



# Articles impactant nos pratiques en 2023-2024

Congrès ADARPEF

25/05/2024

Daphné Michelet – CHU de Reims



# Thèmes

Autour des voies aériennes

Monitoring per opératoire

Anesthésie locorégionale : urologie et chirurgie cardiaque

Réanimation: les nouveaux critères du sepsis

Anesthésie et chirurgie



# Autour des voies aériennes

## Contexte:

L'intubation des + petits est à risque élevé de complications.

Quelles sont les stratégies et pour garantir la sécurité de la procédure ?

Place des curares dans cette population ?

# Video versus Direct Laryngoscopy for Urgent Intubation of Newborn Infants

Lucy E. Geraghty, M.B., Emma A. Dunne, M.B., Ph.D.,  
 Caitríona M. Ní Chathasaigh, M.B., Akke Vellinga, Ph.D., Niamh C. Adams, M.B.,  
 Eoin M. O’Curraín, M.B., Ph.D., Lisa K. McCarthy, M.B., Ph.D., and  
 Colm P.F. O’Donnell, M.B., Ph.D.

ERC monocentrique

214 NN

Intubés en urgence en salle de naissance ou en USI

VL (C-MAC, Karl Storz) vs LD

Stratification < 32 SA vs > 32 SA

CJP: succès au 1<sup>er</sup> essai

**Table 2. Outcomes of Endotracheal Intubation.**

Outcome	Video-Laryngoscopy Group (N=107)	Direct-Laryngoscopy Group (N=107)
<b>Primary outcome: successful intubation on first attempt (overall)</b>		
No. of patients	79	48
Percentage of patients (95% CI)	74 (66–82)	45 (35–54)
P value for video laryngoscopy vs. direct laryngoscopy	<0.001	—
<b>Primary outcome according to subgroup analyses*</b>		
Gestational age at birth <32 wk		
No. of patients/total no.	53/73	24/71
Percentage of patients (95% CI)	73 (62–83)	34 (23–45)
Birth weight <1000 g		
No. of patients/total no.	32/45	13/45
Percentage of patients (95% CI)	71 (58–84)	29 (16–42)
Location of intubation procedure		
Delivery room		
No. of patients/total no.	24/38	9/25
Percentage of patients (95% CI)	63 (49–79)	36 (17–55)
Intensive care unit		
No. of patients/total no.	55/69	39/82
Percentage of patients (95% CI)	80 (70–89)	48 (36–58)

VL > LD pour le succès au 1<sup>er</sup> essai d'IOT du NN en urgence



**Table 3. Secondary Outcomes and Adverse Events.**

Outcome	Video-Laryngoscopy Group (N=107)	Direct-Laryngoscopy Group (N=107)
Oxygen saturation		
No. of patients assessed	98	100
Median lowest oxygen saturation during procedure (95% CI) — %	74 (65–78)	68 (62–74)
Median no. of attempts to achieve successful intubation (95% CI)	1 (1–1)	2 (1–2)
Median duration of successful first attempt (95% CI) — sec	61 (52–66)	51 (43–60)
Median duration of all successful attempts (95% CI)	60 (52–65)	49 (42–53)

OPEN

**GUIDELINES**

**Airway management in neonates and infants**

European Society of Anaesthesiology and Intensive Care and British Journal of Anaesthesia joint guidelines

**PICO 3. Tracheal intubation**

**Is direct laryngoscopy or videolaryngoscopy the first-choice technique for tracheal intubation in neonates and infants?**

Recommendation: We recommend the use of a videolaryngoscope with an age-adapted standard blade (Macintosh or Miller) as first choice for tracheal intubation of neonates and infants (1B), including for tracheal intubation in the lateral position (1C).

**Should apnoeic oxygenation become standard of care during tracheal intubation?**

Recommendation: We recommend the use of apnoeic oxygenation during tracheal intubation in neonates (1B).

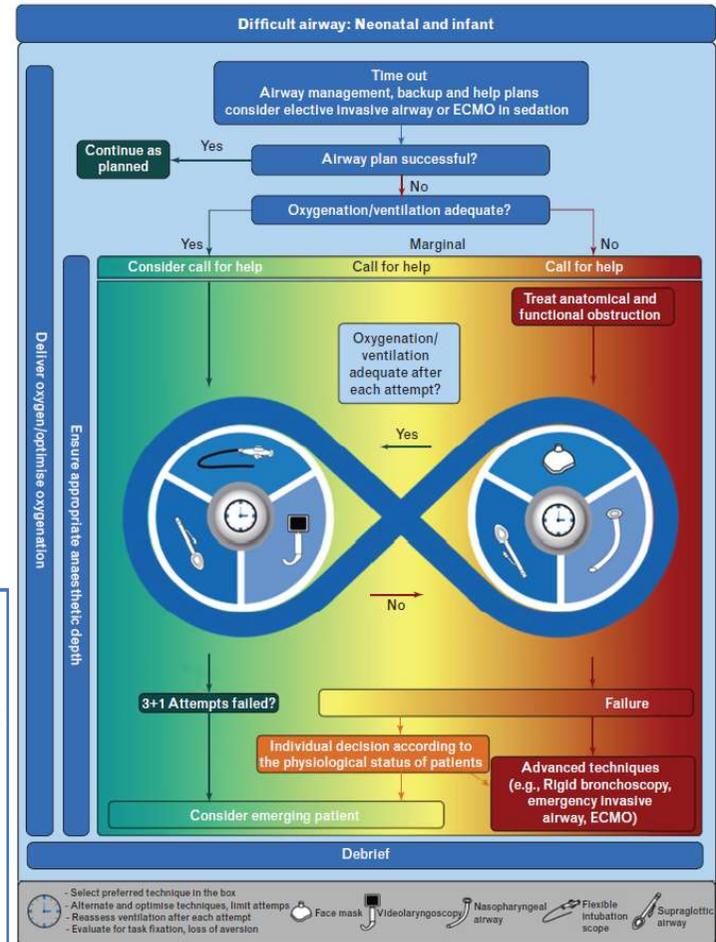
1. Evaluation et préparation
2. Médicaments
3. Techniques et algorithmes
4. Identification et PEC des VA difficiles
5. Confirmation de l' IT
6. Extubation
7. Facteurs humains.

**PICO 2. Preparation for airway management and pharmacological treatment (outside resuscitation)**

**What preparation and planning should be mandatory before airway management in neonates and infants? Is neuromuscular block mandatory if spontaneous breathing is not necessary (pharmacology)?**

Recommendation: We recommend use of an adequate level of sedation or general anaesthesia in neonates and infants during airway management to ensure patient comfort and safety (1B).

Recommendation: We recommend use of neuromuscular block before tracheal intubation when maintaining spontaneous breathing is not necessary (1C). The risks and benefits of neuromuscular blocking agent administration should be balanced for the individual patient and team skills.



# Spontaneous recovery from neuromuscular block after a single dose of a muscle relaxant in pediatric patients: A systematic review using a network meta-analytic and meta-regression approach

Luc E. Vanlinthout<sup>1</sup> | Jacques J. Driessen<sup>1</sup> | Robert Jan Stolker<sup>1</sup> | Emmanuel M. Lesaffre<sup>2</sup> | Johan M. Berghmans<sup>3,4</sup> | Lonneke M. Staals<sup>1</sup>

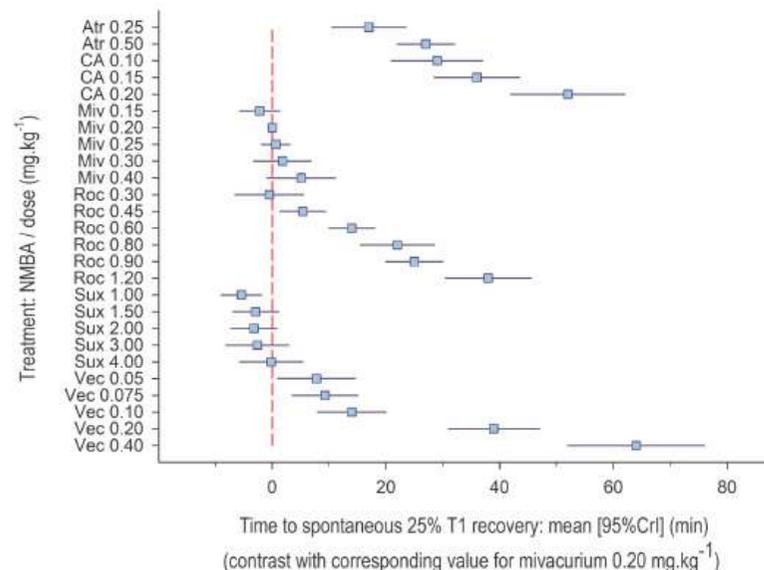
**MétaA** de 71 essais contrôlés ± randomisés  
**4319 patients 2-12 ans**

Curares en bolus unique, enfants ASA 1 et 2

1/ Durée de décurarisation entre curares (t25, RI25-75, et tTOF90)

2/ Durée de décurarisation selon l'âge

- tTOF90 moyen 2-11 ans = 41,96 et 17,06 min plus court que chez les NN et NRS.
- tTOF90 prolongé par les curares aminostéroïdes (rocu, vécu) et l'ajout de sévoflurane/isoflurane pour le maintien de l'anesthésie.



Time to 90% train-of-four recovery: children (2-<12y) versus other age classes

Author	Treatment	Other age class	Maintenance	Mean difference	95%CrI
Kalli (1989) <sup>96</sup>	Vec 0.10	Infant	IV	82.1	[53.42,70.78]
	Vec 0.10	Toddler	IV	25.1	[11.32,38.88]
	Vec 0.10	Adolescent	IV	9.2	[1.31,17.09]
Plaud (2009) <sup>98</sup>	Roc 0.60	Infant	IV	8.6	[-3.48,20.68]
	Roc 0.60	Adolescent	IV	7.4	[0.35,14.45]
Tirotta (2012) <sup>97</sup>	Roc 0.45	Neonate	Iso	87.2	[33.48,140.92]
	Roc 0.45	Infant	Iso	61.8	[53.74,69.86]
	Roc 0.45	Toddler	Iso	18.3	[2.03,34.57]
	Roc 0.45	Adolescent	Iso	16.7	[0.15,33.25]
	Roc 0.60	Neonate	Iso	48.6	[4.62,82.58]
	Roc 0.60	Infant	Iso	40.2	[12.75,67.65]
	Roc 0.60	Toddler	Iso	-2.9	[-18.66,12.88]
	Roc 0.60	Adolescent	Iso	2.4	[-14.90,19.70]
	Roc 1.00	Neonate	Iso	104.8	[55.41,154.19]
	Roc 1.00	Infant	Iso	179.6	[134.94,219.28]
Meretoja (1986) <sup>95</sup>	Roc 1.00	Toddler	Iso	72.8	[55.52,90.08]
	Roc 1.00	Adolescent	Iso	21.7	[-0.11,43.51]
	Atr 0.50	Infant	IV	15.06	[-6.80,36.92]
Østergaard (2002) <sup>†99</sup> Soltész (2002) <sup>100</sup> Zeng (2017) <sup>90</sup>	Atr 0.50	Toddler	IV	10.96	[-0.84,22.76]
	Miv 0.20	Toddler	Hal	2.1	[-0.29,4.49]
	CA 0.10	Toddler	Sev	14	[8.71,19.29]
	Miv 0.20	Infant	IV	-0.65	[-2.47,1.17]
	Miv 0.20	Toddler	IV	-0.72	[-2.43,0.99]
	Miv 0.20	Toddler	IV	1.3	[-0.95,3.55]
	Miv 0.20	Toddler	IV	-2.24	[-4.07,-0.41]
	Miv 0.25	Toddler	IV	-0.12	[-2.07,1.83]
	Miv 0.25	Adolescent	IV	-0.59	[-2.10,0.92]
	Miv 0.25	Adolescent	IV	0.08	[-1.79,1.95]
<b>Children (2 - &lt;12y) vs other age classes (total)</b>				<b>26.28</b>	<b>[12.09,41.03]</b>



## A retrospective observational cross-sectional study of intraoperative neuromuscular blocking agent choice and dosing in a US paediatric referral hospital before and after introduction of sugammadex<sup>☆</sup>

Sydney E. S. Brown<sup>1,\*</sup>, Kevin Spellman<sup>2,3</sup>, Ruth Cassidy<sup>1</sup>, Rebecca Nause-Osthoff<sup>1</sup>, Meridith Bailey<sup>1</sup>, Graciela Mentz<sup>1</sup>, Deborah Wagner<sup>1</sup>, Bishr Haydar<sup>1</sup>, Wilson Chimbira<sup>1</sup>, Sachin Kheterpal<sup>1</sup> and Douglas Colquhoun<sup>1</sup>

### Etude rétrospective

transversale monocentrique sur base de données

Enfants sous AG avec IOT

Du 1er jan 2014 au 31 déc 2021

OBJ: déterminer si

- le **choix (n= 32143)** et
- le **dosage (n=28060)**

du curare lors de l'induction, en général et au cours des 60 dernières minutes avant l'extubation a changé après l'introduction institutionnelle de sugammadex en novembre 2016

### Dose rocuronium enfant 20kg

	2015	2020
Dose totale pour 2h	30 mg	41,9 mg
Induction	15 mg	22,2 mg
60 min avant	15 mg	31 mg

**Table 1** Unadjusted use of each neuromuscular blocking agent class and sugammadex by case numbers per year.

Year	Cisatracurium		Rocuronium or vecuronium		Suxamethonium		Sugammadex	
	N	%	N	%	N	%	N	%
2014	2689	75.51	247	6.94	900	25.27	0	0
2015	2820	77.47	246	6.76	909	24.97	0	0
2016	3095	77.53	221	5.54	1035	25.93	2	0.05
2017	3147	78.5	246	6.14	979	24.42	45	1.12
2018	2289	57.21	1087	27.17	888	22.19	415	10.37
2019	125	3.02	3589	86.73	576	13.92	1364	32.96
2020	33	0.79	3873	92.86	362	8.68	2852	68.38
2021	28	0.59	4392	93.17	411	8.72	3710	78.7

Après introduction sugammadex, en 7 ans:

- Changement radical de type de curares en faveur de ceux compatibles avec le sugammadex
- Augmentation d'environ 30% des doses



## CORRESPONDENCE

## Recurarisation after sugammadex in children: review of case reports and recommendations

Jean-Philippe Salaün<sup>1,2,3,\*</sup>, Elizabeth Décary<sup>3</sup> and Francis Veyckemans<sup>4</sup>

**Table 1** Recurarisation after sugammadex administration in children less than 2 yr old: published case reviews. NA, not available; NEC, necrotizing enterocolitis; PTC, post-tetanic count; RF, respiratory frequency; TOF, train-of-four neuromuscular monitoring; TOFC, TOF count; TOFR, TOF ratio; Vt, tidal volume. \*Our case.

Age	3 weeks*	2 days <sup>2</sup>	3 weeks <sup>2</sup>	4 months <sup>1</sup>	5 months <sup>2</sup>	8 months <sup>3</sup>	19 months <sup>4</sup>
Prematurity	No	No	No	Yes (term not specified)	No	No	No
Weight (kg)	3.5	3.6	4.1	2.6	7.3	8.1	9.6
Surgery	Laparoscopic pyloromyotomy	Urgent colostomy	Laparoscopic adrenalectomy	Exploratory laparotomy, adhesiolysis, hepatic biopsy, and intestinal anastomosis after NEC	Cystoscopy, pyeloplasty, and ureteral stenting	Pulmonary artery angioplasty	Cheiloplasty
Rapid sequence induction (yes/no)	Yes	Yes	No	Yes	No	No	No
Drugs for induction	Propofol 3.4 mg kg <sup>-1</sup> Remifentanyl 2.4 µg kg <sup>-1</sup> Fentanyl 2.1 µg kg <sup>-1</sup>	Ketamine 1.4 mg kg <sup>-1</sup>	Sevoflurane/N <sub>2</sub> O Fentanyl 1.2 µg kg <sup>-1</sup>	Propofol 4 mg kg <sup>-1</sup>	Sevoflurane/N <sub>2</sub> O Fentanyl 1.4 mcg kg <sup>-1</sup>	Sevoflurane Fentanyl 0.6 µg kg <sup>-1</sup>	Sevoflurane/N <sub>2</sub> O Fentanyl 3 µg kg <sup>-1</sup>
Regional anaesthesia	No	Caudal, ropivacaine 2.2 mg kg <sup>-1</sup>	No	Thoracic epidural (chloroprocaine + clonidine, doses NA)	Caudal, ropivacaine 1.9 mg kg <sup>-1</sup> plus clonidine 1.4 µg kg <sup>-1</sup>	No	No
TOFC before curarisation	NA	NA	NA	NA	NA	NA	TOFC 4/4
Rocuronium initial dose (mg kg <sup>-1</sup> )	2.3	0.8	1.0	1.1	1.37	1.9	0.6
Multiple of rocuronium ED <sub>95</sub> (0.25 mg kg <sup>-1</sup> )	9.2	3.2	4	4.4	5.5	7.6	2.4
Total number of rocuronium doses	1	3	4	5	2	NA	2
Total rocuronium dose (mg kg <sup>-1</sup> )	2.3	1.9	2.7	5.3	2.7	2.5	0.9
Multiples of rocuronium ED <sub>95</sub> (0.25 mg kg <sup>-1</sup> )	9.2	7.6	10.8	21.2	10.8	10	3.6
Duration of surgery (min)	35	127	181	250	126	133	NA
TOF before reversal	PTC>2	TOFC 4/4	TOFC 0/4	NA	NA	TOFC 2/4	PTC=1
Location of neuromuscular monitoring	tibial nerve	NA	NA	NA	NA	ulnar nerve	ulnar nerve
Initial sugammadex dose for reversal (mg kg <sup>-1</sup> )	4.3	2.8+1.4 (19 min after, weakness)= 4.2	4.9	4	2.7	4	0.5
Time between last rocuronium dose and first sugammadex	35	84	25	NA	70	54	NA
Interval between sugammadex administration and signs of recurarisation (min)	50	52	24	26	45	20	17

### Précautions curares <2 ans:

Limiter dose induction rocu: **0,5mg/kg max**

Monitoring **quantitatif** calibré

Décurarisation efficace: TOF maintenu > 0,9

Surv **60 min en SSPI** après sugammadex

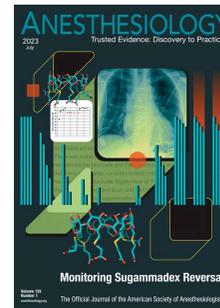
# A retenir – Voies aériennes et curares

- Vidéolaryngoscopie en 1ère intention chez le NN
- Curares pour l'intubation ?
  - Attention aux doses
  - Décurarisation
  - Monitoring quantitatif +++

EDITORIAL

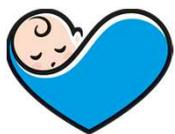
## Sugammadex Is Not a Silver Bullet: Caveats Regarding Unmonitored Reversal

Michael M. Todd, M.D., Aaron F. Kopman, M.D.



Quantitative twitch monitoring is essential to evaluate the effectiveness of reversal with sugammadex





# Monitoring per operative

## Contexte:

Nouveautés dans  
l'évaluation per  
opératoire de la  
nociception ?

BIS et delirium post  
opératoire ?

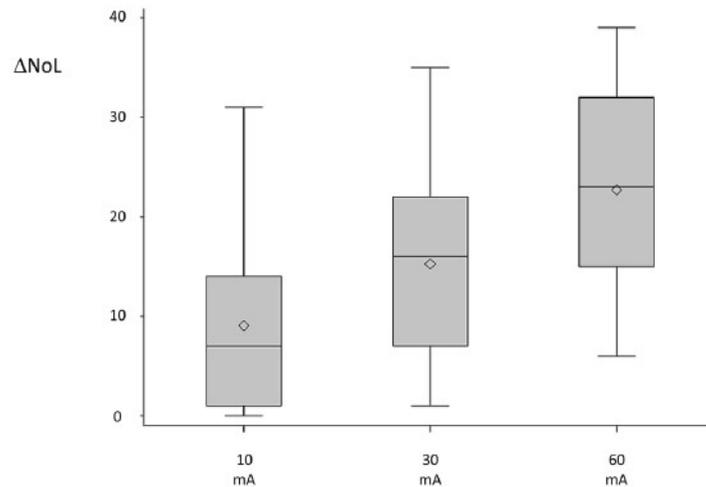


Original Article

Nociception level response to calibrated stimulations in children: First assessment of the nociception level index in pediatric anesthesia

Sarah Chemam<sup>a,b</sup>, Emeline Cailliau<sup>c</sup>, Dina Bert<sup>d</sup>, Benoît Tavernier<sup>d,e</sup>, Isabelle Constant<sup>a,b</sup>, Nada Sabourdin<sup>a,b,\*</sup>

- **ERC**
- **30 enfants 5-12 ans**
- Induction Sevo + alfentanil
- **3 stimulations** tétaniques d'intensité ≠ (60, 30, 10 mA) dans un ordre randomisé avant l'incision chirurgicale

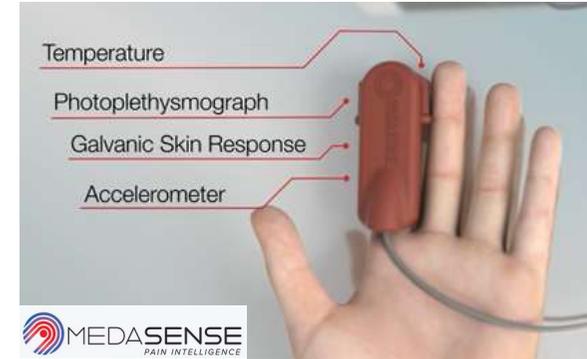


NOL influencé par l'intensité de la stimulation ( $p < 0,001$ )

FC et PAS peu modifiées par les stimulations.

ANI :

- ↘ après les stimulations ( $p < 0,001$  à chaque intensité).
  - non influencée par l'intensité de la stimulation ( $p = 0,064$ ).
- NOL et ANI corrélées (Pearson  $r = 0,47$  ;  $p < 0,001$ ).



**Table 1**

NOL, heart rate, systolic blood pressure, and ANI values before and after the stimulations.

	Before stimulation	After stimulation
<b>NOL</b>		<i>Maximal value</i>
10 mA	1 ± 2	10 ± 9
30 mA	1 ± 3	17 ± 10
60 mA	1 ± 3	24 ± 9
<b>Heart rate (bpm)</b>		<i>Maximal value</i>
10 mA	93 ± 14	95 ± 14
30 mA	93 ± 15	95 ± 14
60 mA	93 ± 15	95 ± 14
<b>Systolic blood pressure (mmHg)</b>		
10 mA	91 ± 8	90 ± 9
30 mA	91 ± 8	91 ± 7
60 mA	91 ± 8	92 ± 8
<b>ANI</b>		<i>Minimal value</i>
10 mA	85 ± 16	71 ± 23
30 mA	83 ± 18	66 ± 21
60 mA	82 ± 19	59 ± 21

Data are presented as mean ± standard deviation.

NOL permet une évaluation quantitative de la nociception sous AG chez les 5 à 12 ans.





Original Article

Effect of BIS-guided anesthesia on emergence delirium following general anesthesia in children: A prospective randomized controlled trial



Michal Frelich<sup>a,b</sup>, Karolína Lečbychová<sup>a</sup>, Vojtěch Vodička<sup>a</sup>, Tereza Ekrtová<sup>a</sup>, Peter Sklienka<sup>a,b</sup>, Ondřej Jor<sup>a,b</sup>, Hana Straková<sup>a</sup>, Markéta Bílená<sup>a</sup>, Martin Formánek<sup>c,d</sup>, Filip Burša<sup>a,b,\*</sup>

- **ERC 163 enfants de 3 à 8 ans sur 18 mois**
- Adénoïdectomies endoscopiques
- Groupe BIS: objectif 40-60
- Groupe contrôle: selon MAC
- CJP : Survenue delirium



**Table 2**

Data recorded in the PACU.

	Control (n = 77)	Intervention (N = 86)	p-Value
ED	27 (35.1%)	11 (12.8%)	0.001
PAED 10 min	6.7 ± 4.9	4.1 ± 4.3	<0.001
PAED 30 min	3.6 ± 3.5	1.8 ± 2.75	<0.001
ED treatment	25/27 (92.6%)	11/11 (100%)	0.067
T0 time (min)	17.1 ± 6.8	17.2 ± 7.4	0.078

Data are presented as n (%) or mean ± SD. ED, emergence delirium; PAED, pediatric anesthesia emergence delirium; FLACC, face, legs, activity, cry, consolability.

Point	Description of Items	Scoring				
		not at all	just a little	quite a bit	very much	extremely
1	The child makes eye contact with the caregiver	4	3	2	1	0
2	The child's actions are purposeful	4	3	2	1	0
3	The child is aware of his/her surroundings	4	3	2	1	0
4	The child is restless	0	1	2	3	4
5	The child is inconsolable	0	1	2	3	4

**Table 1**

Baseline characteristics and intraoperative variables of the patients.

	Control (n = 77)	Intervention (N = 86)	p-Value
Male/female	49/28	56/30	0.771
ASA I/ASA II	74/3	81/5	0.629
Age (years)	4.8 ± 1.3	4.6 ± 1.3	0.254
Weight (kg)	20.3 ± 5.5	18.8 ± 5.4	0.075
Height (cm)	111.2 ± 10.5	108.6 ± 10.5	0.064
m-YPAS	27.9 ± 6.4	29.1 ± 5.3	0.174
Duration of GA (min)	48.3 ± 11.7	44.8 ± 12.3	0.086
Induction ET <sub>Sevo</sub> (Vol%)	5.8 ± 1.3	5.7 ± 1.4	0.436
ET <sub>Sevo</sub> (Vol%) maintenance of anest.	2.9 ± 0.8	2.2 ± 0.7	0.039
ET <sub>Sevo</sub> (Vol%) end of surgery	2.5 ± 0.6	2.1 ± 0.5	0.047
Consumption of sevoflurane (mL)	13.2 ± 2.4	9.7 ± 1.9	0.035
Sufentanil (µg)	4.1 ± 0.2	4.0 ± 0.3	0.831
Infusion therapy (mL)	101.5 ± 9.5	100.8 ± 10.1	0.136
Temperature (°C)	36.3 ± 0.1	36.3 ± 0.2	0.564
Heart rate (beats/min)	115.9 ± 14.2	114.3 ± 13.9	0.621
Respiratory rate (per min)	19.8 ± 1.5	19.7 ± 1.4	0.987
Systolic pressure (mmHg)	95.9 ± 11.7	93.8 ± 11.1	0.812
Diastolic pressure (mmHg)	59.7 ± 7.5	60.1 ± 6.9	0.205
Duration of surgery (min)	28.1 ± 9.1	30.2 ± 11.6	0.365

Data are presented as n or mean ± SD. m-YPAS, modified Yale preoperative anxiety scale; ET<sub>Sevo</sub>, end tidal concentration of sevoflurane; GA, general anesthesia.

BIS 40-60 lors des AG inhalées au sévo : ∩ délirium





# Anesthésie loco régionale

## Contexte:

Quelle ALR pour la cure  
d'hypospade ?

Quelles alternatives aux  
opioïdes IVSE en post  
opératoire de chirurgie  
cardiaque ?

## Caudal anesthesia is not associated with post-operative complications following distal hypospadias repair

Katherine M. Fischer, Jason Van Batavia, Nathan Hyacinthe, Dana A. Weiss, Connie Tan, Steve A. Zderic, Sameer Mittal, Aseem R. Shukla, Thomas F. Kolon, Arun K. Srinivasan, Douglas A. Canning, Mark R. Zaontz, Christopher J. Long \*

### Etude rétrospective monocentrique 1008 patients

Juin 2007 – janvier 2021

Caudale (832) vs bloc pénien (176)  
pour hypospade distal

Age médian 8,1 mois

Suivi médian post op de 13 mois

- Complications 16,4%
- Reprise chir 13,8%

**Table 3** Complications, time to complication and types of complications for overall cohort and by local anesthesia type.

	Overall (n = 1008)	Caudal (n = 832)	Penile Block (n = 176)	p-Value
Overall Complications	165 (16.4%)	146 (17.5%)	19 (10.8%)	
Patients requiring repeat OR procedure for complications	139 (13.8%)	123 (14.8%)	16 (9.1%)	
Complications $\leq 30$ days	14 (1.4%)	13 (1.6%)	1 (0.6%)	
Median time to complication (months)	10.59 (3.22–32.57)	8.45 (2.99–32.24)	25.2 (16.51–41.48)	P = 0.0228
Type of Complication (some patients with multiple types)				P = 0.569
Fistula	82 (8.1%)	73 (8.8%)	9 (5.1%)	
Meatal Stenosis	45 (4.5%)	41 (4.9%)	4 (2.3%)	
Glans or Wound Dehiscence	20 (2.0%)	20 (2.4%)	0	
Recurrent Curvature	3 (0.3%)	3 (0.4%)	0	
Hematoma/Bleeding Requiring Admission	7 (0.7%)	6 (0.7%)	1 (0.6%)	
Wound Infection	1 (0.1%)	1 (0.1%)	0	
Diverticulum	1 (0.1%)	1 (0.1%)	0	
Penile adhesions, skin bridges, inclusion cysts, sutures sinuses, excess skin	38 (3.8%)	32 (3.8%)	6 (3.4%)	

Caudale associée à un risqué augmenté de complications en analyse univariée (OR 1.7, 95% CI Z 1.1e2.9; p Z 0.03).

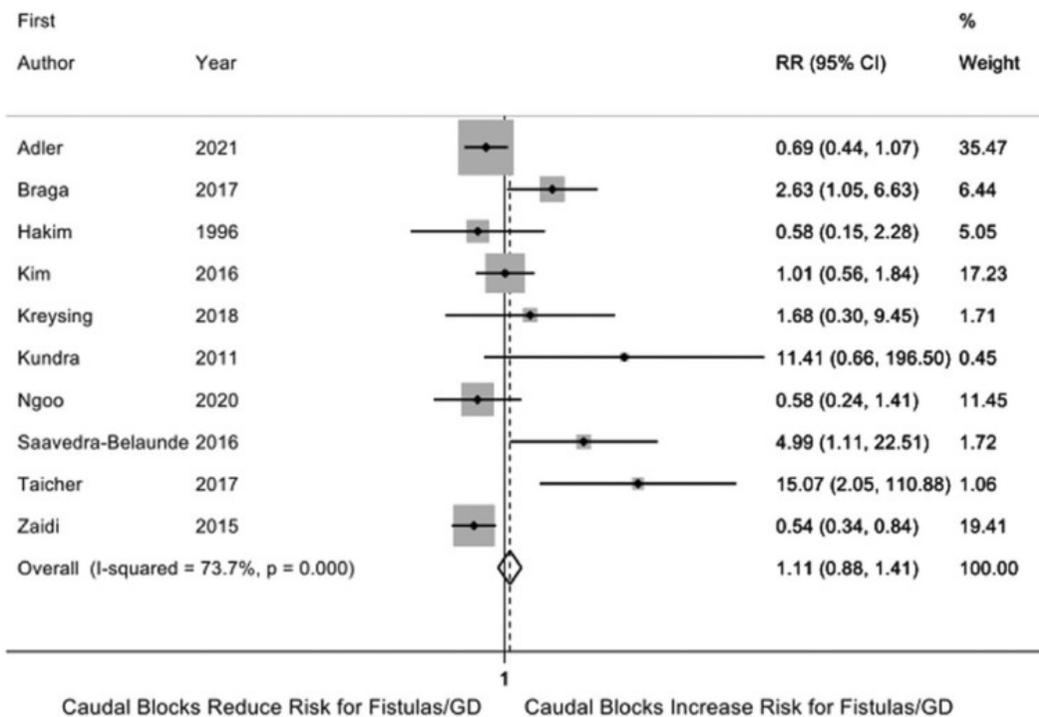
Association non retrouvée en analyse multivariée après contrôle pour l'âge et le type de (OR Z 1.3, 95%CI Z 0.8e2.2; p > 0.05).

Pas de lien entre caudale et complications dans les 30 jours post op



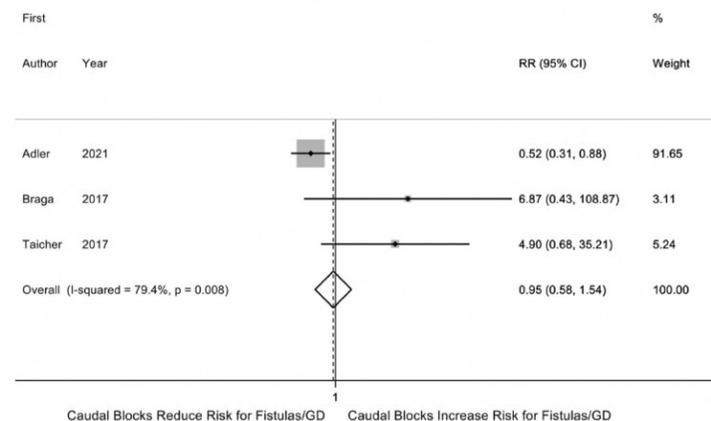
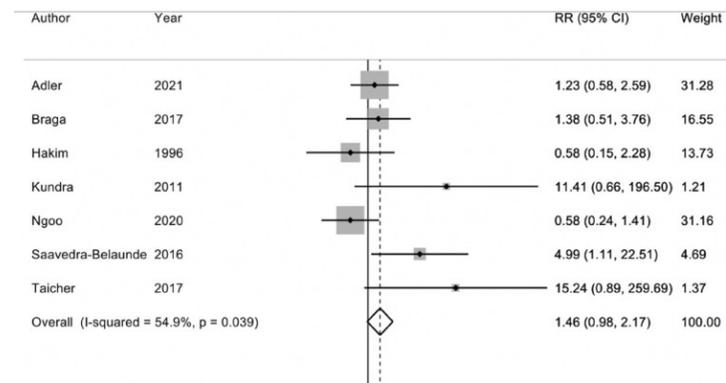
# Caudal block for hypospadias repair: Unfolding the controversy through statistical analysis and how we can put it all to rest!

Adam C. Adler<sup>1</sup> | Paul F. Austin<sup>2</sup>



Pas association entre caudale et risque de complications  
OR 1.11, 95% CI 0.88–1.41, p = .38

## Distal



## Proximal



Original Article

Comparison of Transversus Thoracis Muscle Plane Block and Pecto-Intercostal Fascial Plane Block for enhanced recovery after pediatric open-heart surgery



I.M. Elbardan, A.S. Shehab, I.M. Mabrouk\*

**ERC double aveugle**  
**60 enfants 2-12 ans,**  
 chirurgie cardiaque avec  
 sternotomie

- Bloc thoracique transverse
- Bloc pecto-intercostal (réalisés en préopératoire)

**CJP: conso fentanyl per op**

**TTPB > PIFB:**

- Conso fentanyl per et post op
- Délai 1<sup>ère</sup> analgésie de secours
- Douleurs thoraciques non sternales

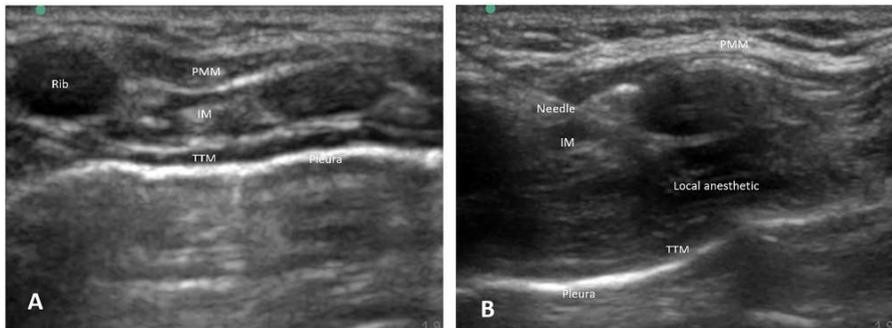
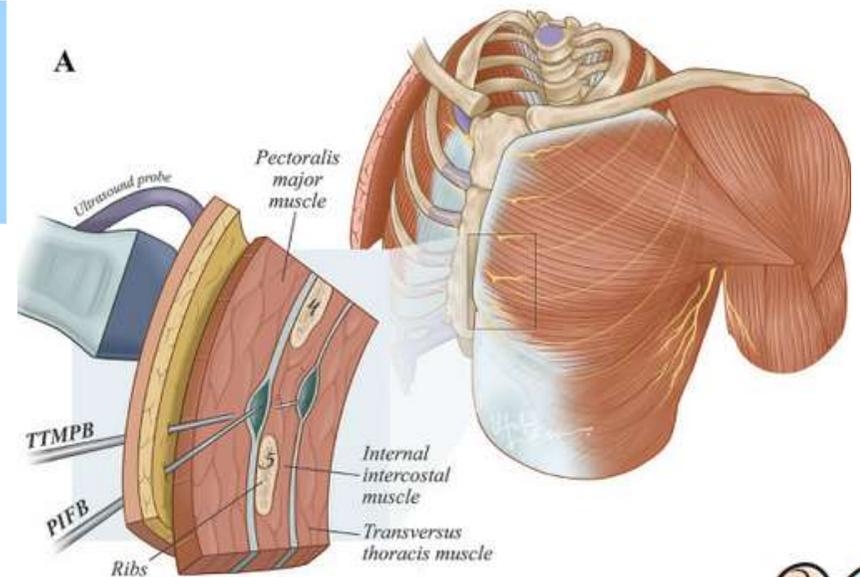


Fig. 1. Ultrasound images of transversus thoracis muscle fascial plane before (A) and after (B) local anesthetic injection. PMM: pectoralis major muscle; IM: intercostal muscles; TTM: transversus thoracis muscle.

**Table 2**  
 Intra and postoperative fentanyl consumption.

	TTPB (n = 30)	PIFB (n = 30)	
<b>Intraoperative fentanyl consumption (µg/kg)</b>			
- Min.–max.	2–4	2–6	$Z_{(MW)} = 2.138$
- Median	2	2	$p = 0.033^*$
- 95% CI of the median			
- 25th Percentile–75th Percentile	2–2	2–4	
<b>Postoperative fentanyl consumption (µg/kg)</b>			
- Min.–max.	8–16	12–18	$Z_{(MW)} = 5.077$
- Median	12	15	$p = 0.000^*$
- 95% CI of the median	12–15	15–16	
- 25th Percentile–75th Percentile	10–12	15–16	

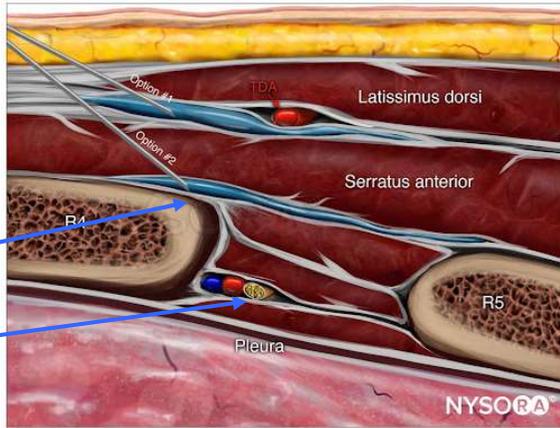




Original Article

Safety and feasibility of ultrasound-guided serratus anterior plane block and intercostal nerve block for management of post-sternotomy pain in pediatric cardiac patients: A prospective, randomized trial

Yi He<sup>a</sup>, Mingzhe Xu<sup>a</sup>, Zhi Li<sup>b</sup>, Lijing Deng<sup>c</sup>, Yi Kang<sup>d</sup>, Yunxia Zuo<sup>a,\*</sup>



**ERC monocentrique**

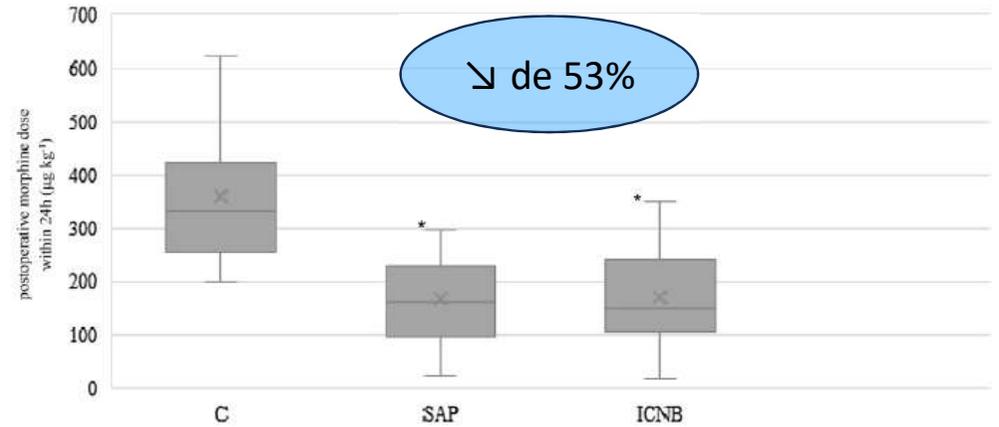
**60 enfants**

**3 groupes:**

- Pas d'ALR,
- SABP
- ICNB

(blocs réalisés en post op)

**CJP: conso morphinique post op 24h**



**Fig. 2.** Total opioid consumptions (intravenous morphine equivalents) up to 24 h admission in the ICU.

C: control group; SAP: deep serratus anterior plane block; ICNB: intercostal nerve block.

**Table 3**  
Secondary outcomes.

Outcomes	Control group (n = 20)	SAPB group (n = 18)	ICNB group (n = 19)	p-Value
Extubation time, min	242.4 (199.5)	204.8 (75.3)	184.3 (89.5)	0.177
Block complications	–	0	0	
Nausea or vomiting	0	0	0	
Urinary retention	1	0	0	
Length of ICU stay, H	60.1 ± 43.1	61.4 ± 38.6	47.2 ± 20.7	0.405
Length of hospital stay, D	8.4 ± 2.9	7.9 ± 2.3	7.8 ± 1.9	0.738





# Sepsis

## Contexte:

Volonté internationale d'établir et valider de nouveaux critères pour le sepsis et le choc septique pédiatrique à partir des données de pays aux ressources ≠

## Development and Validation of the Phoenix Criteria for Pediatric Sepsis and Septic Shock

L. Nelson Sanchez-Pinto, MD, MBI; Tellen D. Bennett, MD, MS; Peter E. DeWitt, PhD; Seth Russell, MS; Margaret N. Rebull, MA; Blake Martin, MD; Samuel Akech, MBChB, MMED; David J. Albers, PhD; Elizabeth R. Alpern, MD, MSCE; Fran Balamuth, MD, PhD, MSCE; Melania Bembea, MD, MPH, PhD; Mohammad Jobayer Chisti, MBBS, MMed, PhD; Idris Evans, MD, MSc; Christopher M. Horvat, MD, MHA; Juan Camilo Jaramillo-Bustamante, MD; Niranjan Kissoon, MD; Kusum Menon, MD, MSc; Halden F. Scott, MD, MSCS; Scott L. Weiss, MD; Matthew O. Wiens, PharmD, PhD; Jerry J. Zimmerman, MD, PhD; Andrew C. Argent, MD, MBBCh, MMed; Lauren R. Sorce, PhD, RN, CPNP-AC/PC; Luregn J. Schlapbach, MD, PhD; R. Scott Watson, MD, MPH; and the Society of Critical Care Medicine Pediatric Sepsis Definition Task Force

### Etude de cohorte rétrospective multicentrique internationale

10 systèmes de santé aux États-Unis, en Colombie, au Bangladesh, en Chine et au Kenya, dont 3 ont été utilisés comme sites de validation externe

0 – 18 ans

2010-2019

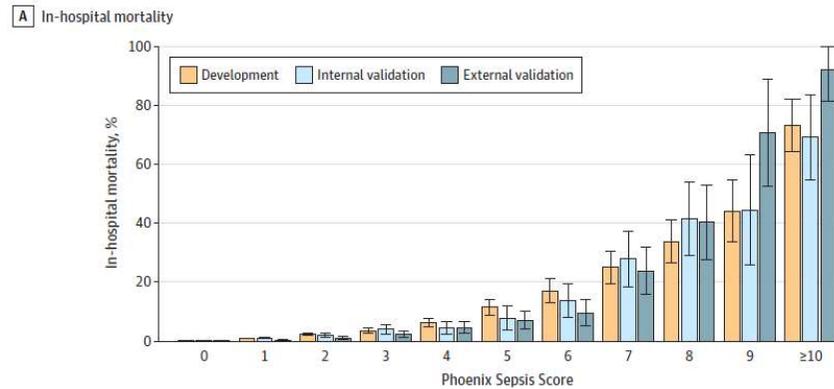
- **3 049 699** pour le développement et **581 317** pour la validation externe
- **172 984 (5,7%)** avaient une suspicion d'infection dans les 24 premières heures

Table 2. The Phoenix Sepsis Score<sup>a</sup>

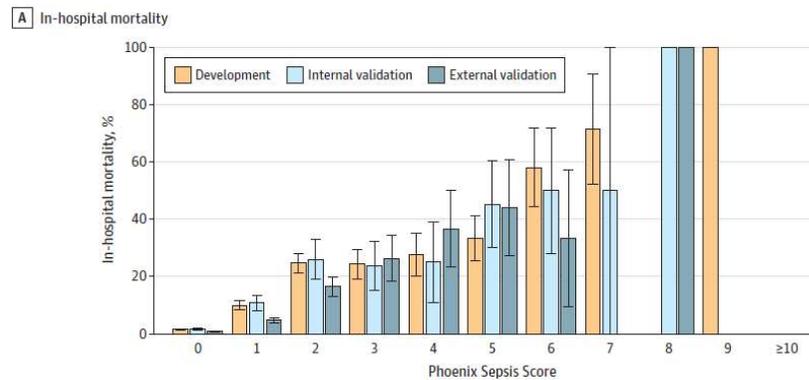
	0 Points	1 Point	2 Points	3 Points
<b>Respiratory (0-3 points)</b>				
	$PaO_2:F_{iO_2} \geq 400$ or $SpO_2:F_{iO_2} \geq 292^b$	$PaO_2:F_{iO_2} < 400$ and any respiratory support <sup>c</sup> or $SpO_2:F_{iO_2} < 292$ and any respiratory support <sup>c</sup>	$PaO_2:F_{iO_2}$ 100-200 and IMV or $SpO_2:F_{iO_2}$ 148-220 and IMV	$PaO_2:F_{iO_2} < 100$ and IMV or $SpO_2:F_{iO_2} < 148$ and IMV
<b>Cardiovascular (0-6 points)</b>		1 point each (up to 3) for:	2 points each (up to 6) for:	
	No vasoactive medications <sup>d</sup>	1 Vasoactive medication <sup>d</sup>	$\geq 2$ Vasoactive medications <sup>d</sup>	
	Lactate $< 5$ mmol/L <sup>e</sup>	Lactate 5-10.9 mmol/L <sup>e</sup>	Lactate $\geq 11$ mmol/L <sup>e</sup>	
Mean arterial pressure by age, mm Hg <sup>f,g</sup>				
<1 mo	$> 30$	17-30	$< 17$	
1 to 11 mo	$> 38$	25-38	$< 25$	
1 to <2 y	$> 43$	31-43	$< 31$	
2 to <5 y	$> 44$	32-44	$< 32$	
5 to <12 y	$> 48$	36-48	$< 36$	
12 to 17 y	$> 51$	38-51	$< 38$	
<b>Coagulation (0-2 points)<sup>h</sup></b>		1 point each (maximum of 2 points) for:		
	Platelets $\geq 100 \times 10^3/\mu L$	Platelets $< 100 \times 10^3/\mu L$		
	International normalized ratio $\leq 1.3$	International normalized ratio $> 1.3$		
	D-dimer $\leq 2$ mg/L FEU	D-dimer $> 2$ mg/L FEU		
	Fibrinogen $\geq 100$ mg/dL	Fibrinogen $< 100$ mg/dL		
<b>Neurologic (0-2 points)<sup>i</sup></b>				
	Glasgow Coma Scale score $> 10^j$ ; pupils reactive	Glasgow Coma Scale score $\leq 10^j$	Fixed pupils bilaterally	



**Figure 1. In-Hospital Mortality Associated With the Phoenix Sepsis Score in Patients in Higher-Resource Settings With Suspected Infection in the First 24 Hours**



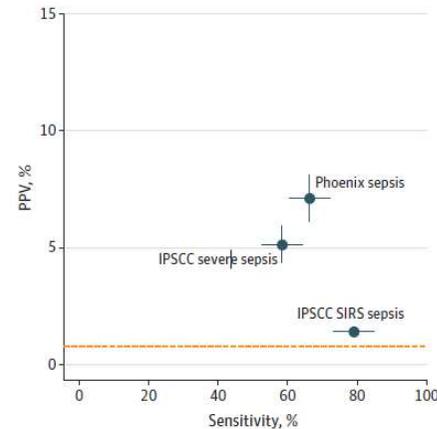
**Figure 2. In-Hospital Mortality Associated With the Phoenix Sepsis Score in Patients in Lower-Resource Settings With Suspected Infection in the First 24 Hours**



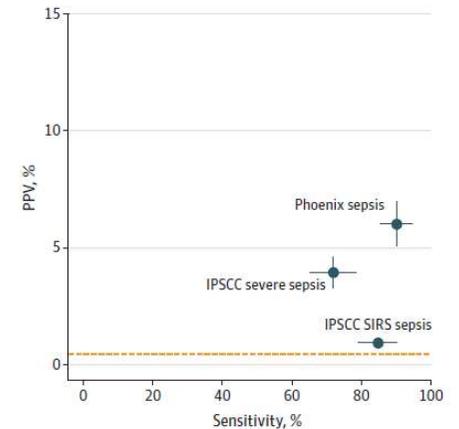
**B** Area under the receiver operating characteristic curve (AUROC)

	Internal validation set						
	Phoenix sepsis	IPSCC	Phoenix-8	PELOD-2	pSOFA	Proulx	PODIUM
Higher-resource sites 1-5	0.88 (0.88-0.88)	0.88 (0.88-0.88)	0.91 (0.90-0.91)	0.86 (0.86-0.87)	0.90 (0.89-0.90)	0.86 (0.85-0.86)	0.89 (0.89-0.90)
Lower-resource site 1	0.91 (0.90-0.92)	0.85 (0.83-0.86)	0.90 (0.89-0.91)	0.84 (0.83-0.86)	0.89 (0.87-0.90)	0.90 (0.89-0.91)	0.77 (0.75-0.79)
Lower-resource site 2	0.71 (0.70-0.72)	0.78 (0.77-0.80)	0.85 (0.84-0.86)	0.78 (0.77-0.79)	0.83 (0.82-0.84)	0.72 (0.70-0.73)	0.78 (0.77-0.79)
	External validation set						
Higher-resource site 6	0.92 (0.92-0.92)	0.91 (0.91-0.92)	0.94 (0.94-0.94)	0.92 (0.92-0.92)	0.93 (0.93-0.93)	0.91 (0.91-0.91)	0.92 (0.91-0.92)
Lower-resource site 3	0.81 (0.80-0.83)	0.76 (0.74-0.78)	0.78 (0.76-0.79)	0.70 (0.67-0.71)	0.73 (0.71-0.75)	0.71 (0.69-0.73)	0.71 (0.69-0.73)
Lower-resource site 4	0.80 (0.79-0.81)	0.81 (0.80-0.81)	0.80 (0.79-0.80)	0.73 (0.72-0.74)	0.82 (0.81-0.83)	0.74 (0.73-0.75)	0.75 (0.74-0.76)
All sites (Internal and external validation sets)	0.82 (0.82-0.83)	0.83 (0.83-0.84)	0.87 (0.87-0.87)	0.80 (0.80-0.81)	0.86 (0.86-0.87)	0.81 (0.81-0.81)	0.84 (0.83-0.84)

**A** PPV vs sensitivity for death at higher-resource sites 1-5 (274 deaths among 36 202 encounters)



**B** PPV vs sensitivity for early death or ECMO at higher-resource sites 1-5 (171 early deaths or ECMO among 36 202 encounters)



**Sepsis: Score Phoenix  $\geq 2$  / Choc septique: Sepsis + 1 ou plusieurs points cardiovasculaires**  
 Enfants sepsis + : mortalité de 7,1% (ressources plus élevées) et 28,5% (faibles ressources).  
 Enfants en choc septique: mortalité de 10,8% (ressources plus élevées) et 33,5% (faibles ressources).



# Anesthésie et chirurgie

## Contexte:

Quel est le meilleur moment pour opérer ? Cas de l'amygdalectomie et de la hernie du prématuré

Quelles complications après appendicectomie ?

JAMA | Original Investigation

# Adenotonsillectomy for Snoring and Mild Sleep Apnea in Children A Randomized Clinical Trial

Susan Redline, MD, MPH; Kaitlyn Cook, PhD; Ronald D. Chervin, MD, MS; Stacey Ishman, MD; Cristina M. Baldassari, MD; Ron B. Mitchell, MD; Ignacio E. Tapia, MD; Raouf Amin, MD; Fauziya Hassan, MD; Sally Ibrahim, MD; Kristie Ross, MD; Lisa M. Elden, MD; Erin M. Kirkham, MD, MPH; David Zopf, MD; Jay Shah, MD; Todd Otteson, MD; Kamal Naqvi, MD; Judith Owens, MD; Lisa Young, MD; Susan Furth, MD; Heidi Connolly, MD; Caron A. C. Clark, PhD; Jessie P. Bakker, MS, PhD; Susan Garetz, MD; Jerilynn Radcliffe, PhD; H. Gerry Taylor, PhD; Carol L. Rosen, MD; Rui Wang, PhD; for the Pediatric Adenotonsillectomy Trial for Snoring (PATS) Study Team

**ERC multicentrique** sur **459 enfants âgés de 3 à 12,9 ans** avec ronflement et IAH < 3  
Amygdalectomie précoce (n = 231) ou attente vigilante (n = 228)

**CJP : Score composite global des fonctions exécutives et test d'attention informatisé Go/No-go (GNG)**



**QUESTION** Among children who snore without frequent obstructive events, does early adenotonsillectomy compared with watchful waiting with supportive care improve neurodevelopment, behavior, or other symptoms at 12-month follow-up?

**CONCLUSION** In children with mild sleep-disordered breathing, adenotonsillectomy resulted in no statistically significant differences in changes in executive function or attention but led to improved secondary outcomes including symptoms, behavior, and blood pressure.

**POPULATION**

228 Males  
230 Females



Children with tonsillar hypertrophy and mild sleep-disordered breathing

Mean age: 3 to 12.9 years

**LOCATION**

7 Academic sleep centers in the US



**INTERVENTION**



**Adenotonsillectomy**  
Early adenotonsillectomy

231

**Watchful waiting**

Watchful waiting with supportive care

458 Patients randomized

227

**PRIMARY OUTCOMES**

Mean change from baseline to 12 mo in:

- 1) BRIEF GEC T score of executive function (higher score = worse)
- 2) Go/No-go d-prime score of attention (higher score = better)

**FINDINGS**

Mean change from baseline to 12 mo

	Adenotonsillectomy	Watchful waiting
BRIEF GEC T score	<b>-3.1</b> (SD, 9.4)	<b>-1.9</b> (SD, 8.6)
Go/No-go d-prime score	<b>0.2</b> (SD, 1.2)	<b>0.1</b> (SD, 1.2)

Between-group difference was not statistically significant:

BRIEF, **-0.96** (95% CI, -2.66 to 0.74); P = .27  
Go/No-go, **0.05** (95% CI, -0.18 to 0.27); P = .68

© AMA

Table 4. Participants With Adverse Events Related to the Study, by Randomized Group and According to Seriousness<sup>a</sup>

	No. of participants			
	Early adenotonsillectomy (n = 231)		Watchful waiting (n = 227)	
	Serious	Nonserious	Serious	Nonserious
Adverse events related to adenotonsillectomy <sup>b</sup>				
Postoperative pain		11		
Postoperative bleeding	5	8	1	
Dehydration		3		
Aspiration pneumonia		1		
Adverse events related to other study procedure <sup>c</sup>				
Hives (allergy to tape used in PSG)		1		
Vomiting (immediately following blood draw)		1		

Redline S, Cook K, Chervin RD, et al; Pediatric Adenotonsillectomy Trial for Snoring (PATS) Study Team. Adenotonsillectomy for snoring and mild sleep apnea in children: a randomized clinical trial. JAMA. Published December 5, 2023. doi:10.1001/jama.2023.22114



Table 2. Outcome Measures

	Mean (SD)	Outcome Measures						Effect size: difference in 12-mo changes (95% CI) <sup>d</sup> (n = 458)	P value <sup>a</sup>
		Early adenotonsillectomy (n = 231)			Watchful waiting (n = 227)				
		Normative values	Baseline	12 mo	Change from baseline to 12 mo	Baseline	12 mo		
<b>Primary outcomes</b>									
Caregiver BREF GEC T score <sup>b</sup>	50 (10)	55.3 (12.2) [n = 230]	52.1 (11.3) [n = 196]	-3.1 (9.4) [n = 195]	56.0 (12.5)	53.7 (11.2) [n = 196]	-1.9 (8.6) [n = 196]	-0.96 (-2.66 to 0.74)	.27
Go/No-go sustained attention <sup>c,d</sup>	NA	2.0 (1.1) [n = 229]	2.2 (1.1) [n = 184]	0.2 (1.2) [n = 182]	2.1 (1.0) [n = 222]	2.3 (1.0) [n = 184]	0.1 (1.2) [n = 182]	0.05 (-0.18 to 0.27) [n = 455]	.68
<b>Secondary outcomes</b>									
Pegboard dexterity (average) <sup>e</sup>	NA	32.5 (14.6) [n = 227]	27.4 (9.1) [n = 187]	-5.3 (7.4) [n = 183]	32.8 (11.9)	26.7 (6.4) [n = 187]	-5.9 (8.0) [n = 187]	0.76 (-0.92 to 2.43)	.37
Caregiver-reported CBCL <sup>f</sup>	50 (10)								
Total problems T score		53.0 (11.0) [n = 227]	48.4 (10.8) [n = 186]	-4.5 (9.0) [n = 183]	53.3 (11.3) [n = 224]	51.6 (10.9) [n = 182]	-1.4 (7.5) [n = 182]	-3.09 (-4.90 to -1.28) [n = 454]	<.001
Externalizing problems T score		51.1 (10.8) [n = 227]	48.1 (10.3) [n = 186]	-3.2 (8.5) [n = 183]	51.2 (11.7) [n = 224]	49.6 (11.2) [n = 182]	-1.6 (8.2) [n = 182]	-1.54 (-3.34 to 0.26) [n = 454]	.09
Internalizing problems T score		51.8 (11.2) [n = 227]	47.8 (10.9) [n = 186]	-3.8 (10.0) [n = 183]	52.1 (11.3) [n = 224]	51.1 (11.0) [n = 182]	-0.7 (8.3) [n = 182]	-3.05 (-5.07 to -1.04) [n = 454]	.003
Attentional problems T score		57.5 (8.2) [n = 227]	55.2 (6.6) [n = 186]	-2.3 (7.1) [n = 183]	57.3 (7.8) [n = 224]	56.0 (6.7) [n = 182]	-1.1 (5.8) [n = 182]	-1.19 (-2.55 to 0.17) [n = 454]	.09
PSQ-SRBD <sup>g</sup>	0.2 (0.1)	0.5 (0.2) [n = 229]	0.2 (0.2) [n = 189]	-0.2 (0.2) [n = 187]	0.5 (0.2)	0.4 (0.2) [n = 193]	-0.1 (0.2) [n = 193]	-0.16 (-0.20 to -0.12)	<.001
mESS <sup>h</sup>	5.4 (3.7)	6.9 (4.7) [n = 227]	5.0 (5.3) [n = 188]	-1.8 (4.9) [n = 184]	6.9 (4.6)	6.2 (5.1) [n = 193]	-0.7 (4.4) [n = 193]	-1.18 (-2.15 to -0.21)	.01
OSA-18 <sup>i</sup>	NA	51.2 (15.7) [n = 229]	35.6 (13.9) [n = 188]	-15.8 (14.4) [n = 186]	52.7 (17.4)	46.5 (17.3) [n = 193]	-6.0 (14.6) [n = 193]	-9.75 (-12.84 to -6.65)	<.001
<b>Caregiver-reported PedsQL</b>									
Total score		75.9 (13.2) [n = 229]	78.4 (16.0) [n = 189]	2.1 (14.9) [n = 187]	77.7 (12.8) [n = 226]	75.0 (15.9) [n = 193]	-2.6 (15.0) [n = 193]	4.76 (1.44 to 8.09) [n = 457]	.005
Physical score		79.5 (19.1) [n = 229]	81.1 (21.9) [n = 189]	0.7 (23.5) [n = 187]	82.1 (16.3) [n = 226]	76.4 (23.2) [n = 193]	-5.3 (24.3) [n = 193]	6.53 (1.29 to 11.78) [n = 457]	.01
Psychosocial score		73.9 (13.6) [n = 229]	77.0 (14.8) [n = 189]	2.8 (14.2) [n = 187]	75.3 (14.1) [n = 226]	74.3 (14.5) [n = 193]	-1.1 (13.3) [n = 193]	3.88 (0.89 to 6.88) [n = 457]	.01
BMI (percentile)	50 (25-75) <sup>k</sup>	65.0 (30.0)	70.4 (27.4) [n = 187]	5.1 (14.3) [n = 187]	62.0 (32.1)	66.2 (31.4) [n = 188]	3.2 (13.3) [n = 188]	1.86 (-0.88 to 4.60)	.18
Systolic blood pressure (percentile)	50 (25-75) <sup>k</sup>	63.6 (23.0) [n = 218]	58.6 (27.9) [n = 180]	-4.5 (28.9) [n = 173]	57.6 (27.0) [n = 216]	61.6 (26.0) [n = 184]	4.8 (31.4) [n = 177]	-9.02 (-15.49 to -2.54) [n = 451]	.006
Diastolic blood pressure (percentile)	50 (25-75) <sup>k</sup>	55.5 (20.5) [n = 218]	51.5 (22.2) [n = 179]	-4.9 (22.5) [n = 172]	52.5 (21.5) [n = 216]	54.6 (22.1) [n = 184]	2.2 (20.8) [n = 177]	-6.52 (-11.59 to -1.45) [n = 451]	.01
Heart rate, /min	NA	80.8 (9.1)	78.8 (8.9) [n = 154]	-2.0 (7.7) [n = 154]	81.2 (9.5)	79.7 (9.5) [n = 152]	-1.8 (7.9) [n = 152]	-0.23 (-2.13 to 1.67)	.82

Comportement

Symptômes

Qualité de vie

PA

SAOS modéré, 3-13 ans, amygdalectomie vs attente : pas de différence à 1 an sur l'attention ni les fonctions exécutives  
Amélioration des critères secondaires (comportement, symptômes, qualité de vie, PA)

# Effect of Early vs Late Inguinal Hernia Repair on Serious Adverse Event Rates in Preterm Infants: A Randomized Clinical Trial

HIP Trial Investigators

ERC multicentrique (39 centres US)

Prématuré avec hernie inguinale dg en néonate

308 NN

Sept 2013 – Avr 2021

Chirurgie précoce vs tardive (après sortie et > 55SA)

CJP: survenue d'EI sévère pdt les 10 mois de suivi post op

## JAMA

**QUESTION** Does the timing of inguinal hernia repair influence the likelihood of serious adverse events among preterm infants?

**CONCLUSION** Delaying inguinal hernia repair in preterm infants until after neonatal intensive care unit (NICU) discharge and when older than 55 weeks' postmenstrual age appears to reduce the likelihood of serious adverse events.

© AMA

### POPULATION

274 Male  
46 Female



Preterm infants with inguinal hernia

Mean age: postnatal, 12 weeks

### LOCATION

39 Hospitals in the US



### INTERVENTION

338 Patients randomized  
308 Patients analyzed

172

**Early repair**  
Operative inguinal hernia repair before NICU discharge

166

**Late repair**  
Operative inguinal hernia repair after NICU discharge and when older than 55 weeks' postmenstrual age



### PRIMARY OUTCOME

Any prespecified serious adverse event over 10 months.

### FINDINGS

Patient with ≥1 serious adverse event

**Early repair**  
44 of 172 patients

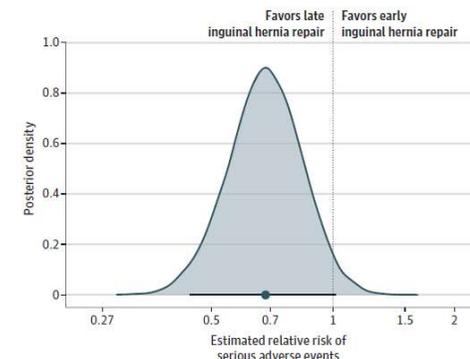


**Late repair**  
27 of 166 patients



Findings support delaying repair until after initial NICU discharge:  
**Risk difference, -7.9%**  
(95% CrI, -16.9% to 0%); 97% bayesian posterior probability of benefit with late repair

Figure 2. Posterior Probability of the Estimated Relative Risk of Serious Adverse Events



**Table 2. Primary and Secondary Outcomes of Infants by Early vs Late Inguinal Hernia Repair Group<sup>a</sup>**

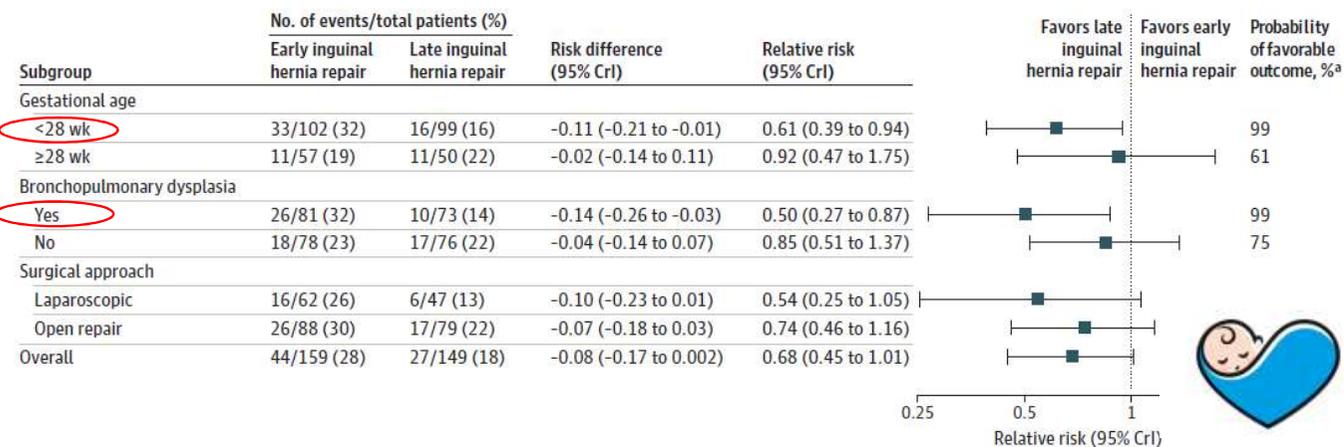
	Early inguinal hernia repair (n = 159) <sup>b</sup>	Late inguinal hernia repair (n = 149) <sup>c</sup>	Absolute risk difference (95% CrI), % <sup>d</sup>	Relative risk (95% CrI)	Posterior probability of benefit, % <sup>e</sup>
<b>Primary outcome</b>					
Had ≥1 serious adverse event, No. (%) <sup>f</sup>	44 (28)	27 (18)	-7.9 (-16.9 to 0)	0.68 (0.45 to 1.01)	97
<b>Secondary outcome</b>					
Hospital stay, median (IQR), d <sup>g</sup>	19.0 (9.8 to 35.0)	16.0 (7.0 to 38.0)	NA	0.91 (0.74 to 1.11)	82

**Table 3. Serious Adverse Events Experienced by Infants in the Early vs Late Inguinal Hernia Repair Group**

	Serious adverse event, No. (%) <sup>a</sup>	
	Early inguinal hernia repair (n = 159) <sup>b</sup>	Late inguinal hernia repair (n = 149) <sup>c</sup>
Apnea requiring intervention <sup>d</sup>	28 (17.6)	9 (6.0)
Prolonged intubation (>48 h)	6 (3.8)	0
Bradycardia requiring intervention <sup>e</sup>	5 (3.1)	4 (2.7)
Cardiopulmonary resuscitation	4 (2.5)	4 (2.7)
Stridor	3 (1.9)	1 (0.7)
Death	2 (1.3)	3 (2.0)
Pneumonia	2 (1.3)	0
Regional anesthesia toxicity	1 (0.6)	0
Unplanned reintubation	0	1 (0.7)
Cardiac arrest	0	3 (2.0)
<b>Inguinal hernia</b>		
Incarceration <sup>f</sup>	2 (1.3)	6 (4.0)
Recurrence	2 (1.3)	1 (0.7)
Reoperation	2 (1.3)	3 (2.0)
Intraoperative injury to adjacent structure	2 (1.3)	0
Wound disruption	0	1 (0.7)
Surgical site infection	1 (0.6)	2 (1.3)
Other event	1 (0.6) <sup>g</sup>	2 (1.3) <sup>h</sup>

Report de la réparation de la hernie inguinale après la sortie initiale de réanimation et après 55 SA ?

**Figure 3. Subgroup Analyses of Serious Adverse Events Experienced by Infants in the Early vs Late Inguinal Hernia Repair Groups**



## Original Article

## Risk factors for complications after emergency surgery for paediatric appendicitis: a national prospective observational cohort study

L. A. Sogbodjor,<sup>1,2</sup>  C. Razavi,<sup>2,3</sup> K. Williams,<sup>4</sup> A. Selman,<sup>5</sup> S. M. Pinto Pereira,<sup>6</sup> M. Davenport,<sup>7</sup> CASAP investigators\* and S. R. Moonesinghe<sup>8,9</sup>

**Etude de cohorte observationnelle prospective multicentrique** (80 centres en Angleterre)

**2799 enfants de 1-16 ans**

Appendicectomies pour suspicion d'appendicite

Nov 2019-Jan 2022

**CJP: morbidité post opératoire à 30 J**

**185 complications (7%)**

- **Infectieuse ++:** 80 infections du site opératoire (3 %), 6 infections des voies respiratoires inférieures (< 1 %)
- **Occlusion post op:** 8 enfants (< 1 %)
- **Reprise** (chirurgicale ou radiologique) sous AG: 53 (2 %)
- **Décès :** 0

**Table 3** Multivariable analysis of pre-operative predictors of postoperative complications. Values are odds ratio (95%CI).

	OR (95%CI)	p value
Age; y		
13-15	-	-
6-12	1.17 (0.79-1.75)	0.432
1-5	1.63 (0.90-2.96)	0.098
Ethnicity		
White	-	-
Asian/Asian British	1.25 (0.70-2.23)	0.459
Black/African/Caribbean/Black British	4.13 (1.87-9.08)	< 0.001
Mixed/multiple ethnic groups	1.22 (0.49-3.05)	0.663
Other	2.08 (1.12-3.87)	0.021
Sex		
Female	-	-
Male	1.05 (0.75-1.48)	0.760
ASA physical status		
1-2	-	-
3-5	4.05 (1.70-9.67)	0.002
Index of multiple deprivation quintile		
1 - most deprived	1.05 (0.61-1.80)	0.863
2	1.54 (0.93-2.57)	0.097
3	1.18 (0.70-2.01)	0.530
4	1.11 (0.65-1.91)	0.704
5 - least deprived	-	-
Age-adjusted heart rate categories*		
Normal	-	-
Bradycardic	0.49 (0.17-1.39)	0.182
Tachycardic	1.04 (0.72-1.52)	0.825
Temperature		
Normothermic	-	-
≥ 38 °C	1.77 (1.20-2.63)	0.004
< 36 °C	0.63 (0.18-2.18)	0.469
Oxygen supplementation on arrival for anaesthesia and surgery		
No	-	-
Yes	4.20 (1.44-12.24)	0.009
White cell count 10 <sup>9</sup> .l <sup>-1</sup>	1.02 (1.00-1.05)	0.091
C-reactive protein mg.l <sup>-1</sup>	1.01 (1.00-1.01)	< 0.001

Indépendamment du statut socio-économique



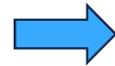
# Conclusion

## Recherche clinique active en anesthésie pédiatrique:

- Revues de qualité
- Méthodo: ERC, Méta-analyses, larges cohortes



**QUALITE ET SECURITE DES SOINS**



**EVALUATION et OPTIMISATION DE NOS PRATIQUES**



**TRANSVERSALITE**

