.7% (3.9; 5.6%)*
Steroids	3.0% (1.8; 4.2%)*	2.4% (1.0; 3.8%)*	0.1% (-1.4; 1.7%)	5.4% (3.3; 7.5%)*
APAP	-3.1% (-3.5; -2.7%)*	0.2% (-0.2; 0.7%)	-4.3% (-4.9; -3.8%)*	-3.4% (-4.1; -2.7%)*
Peripheral nerve block	-4.0% (-4.8; -3.1%)*	-5.1% (-6.0; -4.1%)*	-2.0% (-3.1; -0.8%)*	-5.3% (-6.7; -3.8%)*

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Hip arthroplasties, multimodal modality				
NSAIDs	-5.5% (-5.9; -5.1%)*	-1.3% (-1.7; -0.9%)*	-10.9% (-11.3; -10.4%)*	-8.2% (-8.8; -7.6%)*
COX-2 inhibitors	-9.2% (-9.6; -8.8%)*	-4.8% (-5.2; -4.3%)*	-10.5% (-11.0; -10.0%)*	-16.6% (-17.2; -16.0%)*
Ketamine	4.4% (3.6; 5.3%)*	2.5% (1.5; 3.5%)*	4.1% (3.0; 5.3%)*	4.7% (3.1; 6.2%)*
Gabapentin/pregabalin	0.3% (-0.2; 0.7%)	-1.9% (-2.4; -1.4%)*	1.4% (0.7; 2.0%)*	4.7% (3.9; 5.6%)*
Steroids	3.0% (1.8; 4.2%)*	2.4% (1.0; 3.8%)*	0.1% (-1.4; 1.7%)	5.4% (3.3; 7.5%)*
APAP	-3.1% (-3.5; -2.7%)*	0.2% (-0.2; 0.7%)	-4.3% (-4.9; -3.8%)*	-3.4% (-4.1; -2.7%)*
Peripheral nerve block	-4.0% (-4.8; -3.1%)*	-5.1% (-6.0; -4.1%)*	-2.0% (-3.1; -0.8%)*	-5.3% (-6.7; -3.8%)*

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Hip arthroplasties, multimodal modality				
NSAIDs	-5.5% (-5.9; -5.1%)*	-1.3% (-1.7; -0.9%)*	-10.9% (-11.3; -10.4%)*	-8.2% (-8.8; -7.6%)*
COX-2 inhibitors	-9.2% (-9.6; -8.8%)*	-4.8% (-5.2; -4.3%)*	-10.5% (-11.0; -10.0%)*	-16.6% (-17.2; -16.0%)*
Ketamine	4.4% (3.6; 5.3%)*	2.5% (1.5; 3.5%)*	4.1% (3.0; 5.3%)*	4.7% (3.1; 6.2%)*
Gabapentin/pregabalin	0.3% (-0.2; 0.7%)	-1.9% (-2.4; -1.4%)*	1.4% (0.7; 2.0%)*	4.7% (3.9; 5.6%)*
Steroids	3.0% (1.8; 4.2%)*	2.4% (1.0; 3.8%)*	0.1% (-1.4; 1.7%)	5.4% (3.3; 7.5%)*
APAP	-3.1% (-3.5; -2.7%)*	0.2% (-0.2; 0.7%)	-4.3% (-4.9; -3.8%)*	-3.4% (-4.1; -2.7%)*
Peripheral nerve block	-4.0% (-4.8; -3.1%)*	-5.1% (-6.0; -4.1%)*	-2.0% (-3.1; -0.8%)*	-5.3% (-6.7; -3.8%)*

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Hip arthroplasties, multimodal modality				
NSAIDs	-5.5% (-5.9; -5.1%)*	-1.3% (-1.7; -0.9%)*	-10.9% (-11.3; -10.4%)*	-8.2% (-8.8; -7.6%)*
COX-2 inhibitors	-9.2% (-9.6; -8.8%)*	-4.8% (-5.2; -4.3%)*	-10.5% (-11.0; -10.0%)*	-16.6% (-17.2; -16.0%)*
Ketamine	4.4% (3.6; 5.3%)*	2.5% (1.5; 3.5%)*	4.1% (3.0; 5.3%)*	4.7% (3.1; 6.2%)*
Gabapentin/pregabalin	0.3% (-0.2; 0.7%)	-1.9% (-2.4; -1.4%)*	1.4% (0.7; 2.0%)*	4.7% (3.9; 5.6%)*
Steroids	3.0% (1.8; 4.2%)*	2.4% (1.0; 3.8%)*	0.1% (-1.4; 1.7%)	5.4% (3.3; 7.5%)*
APAP	-3.1% (-3.5; -2.7%)*	0.2% (-0.2; 0.7%)	-4.3% (-4.9; -3.8%)*	-3.4% (-4.1; -2.7%)*
Peripheral nerve block	-4.0% (-4.8; -3.1%)*	-5.1% (-6.0; -4.1%)*	-2.0% (-3.1; -0.8%)*	-5.3% (-6.7; -3.8%)*

Association of Multimodal Pain Management Strategies with Perioperative Outcomes and Resource Utilization

	Total Opioid Prescription	Day 0 Opioid Prescription	Day 1 Opioid Prescription	Day 1+ Opioid Prescription
Knee arthroplasties, multimodal modality				
NSAIDs	-5.4% (-5.7; -5.2%)*	-2.1% (-2.4; -1.8%)*	-12.7% (-13.1; -12.4%)*	-4.7% (-5.1; -4.3%)*
COX-2 inhibitors	-6.1% (-6.4; -5.9%)*	-2.8% (-3.1; -2.5%)*	-8.6% (-8.9; -8.2%)*	-13.0% (-13.4; -12.6%)*
Ketamine	3.6% (3.0; 4.2%)*	1.7% (1.0; 2.4%)*	2.2% (1.4; 3.0%)*	4.8% (3.8; 5.7%)*
Gabapentin/pregabalin	0.8% (0.5; 1.1%)*	0.4% (0.1; 0.8%)*	0.1% (-0.3; 0.5%)	1.7% (1.2; 2.2%)*
Steroids	-0.2% (-1.0; 0.5%)	2.3% (1.4; 3.2%)*	-4.3% (-5.3; -3.2%)*	0.3% (-0.9; 1.5%)
APAP	-3.0% (-3.2; -2.7%)*	-0.1% (-0.5; 0.2%)	-3.8% (-4.2; -3.4%)*	-3.5% (-3.9; -3.1%)*
Peripheral nerve block	-3.0% (-3.4; -2.6%)*	-10.2% (-10.7; -9.7%)*	6.0% (5.3; 6.7%)*	-0.4% (-1.1; 0.3%)

Outcome

	Multimodal Use (Reference = Opioids Only)			P Value for Linear Trend
	1 Mode	2 Modes	2+ Modes	
Hip arthroplasties				
Opioid-related adverse effects				
Respiratory	0.95 (0.84, 1.07)	0.97 (0.85, 1.10)	0.81 (0.70, 0.94)*	0.8400
Gastrointestinal	0.84 (0.76, 0.94)*	0.78 (0.70, 0.88)*	0.74 (0.65, 0.84)*	< 0.0001
Genitourinary	0.87 (0.79, 0.97)*	0.89 (0.79, 0.99)*	0.79 (0.70, 0.89)*	0.0015
Central nervous system	1.03 (0.86, 1.22)	1.05 (0.87, 1.26)	0.94 (0.76, 1.16)	0.2520
Other	0.97 (0.86, 1.09)	0.84 (0.73, 0.96)*	0.70 (0.60, 0.82)*	0.5289
Resource utilization				
Total opioid prescription	-2.1% (-3.1; -1.2%)*	-6.9% (-7.9; -6.0%)*	-12.5% (-13.5; -11.5%)*	0.7625
Day 0 opioid prescription	-0.1% (-1.2; 1.1%)	-2.2% (-3.3; -1.0%)*	-5.8% (-7.0; -4.6%)*	0.0004
Day 1 opioid prescription	-6.9% (-8.1; -5.7%)*	-13.0% (-14.2; -11.8%)*	-18.5% (-19.7; -17.2%)*	< 0.0001
Day 1+ opioid prescription	-6.8% (-8.3; -5.3%)*	-12.4% (-13.9; -10.9%)*	-18.4% (-20.0; -16.9%)*	< 0.0001
Cost of hospitalization	0.0% (-0.8; 0.7%)	-1.1% (-1.8; -0.3%)*	-2.1% (-2.9; -1.3%)*	0.1753
Length of stay	-3.6% (-4.3; -3.0%)*	-7.4% (-8.1; -6.8%)*	-12.1% (-12.8; -11.5%)*	< 0.0001
Knee arthroplasties				
Opioid-related adverse effects				
Respiratory	1.02 (0.94, 1.10)	1.03 (0.95, 1.12)	0.94 (0.85, 1.03)	0.0422
Gastrointestinal	0.92 (0.85, 1.00)*	0.90 (0.83, 0.98)*	0.82 (0.75, 0.90)*	0.0299
Genitourinary	0.87 (0.80, 0.94)*	0.89 (0.81, 0.97)*	0.84 (0.76, 0.92)*	< 0.0001
Central nervous system	0.99 (0.88, 1.12)	1.01 (0.89, 1.16)	1.02 (0.88, 1.18)	0.8022
Other	0.98 (0.90, 1.07)	0.93 (0.85, 1.02)	0.82 (0.74, 0.91)*	0.4347
Resource utilization				
Total opioid prescription	-3.2% (-3.9; -2.6%)*	-6.9% (-7.6; -6.3%)*	-10.1% (-10.8; -9.5%)*	< 0.0001
Day 0 opioid prescription	-2.4% (-3.2; -1.6%)*	-4.6% (-5.4; -3.7%)*	-5.2% (-6.1; -4.3%)*	< 0.0001
Day 1 opioid prescription	-8.0% (-8.9; -7.0%)*	-13.8% (-14.7; -12.9%)*	-18.5% (-19.5; -17.6%)*	< 0.0001
Day 1+ opioid prescription	-6.4% (-7.3; -5.4%)*	-10.4% (-11.4; -9.4%)*	-15.0% (-16.1; -14.0%)*	< 0.0001
Cost of hospitalization	-0.2% (-0.7; 0.3%)	-0.6% (-1.1; 0.0%)*	-1.3% (-1.9; -0.7%)*	0.8009
Length of stay	-3.1% (-3.5; -2.7%)*	-5.7% (-6.1; -5.3%)*	-9.3% (-9.7; -8.9%)*	< 0.0001

Outcome

	Multimodal Use (Reference = Opioids Only)			
	1 Mode	2 Modes	2+ Modes	P Value for Linear Trend
Hip arthroplasties				
Opioid-related adverse effects				
Respiratory	0.95 (0.84, 1.07)	0.97 (0.85, 1.10)	0.81 (0.70, 0.94)*	0.8400
Gastrointestinal	0.84 (0.76, 0.94)*	0.78 (0.70, 0.88)*	0.74 (0.65, 0.84)*	< 0.0001
Genitourinary	0.87 (0.79, 0.97)*	0.89 (0.79, 0.99)*	0.79 (0.70, 0.89)*	0.0015
Central nervous system	1.03 (0.86, 1.22)	1.05 (0.87, 1.26)	0.94 (0.76, 1.16)	0.2520
Other	0.97 (0.86, 1.09)	0.84 (0.73, 0.96)*	0.70 (0.60, 0.82)*	0.5289
Resource utilization				
Total opioid prescription	-2.1% (-3.1; -1.2%)*	-6.9% (-7.9; -6.0%)*	-12.5% (-13.5; -11.5%)*	0.7625
Day 0 opioid prescription	-0.1% (-1.2; 1.1%)	-2.2% (-3.3; -1.0%)*	-5.8% (-7.0; -4.6%)*	0.0004
Day 1 opioid prescription	-6.9% (-8.1; -5.7%)*	-13.0% (-14.2; -11.8%)*	-18.5% (-19.7; -17.2%)*	< 0.0001
Day 1+ opioid prescription	-6.8% (-8.3; -5.3%)*	-12.4% (-13.9; -10.9%)*	-18.4% (-20.0; -16.9%)*	< 0.0001
Cost of hospitalization	0.0% (-0.8; 0.7%)	-1.1% (-1.8; -0.3%)*	-2.1% (-2.9; -1.3%)*	0.1753
Length of stay	-3.6% (-4.3; -3.0%)*	-7.4% (-8.1; -6.8%)*	-12.1% (-12.8; -11.5%)*	< 0.0001
Knee arthroplasties				
Opioid-related adverse effects				
Respiratory	1.02 (0.94, 1.10)	1.03 (0.95, 1.12)	0.94 (0.85, 1.03)	0.0422
Gastrointestinal	0.92 (0.85, 1.00)*	0.90 (0.83, 0.98)*	0.82 (0.75, 0.90)*	0.0299
Genitourinary	0.87 (0.80, 0.94)*	0.89 (0.81, 0.97)*	0.84 (0.76, 0.92)*	< 0.0001
Central nervous system	0.99 (0.88, 1.12)	1.01 (0.89, 1.16)	1.02 (0.88, 1.18)	0.8022
Other	0.98 (0.90, 1.07)	0.93 (0.85, 1.02)	0.82 (0.74, 0.91)*	0.4347
Resource utilization				
Total opioid prescription	-3.2% (-3.9; -2.6%)*	-6.9% (-7.6; -6.3%)*	-10.1% (-10.8; -9.5%)*	< 0.0001
Day 0 opioid prescription	-2.4% (-3.2; -1.6%)*	-4.6% (-5.4; -3.7%)*	-5.2% (-6.1; -4.3%)*	< 0.0001
Day 1 opioid prescription	-8.0% (-8.9; -7.0%)*	-13.8% (-14.7; -12.9%)*	-18.5% (-19.5; -17.6%)*	< 0.0001
Day 1+ opioid prescription	-6.4% (-7.3; -5.4%)*	-10.4% (-11.4; -9.4%)*	-15.0% (-16.1; -14.0%)*	< 0.0001
Cost of hospitalization	-0.2% (-0.7; 0.3%)	-0.6% (-1.1; 0.0%)*	-1.3% (-1.9; -0.7%)*	0.8009
Length of stay	-3.1% (-3.5; -2.7%)*	-5.7% (-6.1; -5.3%)*	-9.3% (-9.7; -8.9%)*	< 0.0001

Outcome

	Multimodal Use (Reference = Opioids Only)			P Value for Linear Trend
	1 Mode	2 Modes	2+ Modes	
Hip arthroplasties				
Opioid-related adverse effects				
Respiratory	0.95 (0.84, 1.07)	0.97 (0.85, 1.10)	0.81 (0.70, 0.94)*	0.8400
Gastrointestinal	0.84 (0.76, 0.94)*	0.78 (0.70, 0.88)*	0.74 (0.65, 0.84)*	< 0.0001
Genitourinary	0.87 (0.79, 0.97)*	0.89 (0.79, 0.99)*	0.79 (0.70, 0.89)*	0.0015
Central nervous system	1.03 (0.86, 1.22)	1.05 (0.87, 1.26)	0.94 (0.76, 1.16)	0.2520
Other	0.97 (0.86, 1.09)	0.84 (0.73, 0.96)*	0.70 (0.60, 0.82)*	0.5289
Resource utilization				
Total opioid prescription	-2.1% (-3.1; -1.2%)*	-6.9% (-7.9; -6.0%)*	-12.5% (-13.5; -11.5%)*	0.7625
Day 0 opioid prescription	-0.1% (-1.2; 1.1%)	-2.2% (-3.3; -1.0%)*	-5.8% (-7.0; -4.6%)*	0.0004
Day 1 opioid prescription	-6.9% (-8.1; -5.7%)*	-13.0% (-14.2; -11.8%)*	-18.5% (-19.7; -17.2%)*	< 0.0001
Day 1+ opioid prescription	-6.8% (-8.3; -5.3%)*	-12.4% (-13.9; -10.9%)*	-18.4% (-20.0; -16.9%)*	< 0.0001
Cost of hospitalization	0.0% (-0.8; 0.7%)	-1.1% (-1.8; -0.3%)*	-2.1% (-2.9; -1.3%)*	0.1753
Length of stay	-3.6% (-4.3; -3.0%)*	-7.4% (-8.1; -6.8%)*	-12.1% (-12.8; -11.5%)*	< 0.0001
Knee arthroplasties				
Opioid-related adverse effects				
Respiratory	1.02 (0.94, 1.10)	1.03 (0.95, 1.12)	0.94 (0.85, 1.03)	0.0422
Gastrointestinal	0.92 (0.85, 1.00)*	0.90 (0.83, 0.98)*	0.82 (0.75, 0.90)*	0.0299
Genitourinary	0.87 (0.80, 0.94)*	0.89 (0.81, 0.97)*	0.84 (0.76, 0.92)*	< 0.0001
Central nervous system	0.99 (0.88, 1.12)	1.01 (0.89, 1.16)	1.02 (0.88, 1.18)	0.8022
Other	0.98 (0.90, 1.07)	0.93 (0.85, 1.02)	0.82 (0.74, 0.91)*	0.4347
Resource utilization				
Total opioid prescription	-3.2% (-3.9; -2.6%)*	-6.9% (-7.6; -6.3%)*	-10.1% (-10.8; -9.5%)*	< 0.0001
Day 0 opioid prescription	-2.4% (-3.2; -1.6%)*	-4.6% (-5.4; -3.7%)*	-5.2% (-6.1; -4.3%)*	< 0.0001
Day 1 opioid prescription	-8.0% (-8.9; -7.0%)*	-13.8% (-14.7; -12.9%)*	-18.5% (-19.5; -17.6%)*	< 0.0001
Day 1+ opioid prescription	-6.4% (-7.3; -5.4%)*	-10.4% (-11.4; -9.4%)*	-15.0% (-16.1; -14.0%)*	< 0.0001
Cost of hospitalization	-0.2% (-0.7; 0.3%)	-0.6% (-1.1; 0.0%)*	-1.3% (-1.9; -0.7%)*	0.8009
Length of stay	-3.1% (-3.5; -2.7%)*	-5.7% (-6.1; -5.3%)*	-9.3% (-9.7; -8.9%)*	< 0.0001

Anesthésie sans opioïdes

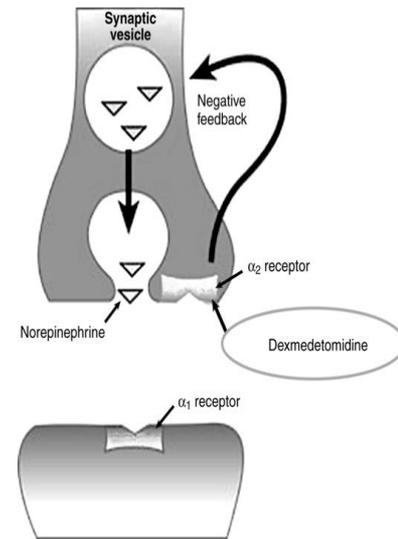
Comment ?

Quels sont les moyens efficaces ?



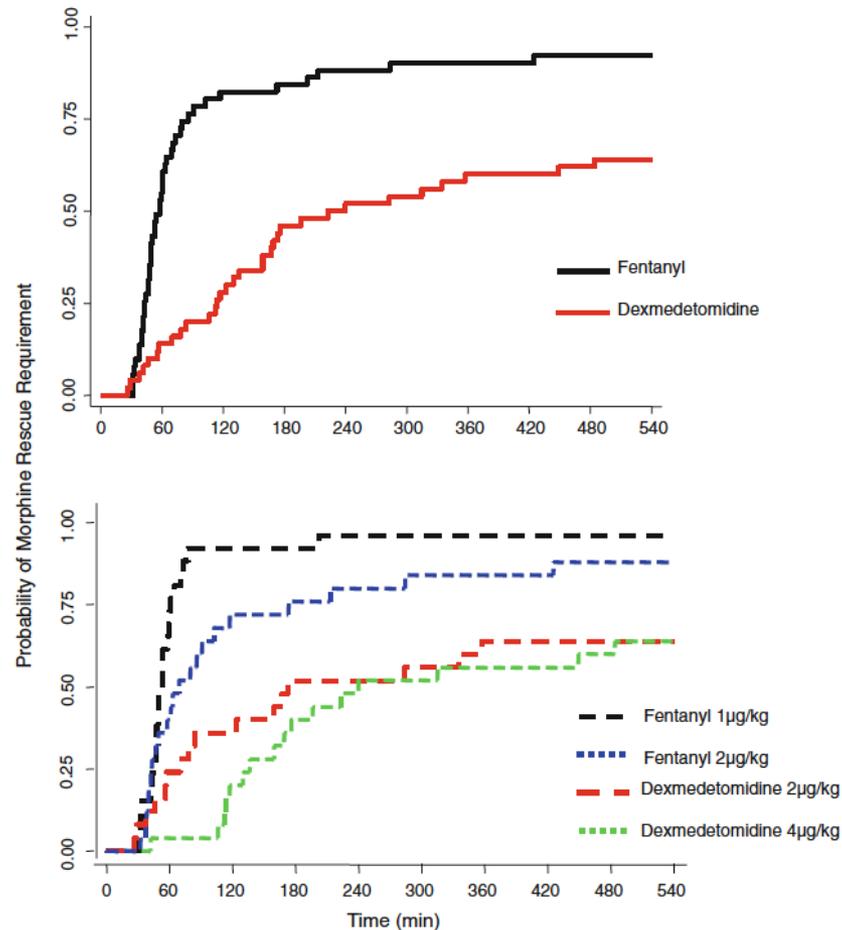
DEXMEDETOMIDINE

- **Agoniste spécifique récepteurs alpha 2 adrénergiques**
- Dexmédetomidine > Clonidine
- Affinité 6 fois plus forte
- Durée action plus courte (demi vie 2h)
- Métabolisme hépatique



Dexmedetomidine vs. Fentanyl

Amygdalectomie chez l'enfant



Dexmedetomidine vs. Fentanyl

Variables	Fentanyl		Dexmedetomidine	
	1 $\mu\text{g}\cdot\text{kg}^{-1}$ (<i>n</i> = 26)	2 $\mu\text{g}\cdot\text{kg}^{-1}$ (<i>n</i> = 25)	2 $\mu\text{g}\cdot\text{kg}^{-1}$ (<i>n</i> = 25)	4 $\mu\text{g}\cdot\text{kg}^{-1}$ (<i>n</i> = 25)
Proportion of patients found to have pain in the PACU, <i>n</i> (%)	25 (96)	18 (72)	7 (28)	7 (28)
Proportion of patients requiring morphine rescue, <i>n</i> (%)	25 (96)	22 (88)	16 (64)	16 (64)
Time to first morphine rescue dose, median (p25, p75), min	50 (44, 60)	62 (42, 102)	81 (51, 170)	164 (116, 231)
Total morphine required, median (p25, p75), $\mu\text{g}\cdot\text{kg}^{-1}$	99 (52, 105)	96 (49, 100)	96 (50, 103)	50 (47, 52)
Proportion of patients with agitation score ≥ 2 , <i>n</i> (%)	15 (58)	14 (56)	5 (20)	4 (16)

PACU = postanesthesia care unit; p25 = 25th percentile; p75 = 75th percentile.

Dexmedetomidine vs. Fentanyl

Table 4 Incidence of postoperative nausea and vomiting (PONV) and hemodynamic profile

Variable	Fentanyl		Dexmedetomidine	
	1 $\mu\text{g}\cdot\text{kg}^{-1}$ ($n = 26$) Mean (SD)	2 $\mu\text{g}\cdot\text{kg}^{-1}$ ($n = 25$) Mean (SD)	2 $\mu\text{g}\cdot\text{kg}^{-1}$ ($n = 25$) Mean (SD)	4 $\mu\text{g}\cdot\text{kg}^{-1}$ ($n = 25$) Mean (SD)
PONV, n (%)	6 (23)	4 (16)	3 (12)	2 (8)
Anti-emetic requirement, n (%)	4 (15)	1 (4)	1 (4)	1 (4)
HR with mouth gag (min^{-1})	116 (19)	109 (22)	102 (13)	101 (19)
HR with incision (min^{-1})	120 (17)	109 (20)	102 (15)	100 (16)
HR in PACU (min^{-1})	126 (25)	118 (17)	95 (14)	87 (12)
SBP with mouth gag (mmHg)	95 (12)	95 (13)	94 (12)	89 (13)
SBP with incision (mmHg)	98 (12)	102 (13)	92 (11)	91 (17)
SBP in PACU (mmHg)	117 (17)	118 (13)	104 (13)	108 (11)
DBP with mouth gag (mmHg)	44 (9)	44 (10)	50 (15)	46 (12)
DBP with incision (mmHg)	49 (13)	50 (11)	49 (16)	50 (15)
DBP in PACU (mmHg)	68 (13)	67 (15)	59 (13)	61 (12)

SD = standard deviation; HR = heart rate; PACU = postanesthesia care unit; SBP = systolic blood pressure; DBP = diastolic blood pressure.

Dexmedetomidine vs. Fentanyl

MAIS durée SSPI...

Dexmedetomidine versus remifentanil

Chirurgie du rachis

	Remifentanil group	Dexmedetomidine group	P-value
Duration of surgery (min)	171.1 ± 23.2	177.2 ± 23.9	0.376
Duration of anesthesia (min)	212.3 ± 26.3	214.3 ± 21.6	0.314
Propofol used (mg/kg/h)	7.2 ± 1.2	7.8 ± 1.2	0.632
Remifentanil used (µg/kg/min)	0.10 ± 0.03		
Dexmedetomidine used (µg/kg/min)		0.01 ± 0.01	
Time of eye opening (min)	6.9 ± 5.5	21.3 ± 4.9	0.001
Time of first verbal command response (min)	12.8 ± 9.3	23.2 ± 6.8	0.027
Incidence of rescue analgesics requirement, n (%)	16 (88.9)	12 (63.2)	0.018
Time of rescue analgesics requirement (min)	13.0 ± 10.2	29.9 ± 11.6	0.011
Incidence of PONV, n (%)	5 (27.8)	0 (0)	0.003
Duration of PACU stay (min)	79.2 ± 18.5	76.6 ± 13.5	0.785

Data are presented as mean ± SD or number (proportion).

PONV, postoperative nausea and vomiting; PACU, postanesthesia care unit.

Dexmedetomidine versus remifentanil

Chirurgie du rachis

	Remifentanil group	Dexmedetomidine group	P-value
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Remifentanil used (µg/kg/min)	0.10 ± 0.03		
Dexmedetomidine used (µg/kg/min)		0.01 ± 0.01	
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Data are presented as mean ± SD or number (proportion).

PONV, postoperative nausea and vomiting; PACU, postanesthesia care unit.

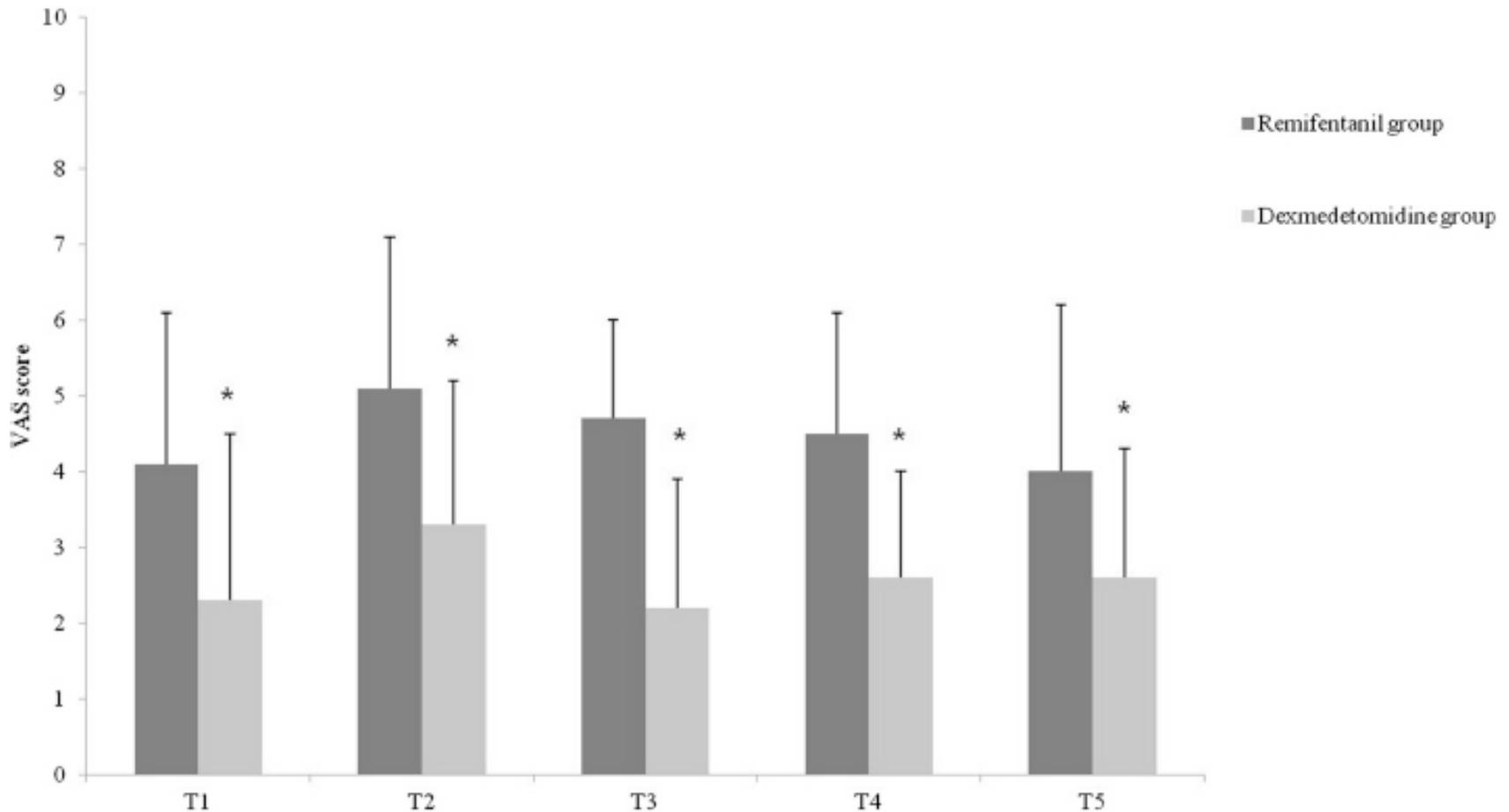
Dexmedetomidine versus remifentanil

En SSPI

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Duration of anesthesia (min)	212.3 ± 26.3	214.3 ± 21.6	0.314
Propofol used (mg/kg/h)	7.2 ± 1.2	7.8 ± 1.2	0.632
Remifentanil used (µg/kg/min)	0.10 ± 0.03		
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Data are presented as mean ± SD or number (proportion).
PONV, postoperative nausea and vomiting; PACU, postanesthesia care unit.

Dexmedetomidine versus remifentanyl



Dexmedetomidine versus remifentanyl

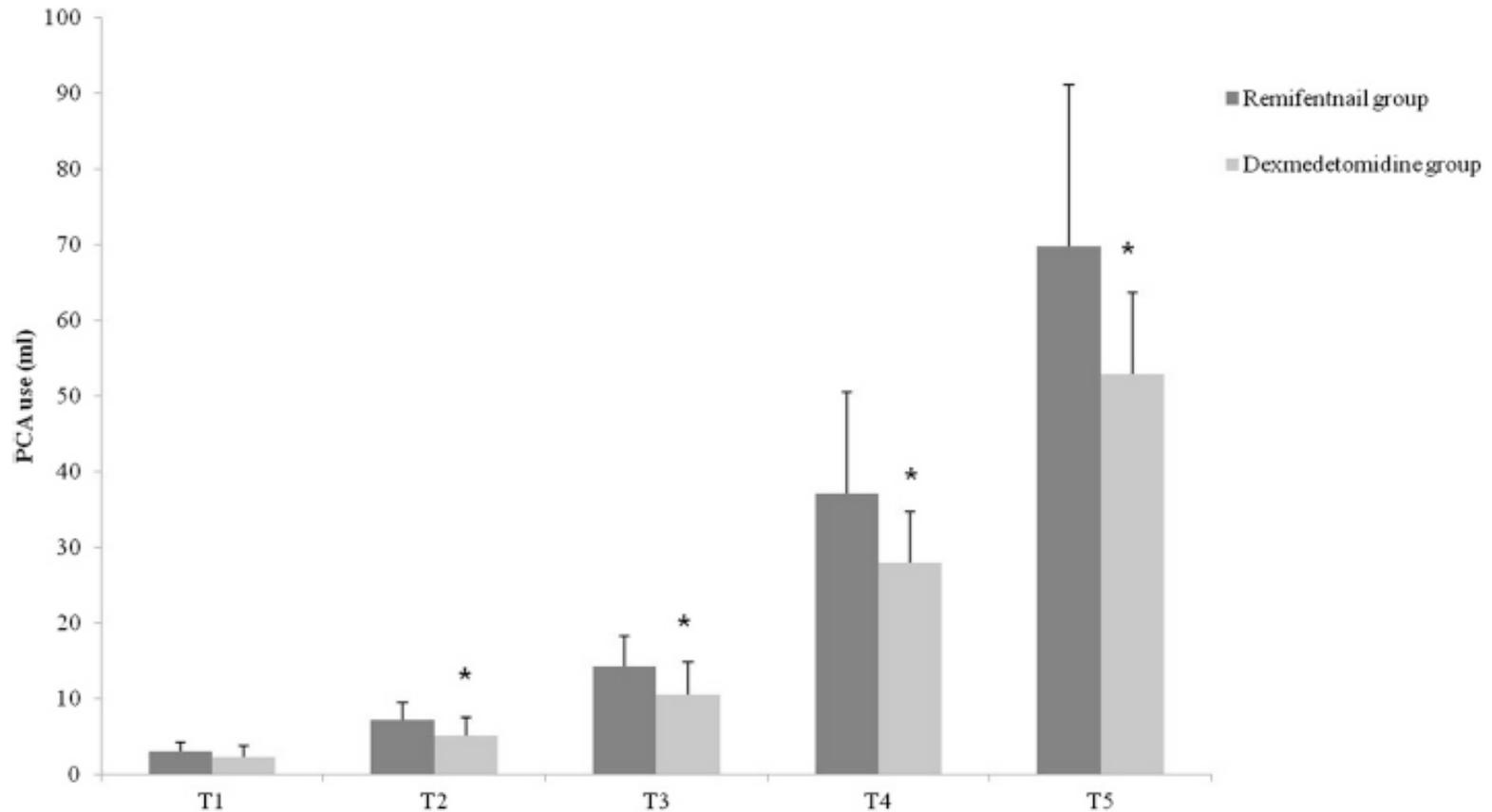


Figure 3 Comparison of postoperative PCA use between the groups. PCA = patient-controlled analgesia; T1 = before PACU discharge; T2 = 2 hours after surgery; T3 = 8 hours after surgery; T4 = 24 hours after surgery; T5 = 48 hours after surgery. * $P < 0.05$.

Dexmedetomidine versus remifentanyl

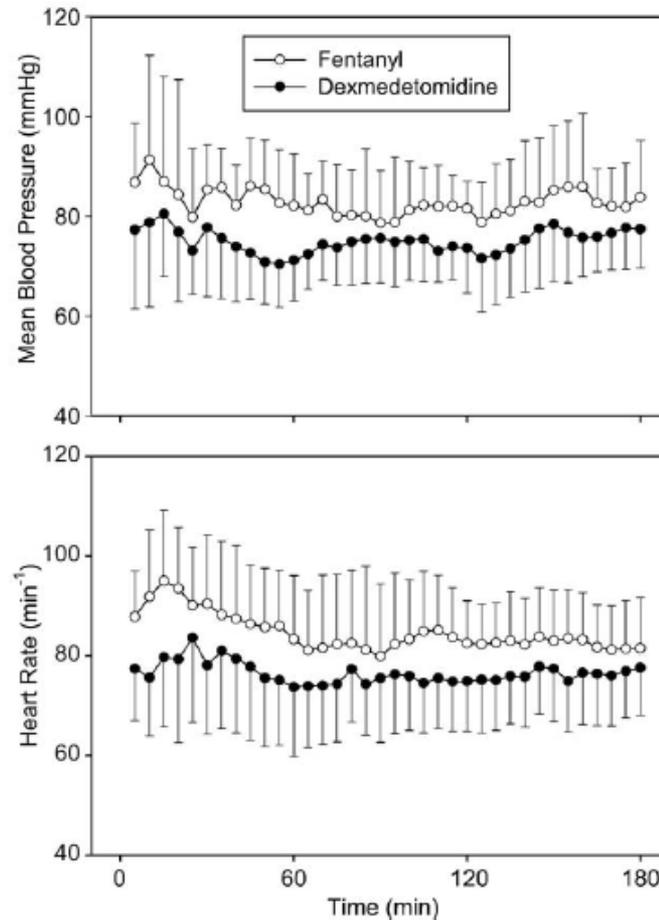
Table 3 Incidence of rescue analgesic requirement and PONV

	Remifentanyl group	Dexmedetomidine group	P-value
Incidence of rescue analgesics (n)			
Postoperative 2 h (%)	4 (22.2)	0 (0)	0.046
Postoperative 8 h (%)	9 (50)	3 (15.8)	0.038
Postoperative 24 h (%)	10 (55.6)	4 (21.1)	0.045
Postoperative 48 h (%)	9 (50)	3 (15.8)	0.038
Incidence of PONV (n)			
Postoperative 2 h (%)	6 (33.3)	0 (0)	0.008
Postoperative 8 h (%)	8 (44.4)	2 (10.5)	0.029
Postoperative 24 h (%)	6 (33.3)	0 (0)	0.008
Postoperative 48 h (%)	2 (11.1)	0 (0)	0.230

Data are presented as number (proportion).
PONV, postoperative nausea and vomiting.

Opioides Free Anesthesia

Chirurgie bariatrique



Opioides Free Anesthesia

Chirurgie bariatrique

Table 2 Measurements made at the end of surgery in the PACU

	Fentanyl	Dexmedetomidine
Duration of surgery (min)	229 ± 30	234 ± 28
End of surgery to extubation (min)	14.2 ± 6.6	9.4 ± 2.7*
PACU pain score (0-10, 1 h)	7 (5.25-8.75)	3.5 (0-5.0)*
PACU pain score (0-10, 2 h)	6.0 (5.0-7.0)	2.0 (2.0-3.5)*
PACU morphine (mg, 2 h)	14.6 ± 5.9	6.1 ± 3.5*
PACU mean blood pressure (mm Hg, 1 h)	89 ± 12	77 ± 9*
PACU heart rate (min ⁻¹ , 1 h)	94 ± 13	75 ± 5*

Parametric data are reported as mean ± SD; nonparametric data are reported as median (25%-75% range). SaO₂ indicates arterial oxygen saturation.

* $P < 0.05$ compared with fentanyl.

Opioides Free Anesthesia

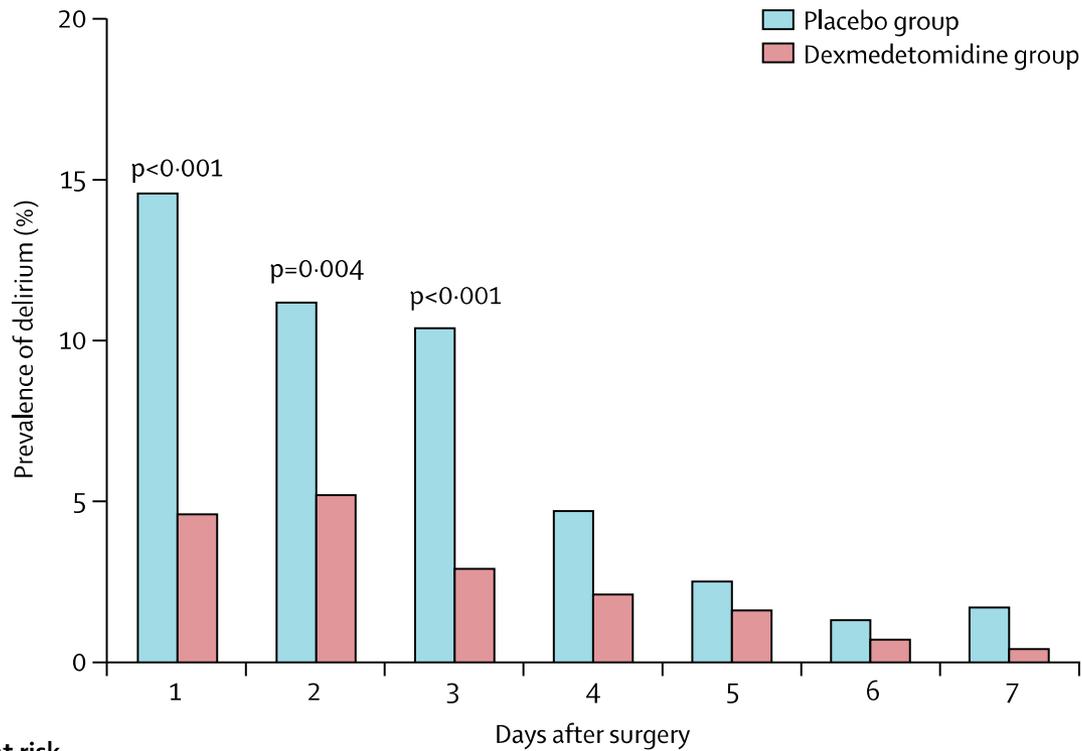
Chirurgie bariatrique

PONV severity	Classic group (n=59)	TIVA group (n=60)	P-value	RR (95% CI)
None	37 (62.7%)	48 (80.0%)		
Mild	13 (22.0%)	9 (15.0%)		
Moderate	2 (3.4%)	3 (5.0%)		
Severe	7 (11.9%)	0 (0%)	0.02*	n/a
Retching	7 (11.9%)	0 (0%)	0.006 [†]	1.13 (1.02, 1.25)
Vomiting	5 (8.5%)	0 (0%)	0.02 [†]	1.09 (1.00, 1.19)

RAS par ailleurs...

DCPO

23 vs. 9%



Number at risk	1	2	3	4	5	6	7
Placebo group	350	349	346	341	323	310	290
Dexmedetomidine group	350	349	342	330	307	286	267

350 patients par groupes

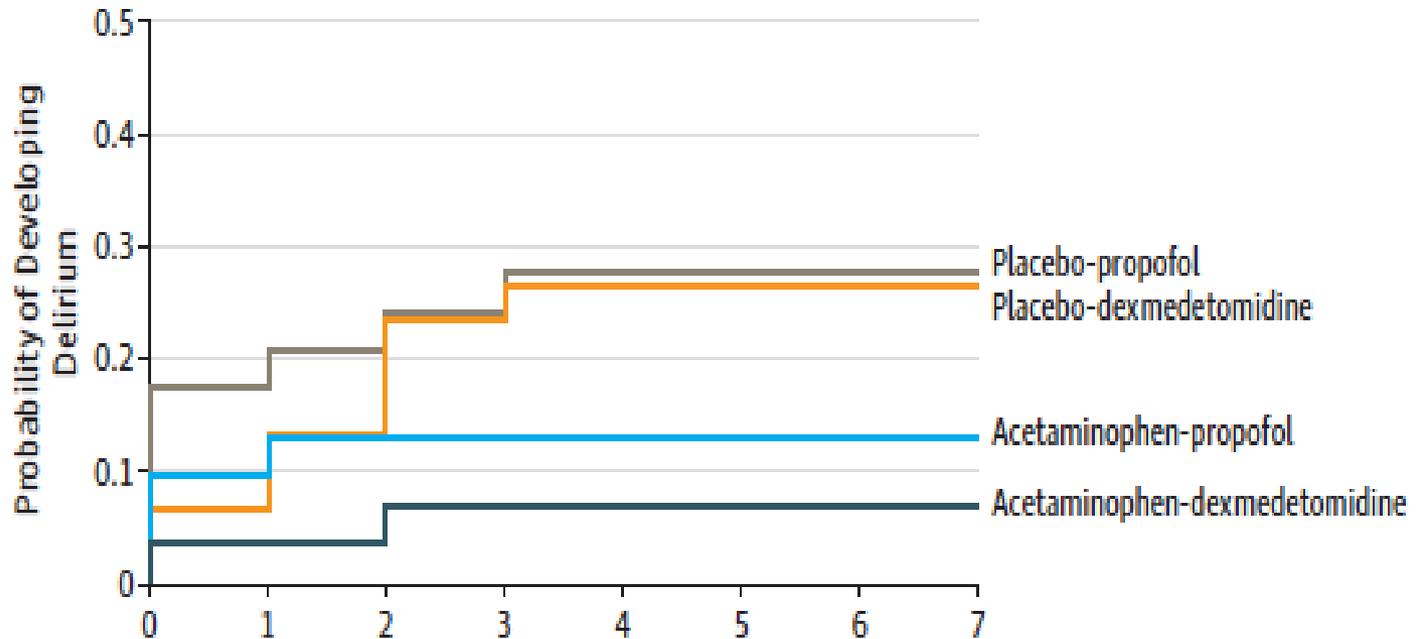
➤ 65 ans

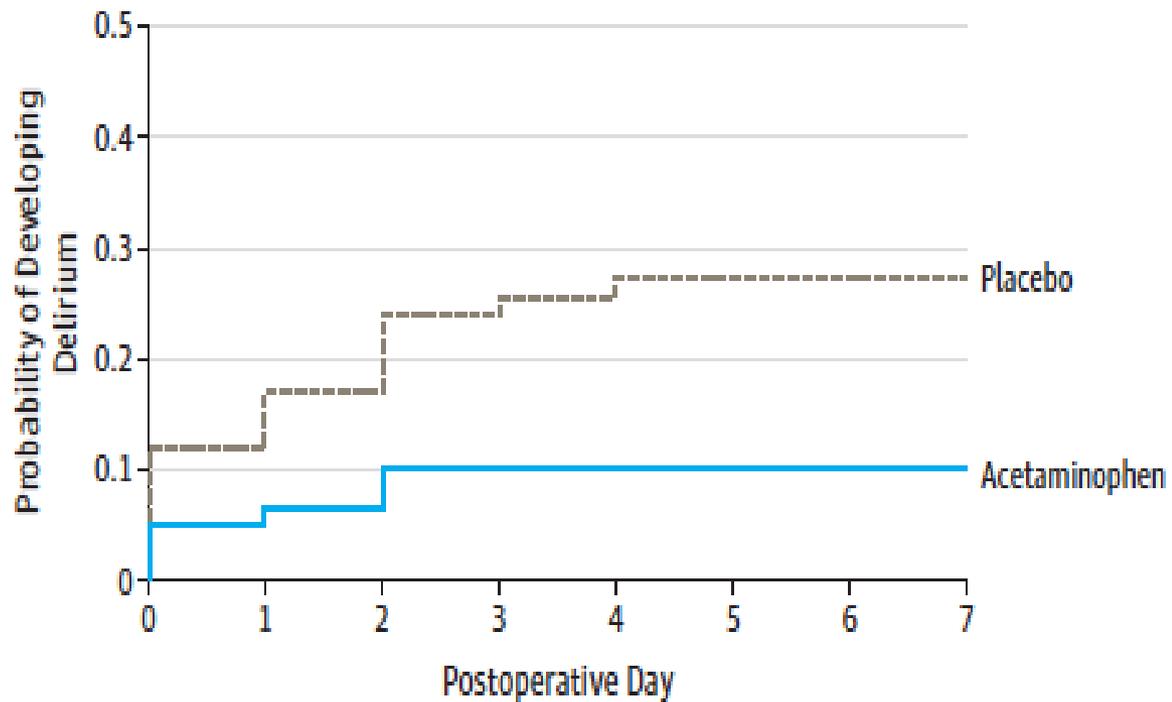
➤ ICU

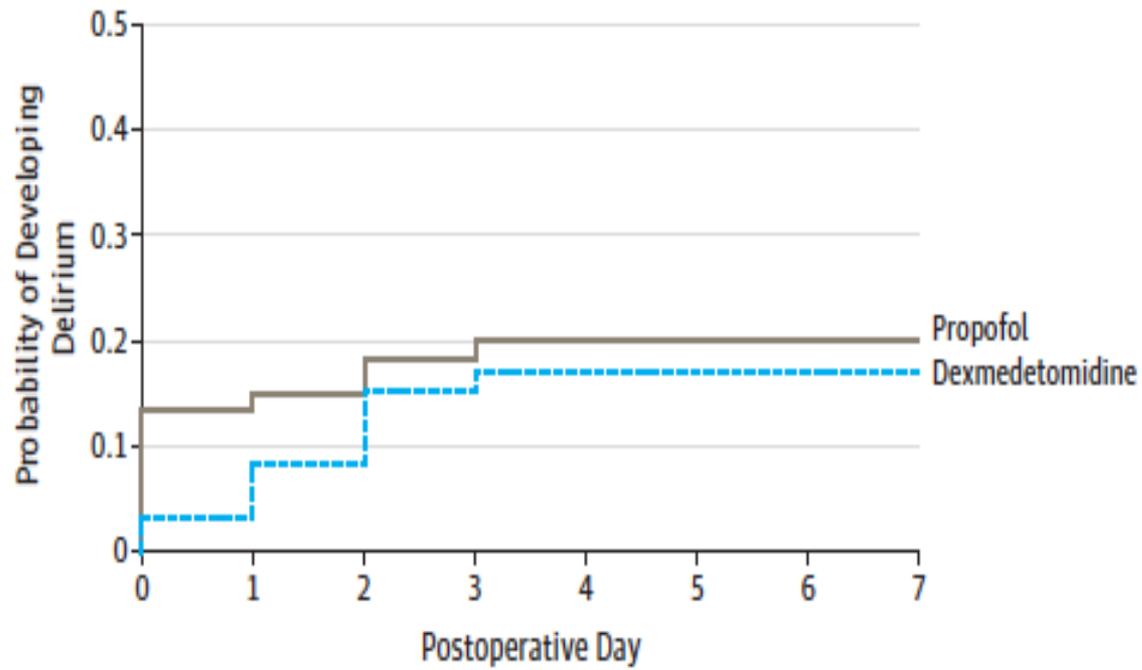
Dose : 0,1µg/kg/h

Durée : 15h

CCV > 60 ans
Sédation post op Dex vs. Propofol
Analgésie Paracétamol vs. Placebo







What else?



RS_2021-10_Biarritz-Place de l'OFA à
l'heure de l'ALR_Pr Minville

OFA ?

Open access

Protocol

BMJ Open POFA trial study protocol: a multicentre, double-blind, randomised, controlled clinical trial comparing opioid-free versus opioid anaesthesia on postoperative opioid-related adverse events after major or intermediate non-cardiac surgery

Helene Beloeil,¹ Bruno Laviolle,² Cedric Menard,^{3,4} Catherine Paugam-Burtz,⁵ Matthias Garot,⁶ Karim Asehnoune,⁷ Vincent Minville,⁸ Philippe Cuvillon,⁹ Sebastien Oger,¹⁰ Julien Nadaud,¹¹ Sylvain Lecoeur,¹² Gerald Chanques,¹³ Emmanuel Futier,¹⁴ On behalf of the SFAR research network

POFA

Variable	Remifentanil Group (N = 157)	Dexmedetomidine Group (N = 157)	Risk Difference (95% CI)	P Value
Composite primary endpoint	105 (67%)	122 (78%)	11 (1 to 20)	0.031
Postoperative hypoxemia	94 (61%)	110 (72%)	12 (1 to 22)	0.030
Postoperative ileus	28 (18%)	33 (22%)	4 (-6 to 13)	0.473
Cognitive dysfunction	0 (0%)	2 (1%)	1 (-1 to 3)	0.498

The components of the composite primary outcome (within the first 48h after extubation) were postoperative hypoxemia defined as an oxygen saturation level of less than 95% with a need for oxygen supplementation, postoperative ileus defined as an absence of flatus or stools, and postoperative cognitive dysfunction evaluated using the Confusion Assessment Method.

POFA

Outcome	Remifentanil Group	Dexmedetomidine Group	Mean/Median/Risk Difference (95% CI)	P Value
Morphine consumption, mg*	11(5 to 21)	6 (0 to 17)	-3.3 (-5.7 to -0.8)†	0.002
Number of episodes with numerical rate scale ≥ 3 ‡	2 (1 to 3)	2 (1 to 3)	0 (0 to 0)†	0.618
Time for extubation, h§	0:40 \pm 1:28	1:09 \pm 1:45	0:29 (0:07 to 0:51)	0.009
Duration of PACU stay, h#	1:53 \pm 1:47	2:28 \pm 2:11	0:35 (0:09 to 1:02)	0.010
Unplanned admission‡	0 (0)	1 (0)	0 (0 to 0)**	1.000
Postoperative nausea and vomiting‡	58 (37)	37 (24)	-13 (-23 to -3)**	0.010
Use of rescue antiemetic drugs‡	41 (26)	21 (13)	-13 (-21 to -4)**	0.005
Duration of hospital stay, days‡	5.1 \pm 4.5	5.4 \pm 5.6	0.2 (-0.9 to 1.4)	0.664
Adverse events	n = 157	n = 157		
Hypertension	117 (75)	125 (80)	5 (-4 to 14)**	0.283
Hypotension	94 (60)	97 (62)	2 (-9 to 13)**	0.728
Bradycardia	14 (9)	30 (19)	10 (3 to 18)**	0.009
Bradycardia with heart rate < 45 beats/min	9 (6)	25 (16)	10 (3 to 17)**	0.004
Other severe unexpected events	5 (3)	5 (3)	0 (-4 to 4)**	1.000

POFA

Outcome	Remifentanil Group	Dexmedetomidine Group	Mean/Median/Risk Difference (95% CI)	P Value
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Adverse events	n = 157	n = 157		
Hypertension	117 (75)	125 (80)	5 (-4 to 14)**	0.283
Hypotension	94 (60)	97 (62)	2 (-9 to 13)**	0.728
Bradycardia	14 (9)	30 (19)	10 (3 to 18)**	0.009
Bradycardia with heart rate < 45 beats/min	9 (6)	25 (16)	10 (3 to 17)**	0.004
Other severe unexpected events	5 (3)	5 (3)	0 (-4 to 4)**	1.000

L'ALR améliore le pronostic fonctionnel et diminue la mortalité



OFA une nouveauté ?

Opioid free analgesia

Opioid-Free Analgesia Following Total Knee Arthroplasty—A Multimodal Approach Using Continuous Lumbar Plexus (Psoas Compartment) Block, Acetaminophen, and Ketorolac

Horlocker RAPM 2002;107:105.

Benefice/risk ratio



Morbidity

n=1 062 152

Hip and Knee arthroplasty

RA

	Hip			Knee		
	Yes (n = 24,839), N (%)	No (n = 317,887), N (%)	P	Yes (n = 110,237), N (%)	No (n = 609,189), N (%)	P
Complications						
Combined*	1294 (5.2)	22,037 (6.9)	<0.001	6623 (6.0)	43,316 (7.1)	<0.001
Cardiac	451 (1.8)	6818 (2.1)	<0.001	2139 (1.9)	14,243 (2.3)	<0.001
Pulmonary	187 (0.8)	3337 (1.1)	<0.001	1088 (1)	7119 (1.2)	<0.001
Gastrointestinal	68 (0.3)	1572 (0.5)	<0.001	359 (0.3)	2125 (0.3)	0.23
Renal	258 (1.0)	4927 (1.5)	<0.001	1559 (1.4)	8931 (1.5)	0.19
Cerebrovascular event	21 (0.1)	325 (0.1)	0.40	89 (0.1)	525 (0.1)	0.57
Infections	453 (1.8)	8068 (2.5)	<0.001	1863 (1.7)	13,518 (2.2)	<0.001
Wound	169 (0.7)	3901 (1.2)	<0.001	990 (0.9)	6481 (1.1)	<0.001
Thromboembolic	62 (0.2)	1081 (0.3)	0.02	802 (0.7)	5113 (0.8)	<0.001
Inpatient falls	371 (1.5)	5545 (1.7)	0.05	2007 (1.8)	10,396 (1.7)	<0.001
Mortality	14 (0.1)	289 (0.1)	0.08	82 (0.1)	408 (0.1)	0.39
Resource utilization						
Transfusion	4523 (18.2)	62,339 (19.6)	<0.001	15,363 (13.9)	87,416 (14.3)	<0.001
Admission to intensive care unit	1729 (7.0)	24,219 (7.6)	<0.001	7910 (7.2)	41,038 (6.7)	<0.001
Opioid consumption (oral morphine equivalents)						
Median	228.5	285.0	<0.001	310.0	321.5	<0.001
Length of stay, d						
Median	3	4	<0.001	3	4	<0.001
Cost of hospitalization (USD)						
Median	19,302.92	19,095.87	<0.001	18,596.81	18,423.69	<0.001

Morbidity

	Hip			Knee		
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Morbidity

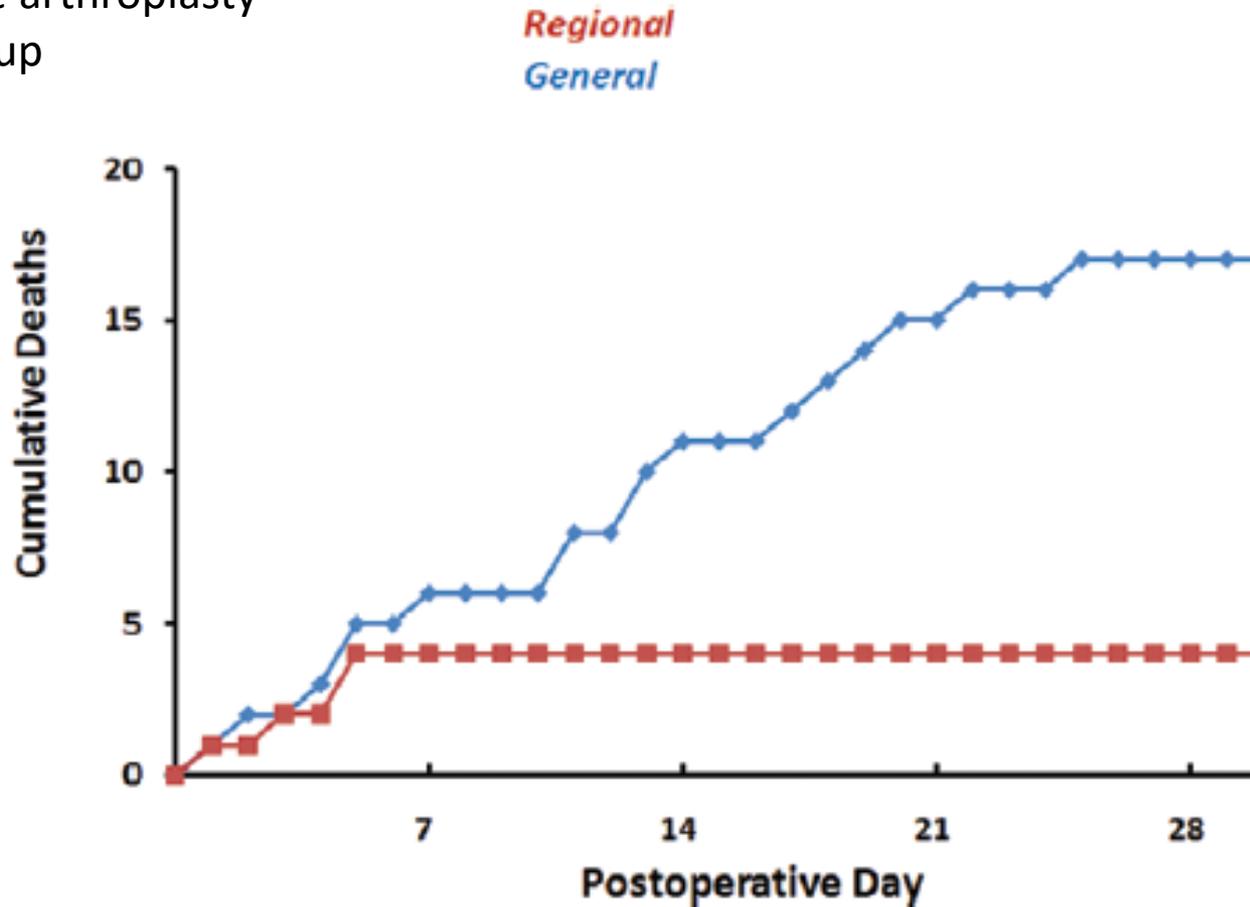
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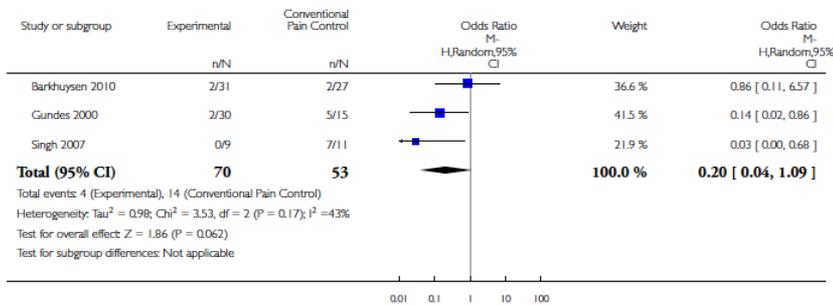
Mortality

Hip and Knee arthroplasty
N= 2300/group

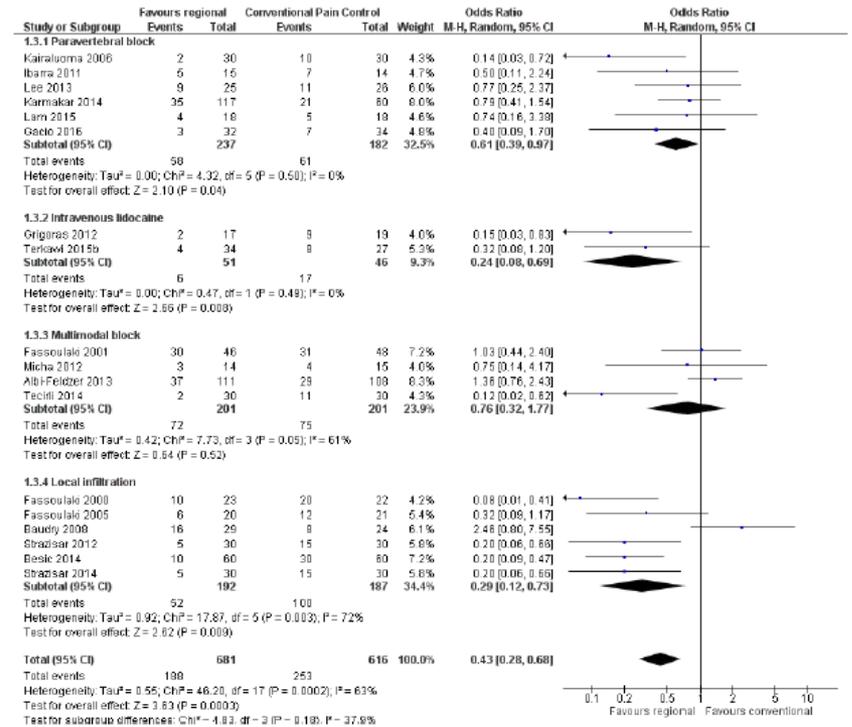


Douleur chronique

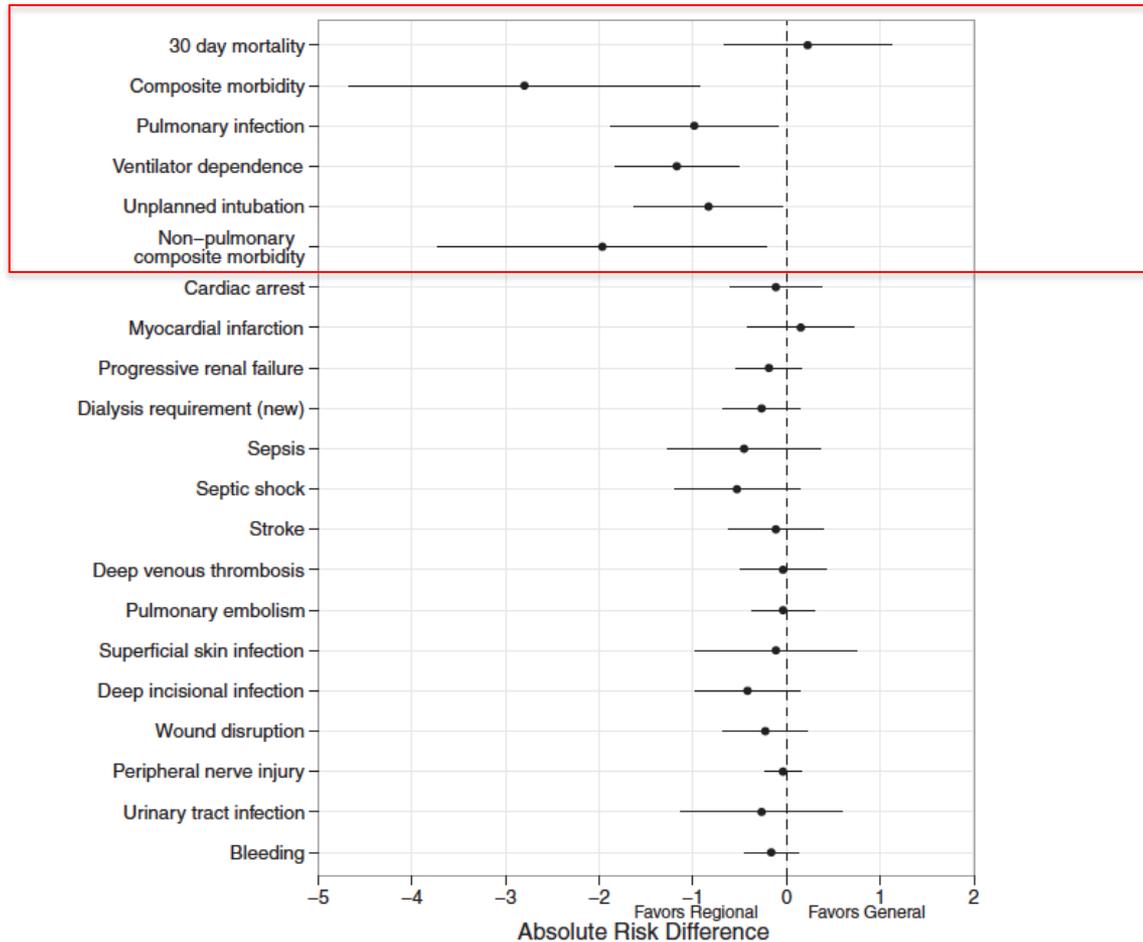
Iliac crest bone graft



Breast cancer

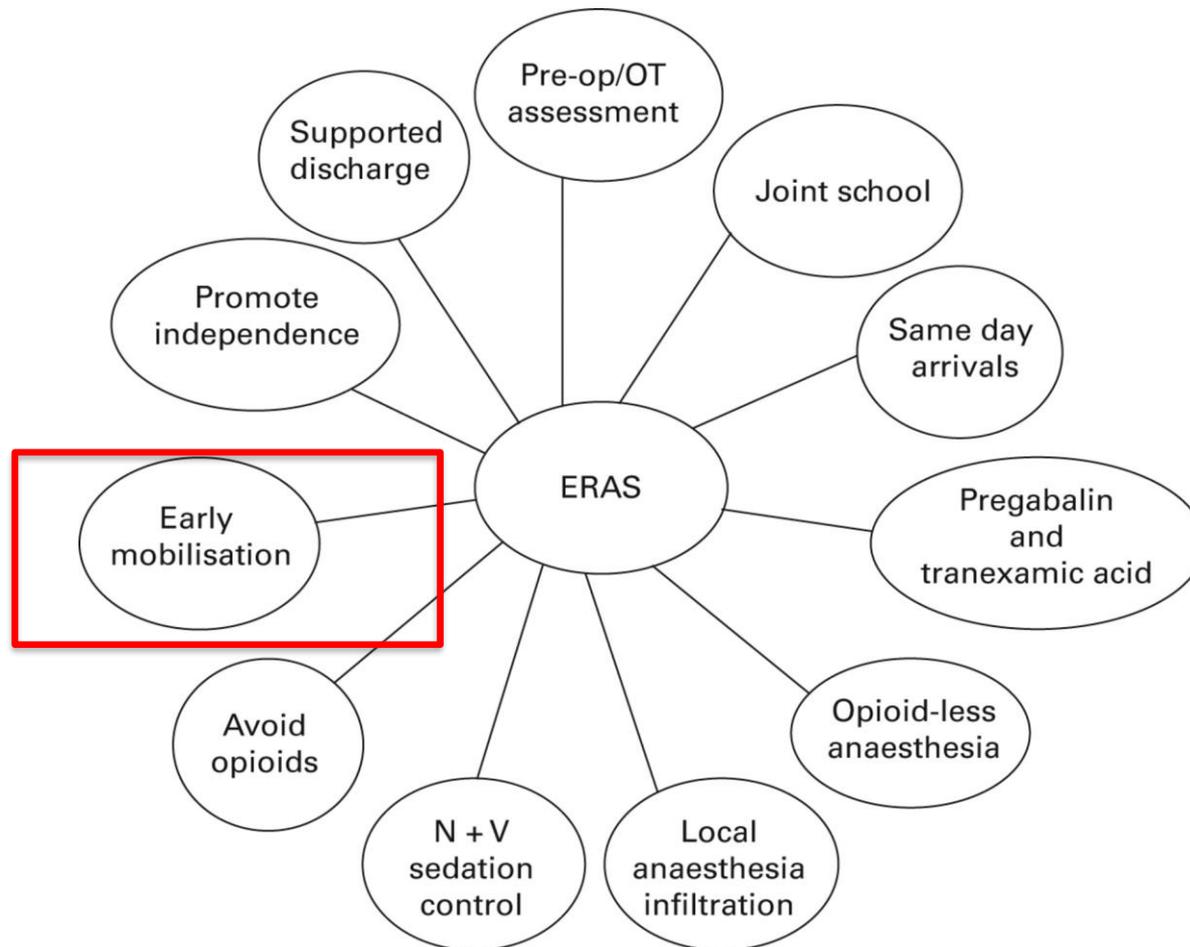


Patients BPCO



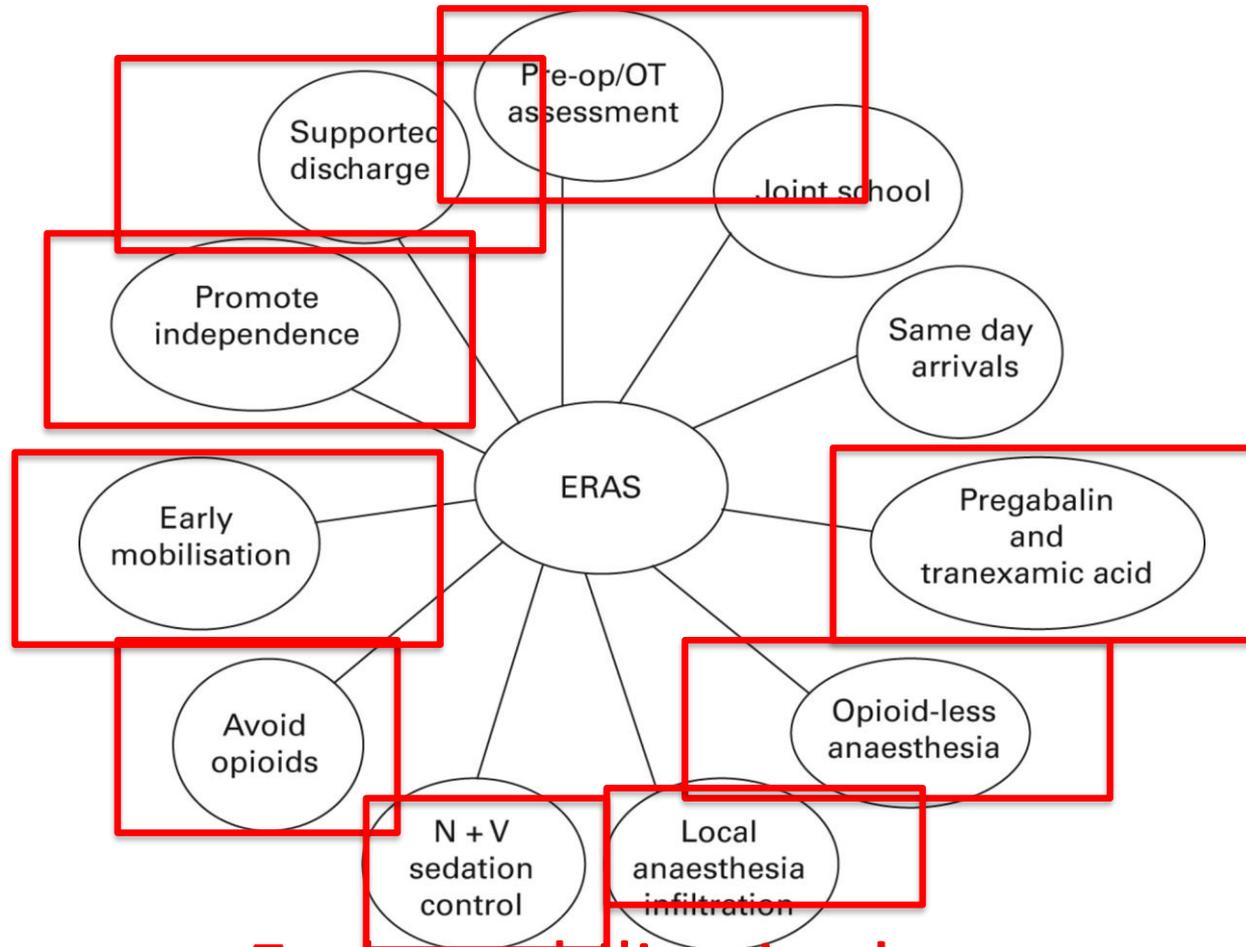
N=2644 par groupe

ENHANCED RECOVERY AFTER SURGERY



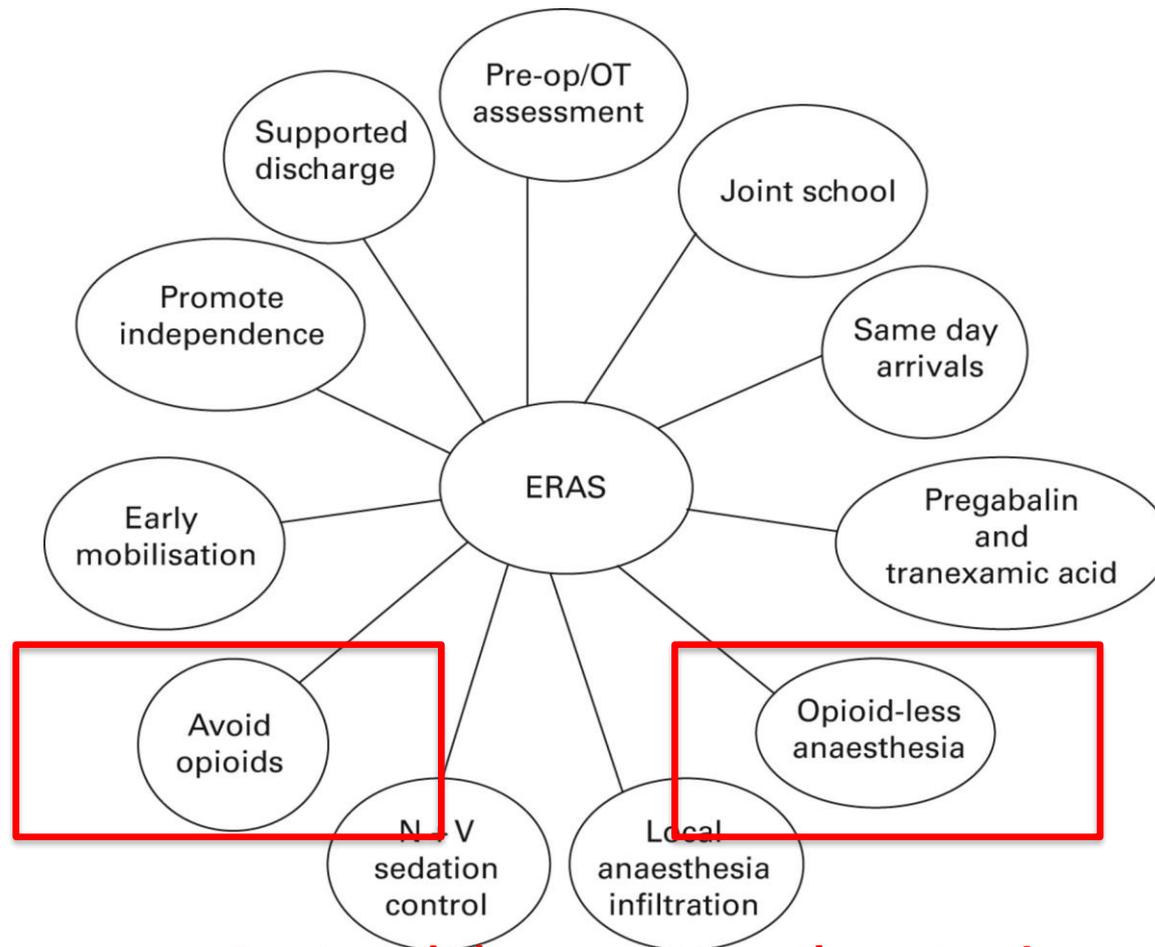
Early mobilization!

ENHANCED RECOVERY AFTER SURGERY



Early mobilization!

ENHANCED RECOVERY AFTER SURGERY



Opioid-less anaesthesia !

« Ce n'est pas parce qu'une nouvelle molécule arrive sur le marché qu'elle doit remettre en cause des années de médecine fondée sur les preuves du bénéfice de l'ALR »

Dr Ferré



RS_2021_10_Biarritz-Place de l'OFA à
l'heure de l'ALR_Pr Minville

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LE SYMPO

8, 9 & 10 Décembre 2021
Hôtel Dieu - Saint Jacques

Anesthésie - Réanimation
Médecine Périopératoire

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Département d'Anesthésie Réanimation
CHU de Toulouse

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✉ darsec.ppr@chu-toulouse.fr



Photos d'Elodie DUPLAN



RS_2021-10_Biarritz-Place de l'OFA à

l'heure de l'ALR_Pr Minville

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