10 articles récents de traumatologie grave

Dr Ludivine PETIT

CHU de Saint Etienne

Journée Traum'ARA

Pont de l'Isère

29/01/2026

Plan

- Priorité au contrôle de l’hémorragie
- Airway sous haute surveillance
- Monitorage et prédiction
- Le cerveau, à ne pas oublier

x-ABC versus ABC: shifting paradigms in early trauma resuscitation

Alexandra MP Brito [1], Martin Schreiber [2]

Trauma Surgery and Acute Care Open 2025

Table 1. *Basics of the ABCDE approach*

Letter	Life-threatening condition
A – Airway	Airway blockage, cervical spine injury
B – Breathing	Tension pneumothorax, pulmonary oedema, bronchospasm
C – Circulation	Shock (hypovolaemic, obstructive, distributive, cardiogenic)
D – Disability	Seizure, hypoglycaemia, meningitis, intracranial haemorrhage or infarction, intoxication
E – Exposure	Hypothermia or hyperthermia, critical skin conditions such as fasciitis or urticaria

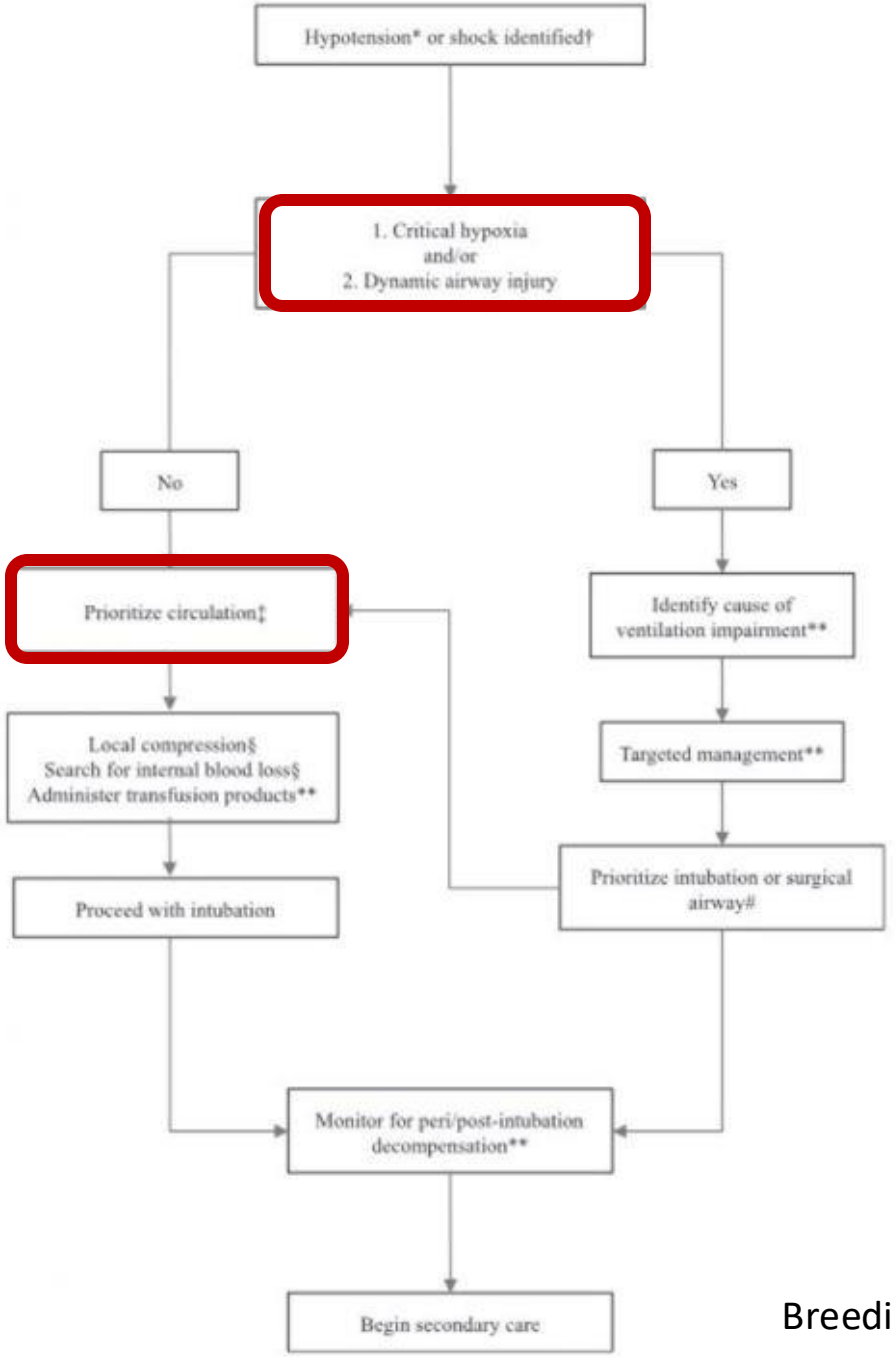
Olgers, 2017

Table 1 Causes of death and anatomic regions injured in potentially survivable patients (n=146)[11]

Cause of death	n (%)
Hemorrhage	79 (54.1)
Neurotrauma	41 (28.1)
Hemorrhage+neurotrauma	15 (10.3)
Asphyxia	9 (6.2)
Asphyxia+neurotrauma	2 (1.4)

Davis, 2014

Revue de paradigme et analyse de survie méthodes civiles et militaires
Patients avec hémorragie externe massive



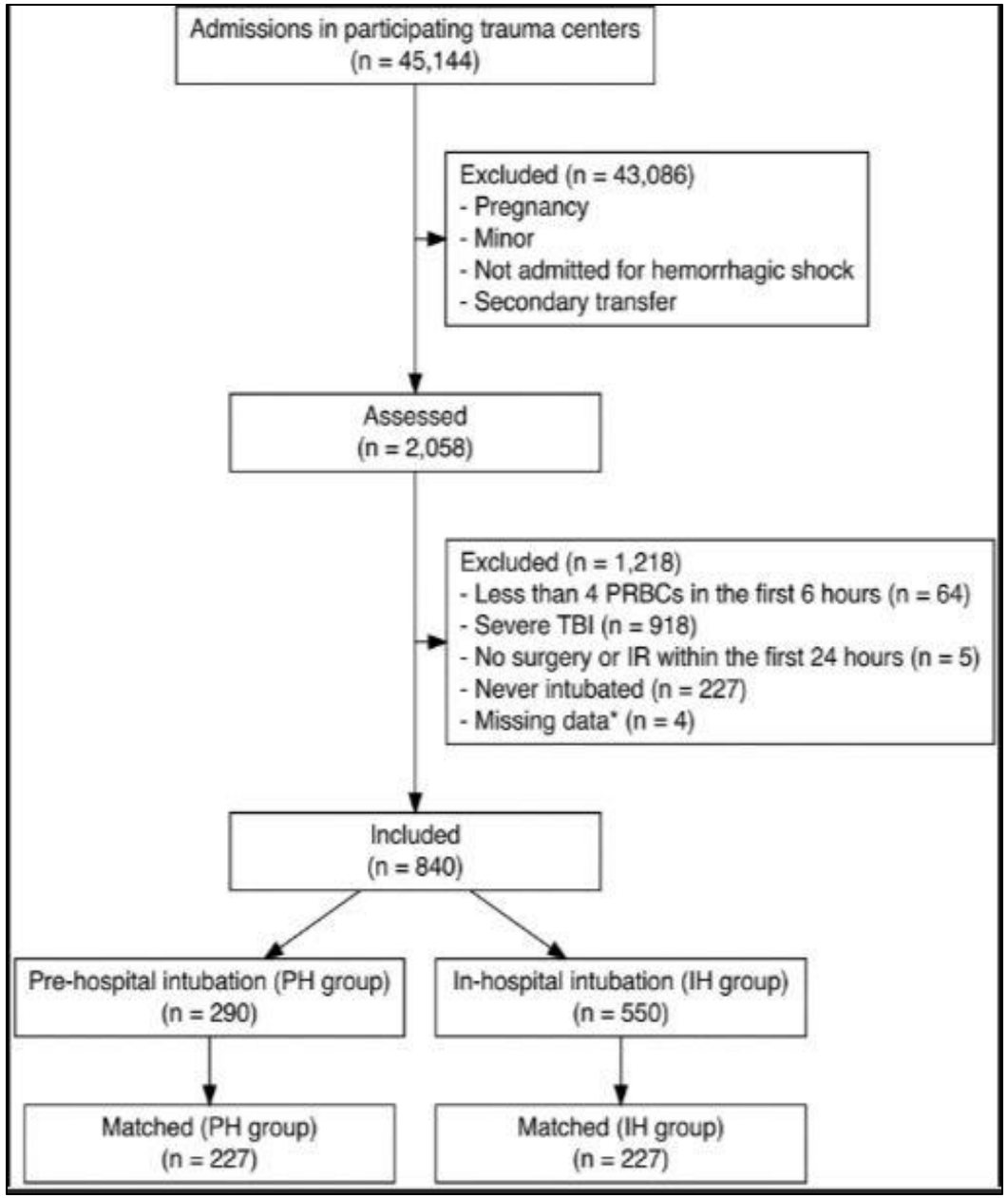
Breeding, 2023

→ Contrôle hémorragique précoce?

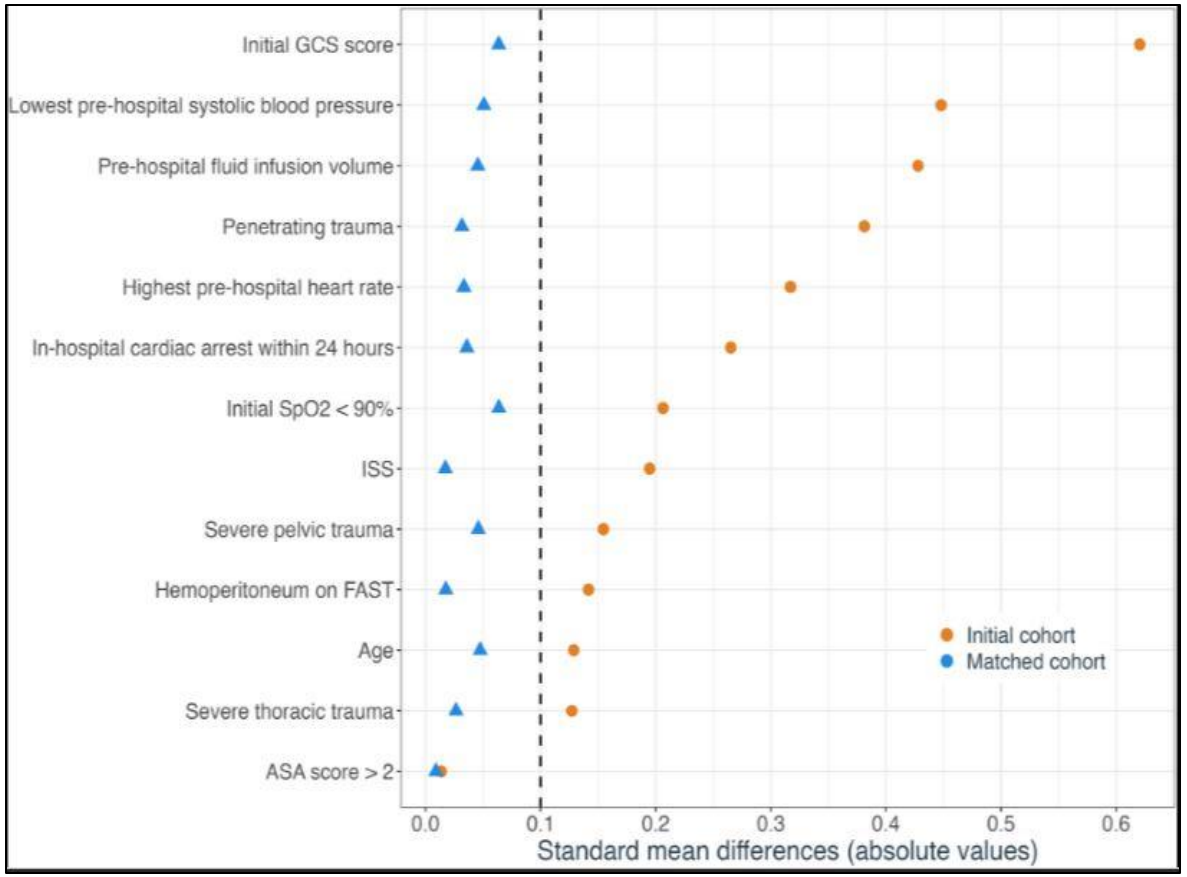
Association of prehospital vs. in-hospital intubation with mortality in hemorrhagic shock after severe trauma: a propensity-matched study

Thomas Clavier[a,b], Quentin Macre[a], Alexandre Bourgeois[c], Baptiste Compagnon[d,e], Nathalie Delhaye[f], Alexis Fremery[g], Elisabeth Gaertner[h], Claire Gamblin[i], Pierre Gosset[j], Vincent Legros[k], Jean Pasqueron[l], Pierre-Antoine Allain[m], Véronique Ramonda[n], Hugues Ravaux[o], Benjamin Rieu[p], Matthieu Rossi[q], Mathieu Willig[r], Olivier Clovet[s] and Benjamin Popoff[a,t]; for Traumabase Group

European Journal of Emergency Medicine, Décembre 2025



Etude rétrospective / Traumabase
840 patients inclus
Choc hémorragique après traumatisme grave (≥4CGR/6H)
Chirurgie hémostase ou radio interventionnelle/24h
Intubation



	Initial population				Matched population			
	All ($n = 840$)	Intrahospital intubation ($n = 550$)	Prehospital intubation ($n = 290$)	*P*-value	All ($n = 454$)	Intrahospital intubation ($n = 227$)	Prehospital intubation ($n = 227$)	*P*-value
Time to arrival in the trauma bay, minutes	75 (55–105)	69 (49–92)	90 (68–120)	<0.01	80 (58–110)	71 (50–95)	90 (64–120)	<0.01
Deaths during ICU stay	93 (11%)	55 (10%)	38 (13%)	0.2	41 (9.0%)	18 (7.9%)	23 (10%)	0.5
Length of stay in intensive care, days	10 (5–20)	9 (5–18)	11 (6–23)	<0.01	11 (6–21)	11 (5–22)	10 (6–19)	0.4
Length of hospital stay, days	29 (14–57)	26 (13–54)	36 (17–65)	0.01	33 (17–61)	32 (19–61)	35 (17–61)	0.3
SAPS II score	41 (33–52)	39 (32–49)	44 (36–59)	<0.01	42 (34–53)	42 (33–51)	42 (36–55)	0.09
Prehospital initiation of catecholamines	330 (39%)	153 (28%)	177 (61%)	<0.01	213 (47%)	83 (37%)	130 (57%)	<0.01
PRBCs transfused within 24 h	7 (5–11)	7 (5–10)	8 (6–13)	<0.01	8 (6–12)	8 (5–11)	8 (6–12)	0.2

Réévaluation de la stratégie d'intubation?

TRAUMA/ORIGINAL RESEARCH

Tranexamic Acid Timing and Mortality Impact After Trauma

Adnan Ali, MBBS, PhD; Russell L. Gruen, MBBS, PhD*; Stephen A. Bernard, MBBS, MD; Brian Burns, MB BCh, MSc; Andrew B. Forbes, PhD; Dashiell C. Gantner, MBBS, PhD; Colin J. McArthur, MBChB; Marc Maegele, MD; Biswadev Mitra, MBBS, PhD; on behalf of PATCH-Trauma trial investigators†

Annals of Emergency Medicine 2026

Analyse secondaire de l'étude PATCH-Trauma
Traumatisme majeur avec suspicion de coagulopathie post traumatique
1287 patients analysés (652 TXA / 635 placebo)
Délai médian première dose : 79 min (55-112)

Outcomes	TXA	Placebo	Unadjusted	Adjusted*
	No. of Events/No. of Total Patients (%)		RR (95% CI)	RR (95% CI)
Death within 28 d				
<90 min	67/393 (17%)	91/363 (25%)	0.68 (0.51-0.90)	0.64 (0.50-0.82)
≥90 min	46/259 (18%)	47/272 (17%)	1.03 (0.71-1.49)	1.04 (0.74-1.47)
Overall	113/652 (17%)	138/635 (22%)	0.80 (0.64-1.00)	0.78 (0.64-0.95)
Vascular occlusive events				
<90 min	89/393 (23%)	62/363 (17%)	1.33 (0.99-1.77)	1.33 (0.99-1.78)
≥90 min	66/259 (25%)	63/272 (23%)	1.10 (0.81-1.49)	1.10 (0.81-1.48)
Overall	155/652 (24%)	125/635 (20%)	1.21 (0.98-1.49)	1.21 (0.98-1.49)
Sepsis				
<90 min	133/393 (34%)	100/363 (28%)	1.23 (0.99-1.53)	1.23 (0.99-1.53)
≥90 min	92/259 (36%)	96/272 (35%)	1.01 (0.80-1.27)	1.00 (0.80-1.25)
Overall	225/652 (35%)	196/635 (31%)	1.12 (0.96-1.31)	1.12 (0.95-1.31)

Administration la plus précoce possible

WTA PODIUM 2024

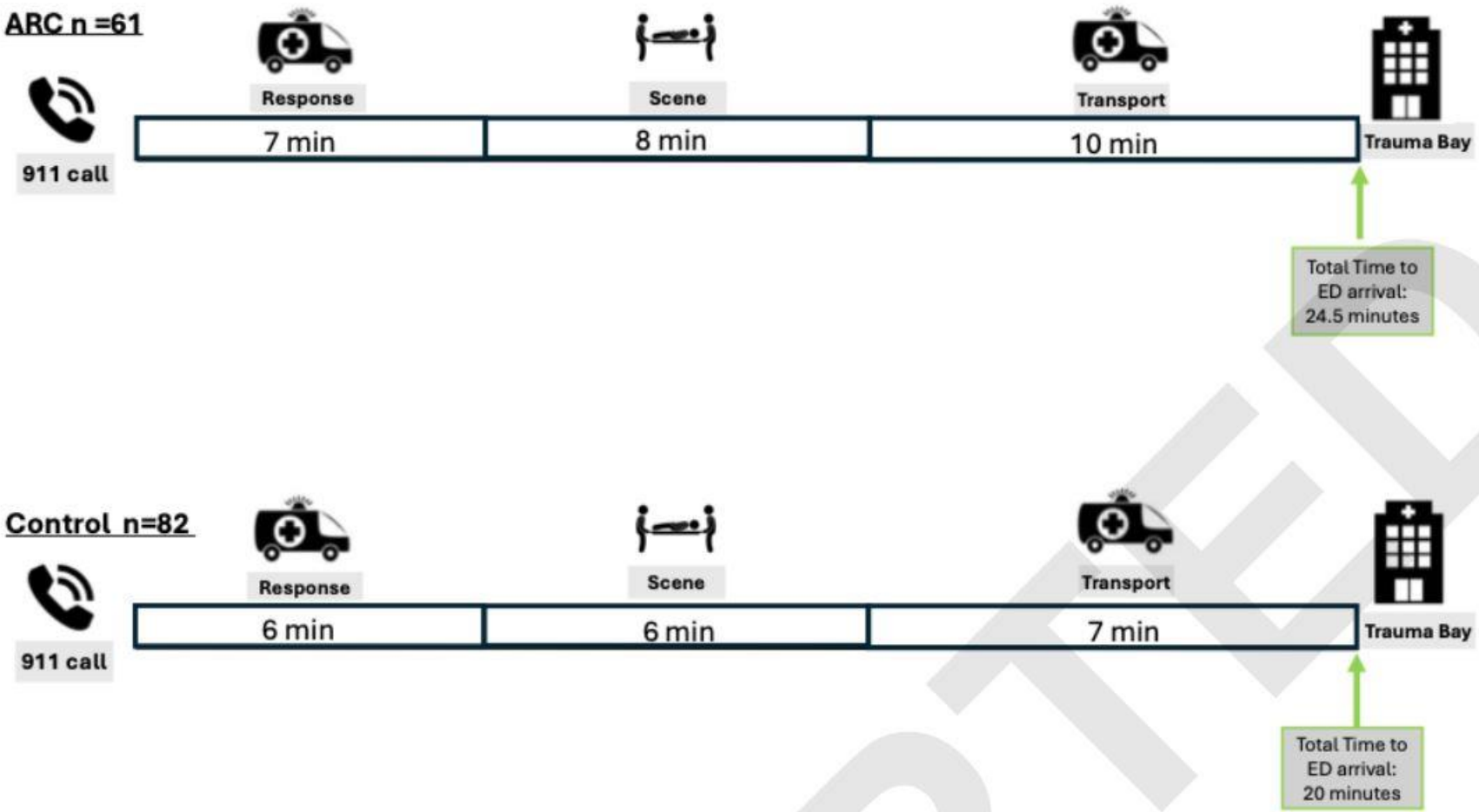
Every minute matters: Improving outcomes for penetrating trauma through prehospital advanced resuscitative care

Duchesne, Juan MD; McLafferty, Bryant J. BS; Broome, Jacob M. MD; Caputo, Sydney BS; Ritondale, Joseph P. BS; Tatum, Danielle PhD; Taghavi, Sharven MD, MPH; Jackson-Weaver, Olan PhD; Tran, Sherman MS; McGrew, Patrick MD; Harrell, Kevin N. MD; Smith, Alison MD, PhD; Nichols, Emily MD; Dransfield, Thomas NRP; Marino, Megan MD; Piehl, Mark MD, MPH

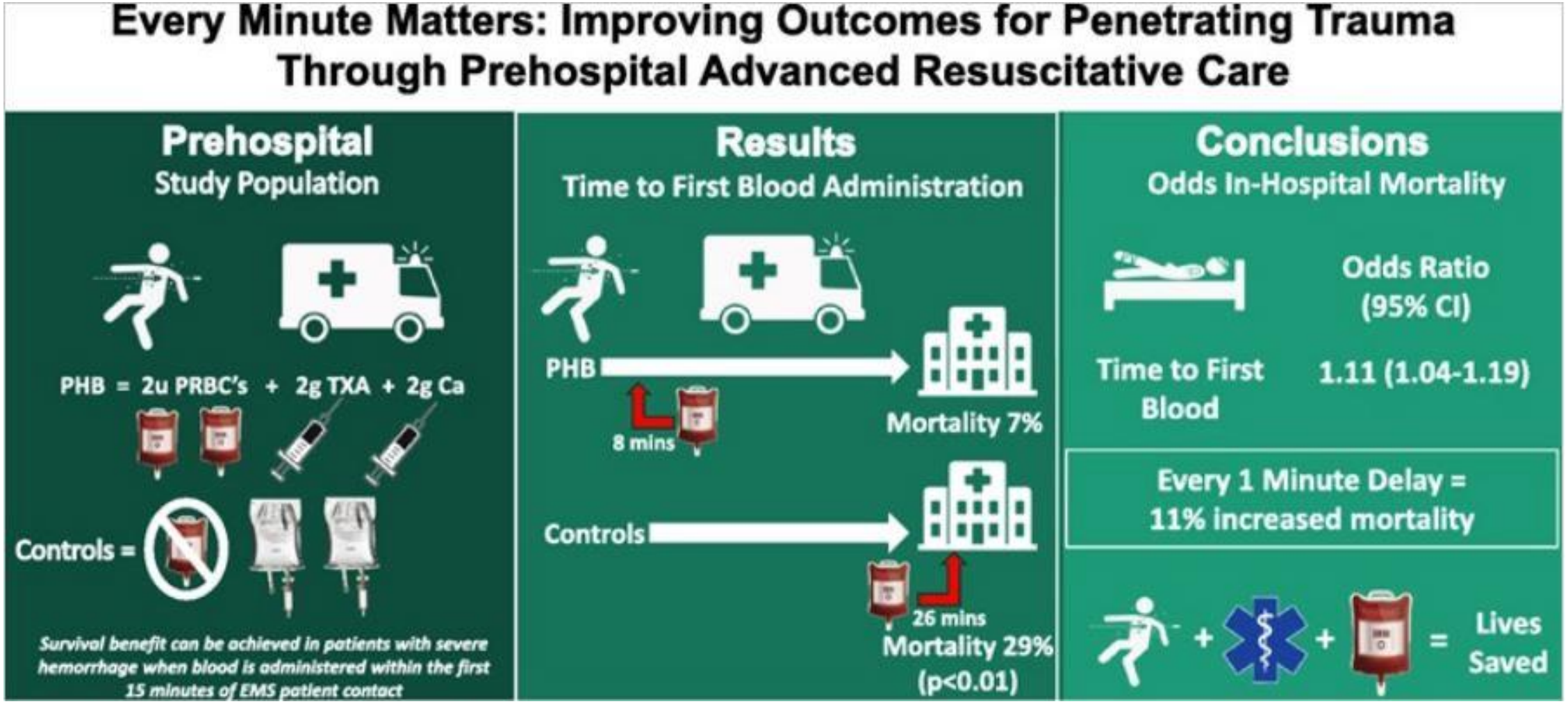
Author Information

Journal of Trauma and Acute Care Surgery 97(5):p 710-715, November 2024. | ***DOI:*** 10.1097/TA.0000000000004363

Analyse rétrospective programmes préhospitaliers soins avancés
Administration précoce de produits sanguins
Traumatisme pénétrant + PAS ≤ 90mmHg
143 patients



Δ = 5 min



Intégration de la transfusion précoce

RECOMMANDATIONS FORMALISEES D'EXPERTS

De la **Société Française d'Anesthésie et Réanimation (SFAR)**

ET

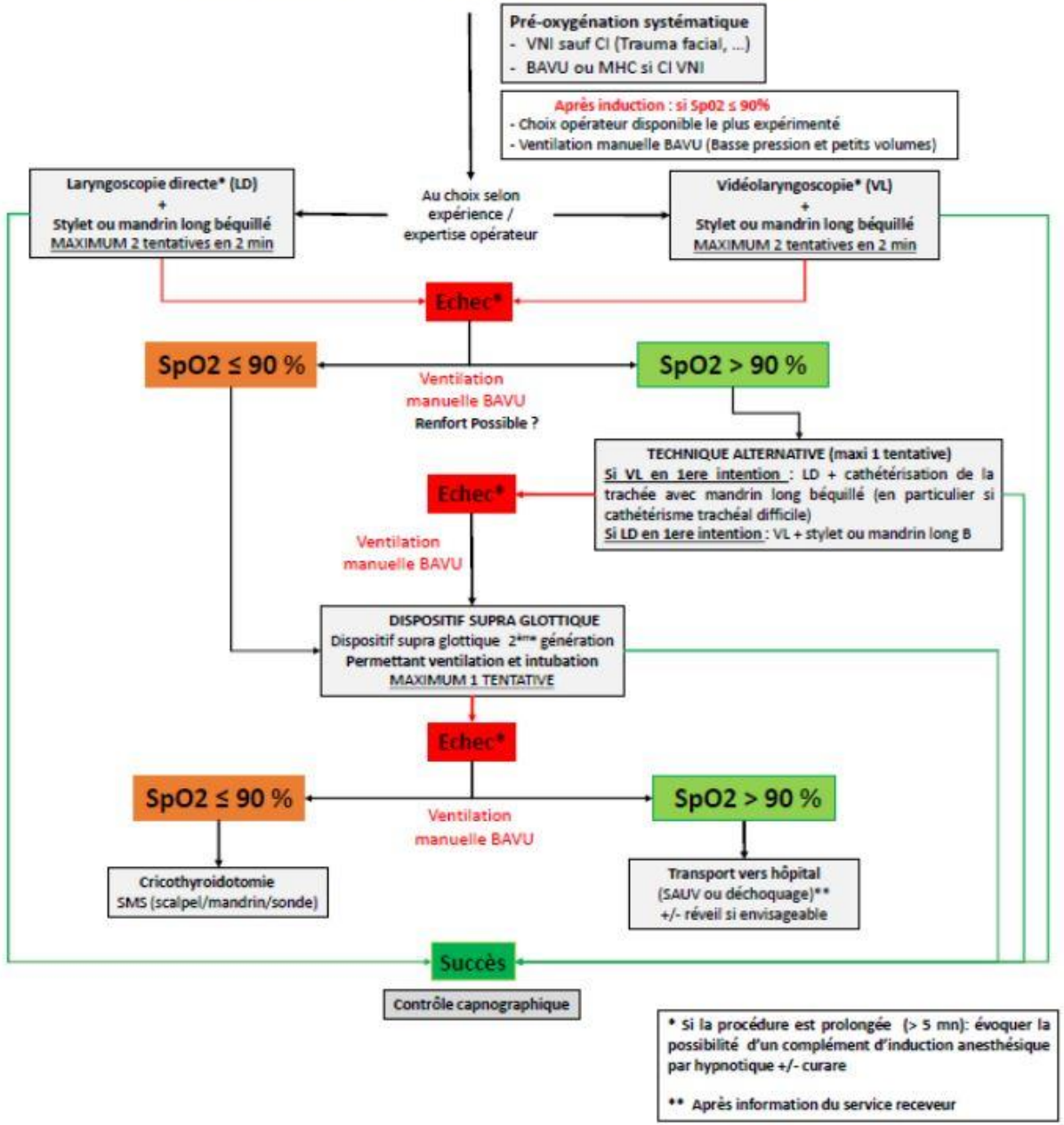
De la **Société Française de Médecine d'Urgence (SFMU)**

Intubation en urgence d'un adulte hors bloc opératoire et hors unité des soins critiques

Emergency intubation of an adult outside the operating room and intensive care unit

2024

Intubation en urgence extrahospitalière



Intubation en urgence intrahospitalière

*Si détresse respiratoire sur **obstruction des VAS** : discuter trachéotomie de sauvetage au bloc opératoire en VS sous AL avant toute induction*

Pré-oxygénation systématique
- VNI sauf CI (Trauma facial, ...)
- BAVU, OHD ou MHC si CI VNI

Après induction : si Sp02 ≤ 90%
- Choix opérateur disponible le plus expérimenté
- Ventilation manuelle BAVU (Basse pression et petits volumes)

Vidéolaryngoscopie
+
Stylet ou mandrin long béquillé
MAXIMUM 2 tentatives en 2 min *

Echec*

SpO2 ≤ 90 %

Ventilation manuelle BAVU
Appel renfort expert

SpO2 > 90 %

Laryngoscopie directe
+
Stylet ou mandrin long béquillé
OU
Fibroscope
MAXIMUM 1 tentative
Choix fonction contexte/expertise

Echec*

Ventilation manuelle BAVU

Dispositif supra glottique 2ème génération
MAXIMUM 1 tentative

Echec*

Ventilation manuelle BAVU

Succès

Contrôle capnographique

Réveil possible ?

Non

Cricothyroidotomie
SMS (scalpel/mandrin/sonde)

Oui

Réveil

* Si la procédure est prolongée (> 5 mn) : évoquer la possibilité d'un complément d'induction anesthésique par hypnotique +/- curare

Pré-oxygénation
Préparation hémodynamique
Drogues et matériel adaptés
Anticipation de l’échec
Standardisation des pratiques

Rudolph et al.
Scand J Trauma Resusc Emerg Med (2025) 33:79
https://doi.org/10.1186/s13049-025-01357-8

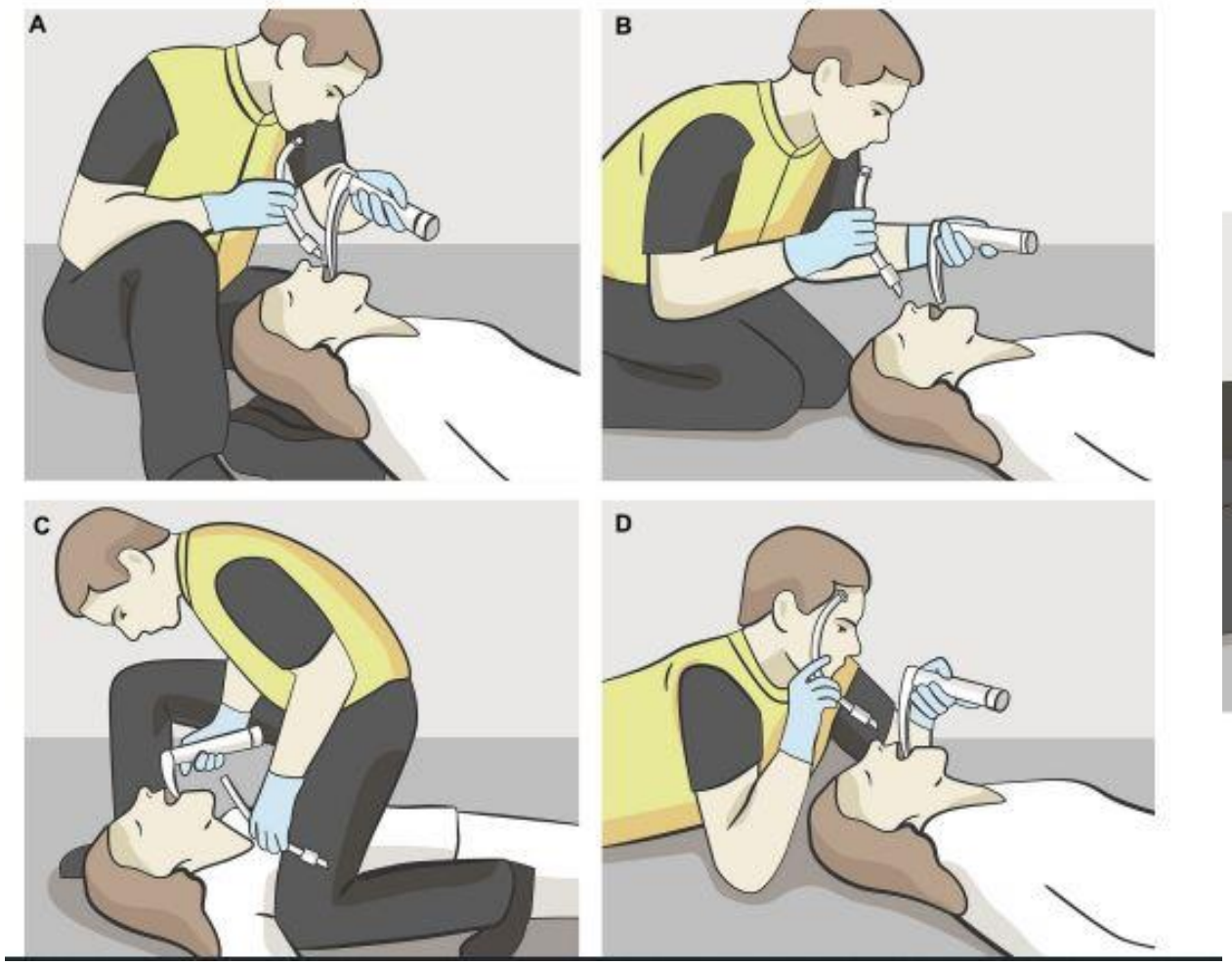
Scandinavian Journal of Trauma,
Resuscitation and Emergency Medicine

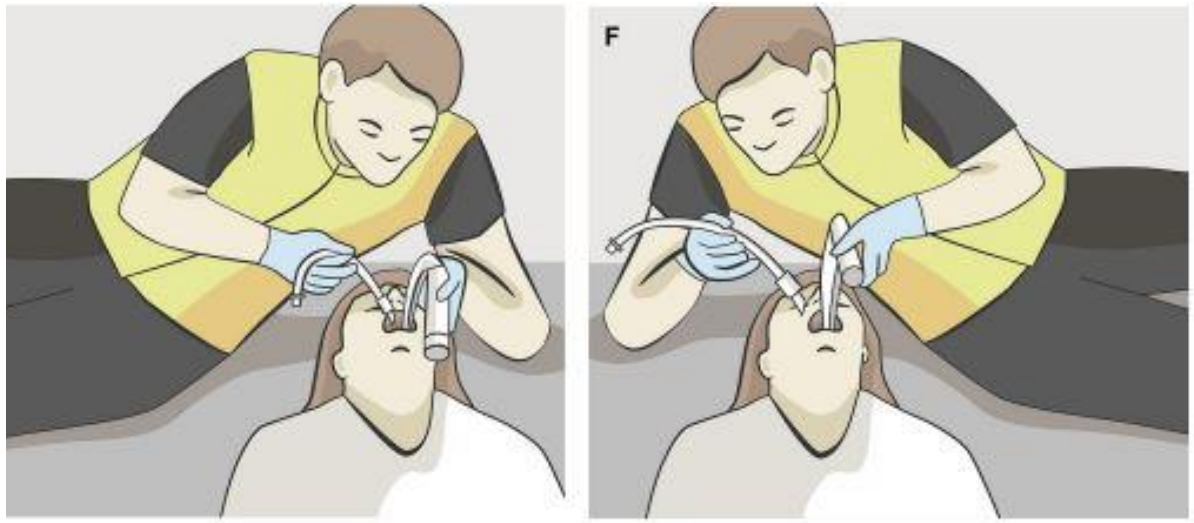
REVIEW Open Access

Confined space airway management: a narrative review

Soren S. Rudolph[1,2*], Christopher W. Root[3], Michael Friis Tvede[1,2], Trond Fedog[2], Patrick Wenger[4], Mikael Gellerfors[5,6,7], Jelsche Apel[8,9] and Luca Ünlü[10,11*]

Revue narrative des connaissances, techniques et stratégies d'airway management en espace confiné





Optimisation de l’espace
Matériel adapté (VL/bougie courte)
Techniques alternatives (supraglottique, cricothyroïdectomie)

Etudes prospectives
Entraînement spécialisé / simulation
Protocoles spécifiques

Eichlseder *et al.*
Scand J Trauma Resusc Emerg Med (2025) 33:166
https://doi.org/10.1186/s13049-025-01473-5

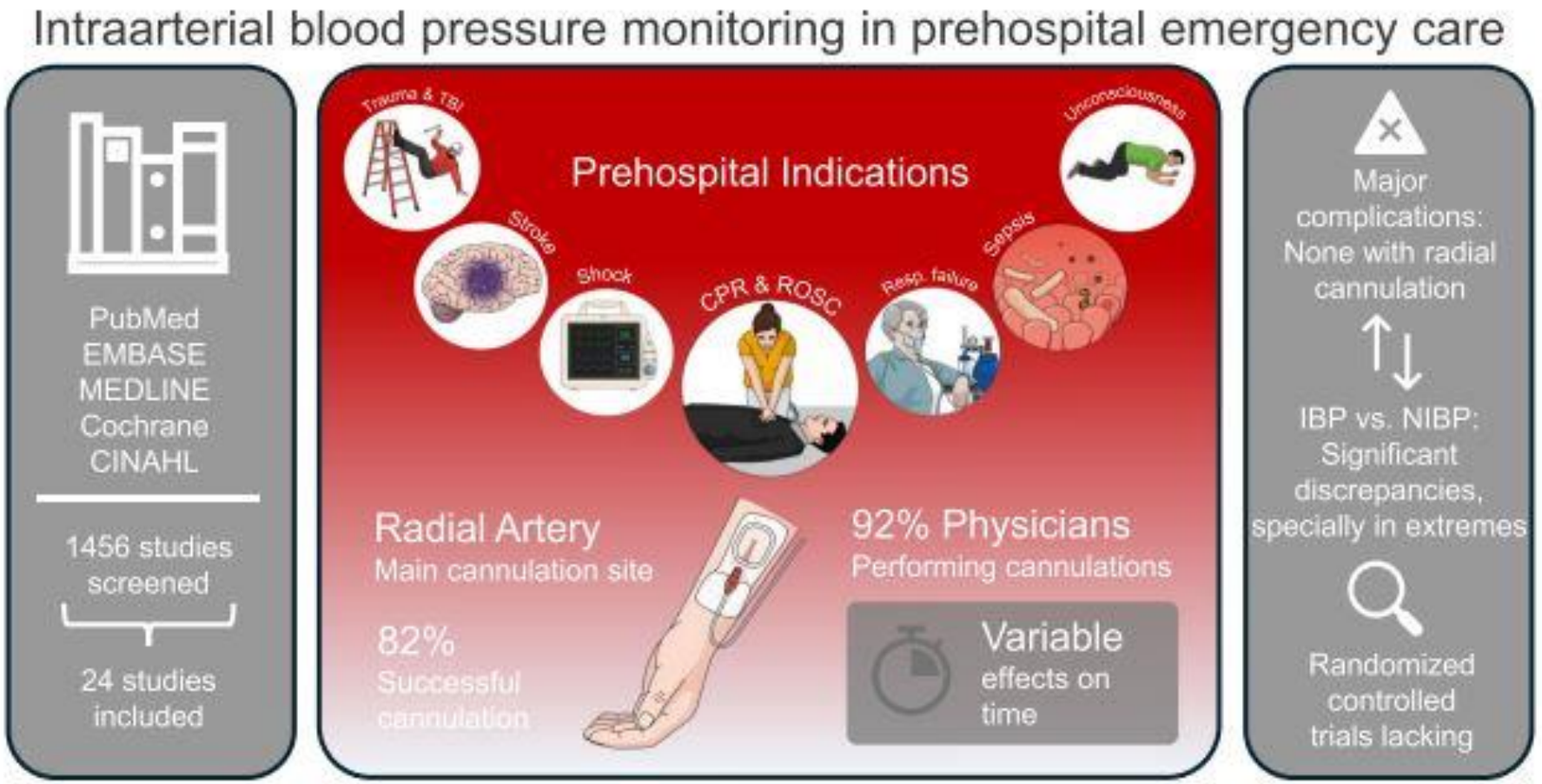
Scandinavian Journal of Trauma,
Resuscitation and Emergency Medicine

REVIEW **Open Access**

Intraarterial blood pressure monitoring in prehospital emergency care: a scoping review

Michael Eichlseder[1], Sebastian Labenbacher[1*], Nikolaus Schreiber[2], Karim Kouz[3,6], Alexander Pichler[1], Michael Eichinger[1], Matthias Müller[4], Paul Zajic[1], Simon Fandler-Höfler[5], Helmar Bornemann-Cimenti[1] and Bernd Saugel[3,6]

Revue de la littérature



Aide potentielle stratégie thérapeutique patients ciblés
Equipes entraînées et formées
Attention au délai de prise en charge

Jänig *et al.*
Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine
(2025) 33:115
https://doi.org/10.1186/s13049-025-01404-4

Scandinavian Journal of
Trauma, Resuscitation
and Emergency Medicine

RESEARCH **Open Access**

Pre-hospital assessment of trauma associated severe hemorrhage (phTASH) – analysis of TraumaRegister DGU® data from 2015-2021

Etude rétrospective / Base Traumaregister
63946 patients inclus
Nécessité transfusion/ transfusion massive

Table 2 Results of the logistic regression analysis representing the influence of each item on the score result

Score-Parameter	Odds Ratio	95% CI for OR	Significance
Positive FAST exam	5.28	4.42–6.32	$P<0.001$
BPsys < 90 mmHg	2.94	2.35–3.69	$P<0.001$
SI > 1	2.49	1.93–3.21	$P<0.001$
GCS ≤ 8	2.28	1.92–2.70	$P<0.001$
HR > 120 bpm	2.07	1.69–2.53	$P<0.001$
Penetrating trauma	1.86	1.42–2.42	$P<0.001$

Table 3 phTASH score and associated probability of (massive) transfusion

Points	*n*	Any transfusion (≥ 1 pRBC)	Massive transfusion (≥ 10 pRBC)
0	42,179	3.6%	0.2%
1	13,952	10.6%	1.0%
2	4,479	21.9%	2.6%
3	2,220	38.2%	6.3%
4	928	48.4%	11.5%
5	183	67.8%	21.3%
6	5	100%	40.0%

Table 4 AUROC of all scores for transfusion and massive transfusion, with 95% confidence interval in brackets

Score	Prediction of any transfusion	Prediction of massive transfusion
ABC	0.711 (0.702–0.719)	0.806 (0.786–0.826)
rSIG	0.737 (0.730–0.744)	0.807 (0.790–0.824)
phTASH	0.747 (0.739–0.755)	0.834 (0.816–0.852)

Score préhospitalier pour prédiction transfusion massive?

JAMA Network | Open

Original Investigation | Emergency Medicine

Adverse Prehospital Events and Outcomes After Traumatic Brain Injury

Amelia W. Maiga, MD, MPH; Hsing-Hua Sylvia Lin, MS, PhD; Stephen R. Wisniewski, PhD; Joshua B. Brown, MD, MSc; Ernest E. Moore, MD; Martin A. Schreiber, MD; Bellal Joseph, MD; Chad T. Wilson, MD; Bryan A. Cotton, MD; Daniel G. Ostermayer, MD; Brian G. Harbrecht, MD; Mayur B. Patel, MD, MPH; Jason L. Sperry, MD, MPH; Francis X. Guyette, MD, MPH; Henry E. Wang, MD, MS

2025

Cohorte multicentrique rétrospective / réseau national
Traumatisme cranien (Head AIS 1-6, ISS ≥ 9)
14994 patients (hypoxie = 12%, hypoTA = 10%, hypocapnie = 61%)
Pronostic : 2% décès arrivée / 12% décès H / 25% mauvais pronostic

Table 4. Associations Between Adverse Prehospital Care Exposures and Traumatic Brain Injury Outcomes, Stratified by Head AIS

	ARR[a] (95% CI)		
Adverse prehospital care exposure	All	AIS 1-4[b]	AIS 5-6
Death in the ED			
Any adverse exposure	2.78 (2.03-3.79)	7.25 (4.12-12.77)	1.52 (1.05-2.21)
Hypoxia	2.24 (1.69-2.97)	5.62 (3.45-9.15)	1.31 (0.94-1.82)
Hypotension	2.05 (1.54-2.72)	3.68 (2.34-5.77)	1.33 (0.91-1.93)
Hypocarbia	7.99 (2.47-25.85)	8.70 (1.29-58.74)	7.70 (1.82-32.64)
Death in the hospital			
Any adverse exposure	1.34 (1.25-1.45)	1.75 (1.49-2.05)	1.24 (1.15-1.33)
Hypoxia	1.33 (1.23-1.44)	1.88 (1.60-2.19)	1.23 (1.12-1.34)
Hypotension	1.18 (1.10-1.28)	1.48 (1.28-1.71)	1.15 (1.05-1.27)
Hypocarbia	1.74 (1.35-2.25)	2.01 (1.17-3.44)	1.63 (1.24-2.15)
Unfavorable discharge disposition			
Any adverse exposure	1.09 (1.04-1.13)	1.28 (1.19-1.37)	1.07 (1.00-1.14)
Hypoxia	1.09 (1.04-1.14)	1.45 (1.34-1.58)	1.06 (0.98-1.15)
Hypotension	1.06 (1.02-1.10)	1.19 (1.10-1.29)	1.07 (0.99-1.15)
Hypocarbia	1.41 (1.16-1.71)	1.57 (1.09-2.27)	1.24 (1.00-1.54)

Prioriser l’oxygénation
Adapter la ventilation (capnographe)
Contrôle tensionnel rapide

Jung *et al. BMC Emergency Medicine* (2025) 25:161
https://doi.org/10.1186/s12873-025-01320-x

BMC Emergency Medicine

RESEARCH Open Access

Outcomes and prognostic factors in patients with combined severe traumatic brain injury and abdominal trauma: a retrospective observational study

Hohyung Jung[1,2], Inhae Heo[1,2] and Kyoungwon Jung[1,2*]

Etude rétrospective
TC grave + traumatisme abdominal sévère
160 patients
Mortalité 20,6%

	Prognostic variables	OR	95% CI	*p*-value	R^2
Mortality	MAP	0.95	0.91–0.98	0.006	0.343
	Base deficit	1.22	1.03–1.45	0.022	
	Initial GCS	0.75	0.62–0.91	0.004	
	aPTT	1.03	1.00–1.05	0.029	
	Platelet	0.99	0.98–1.00	0.008	
	Fibrinogen	1.01	1.00–1.01	0.014	
Unfavorable GOS	Initial GCS	0.86	0.78–0.95	0.002	0.297
	Head AIS 5	3.52	1.32–9.40	0.012	
	Platelet	0.99	0.99–1.00	0.012	
	Massive transfusion	2.92	1.23–6.95	0.015	

Contrôle hémorragique et hémodynamique lié au traumatisme abdominal

Conclusion

- L’hémorragie tue avant l’hypoxie
  - Contrôle hémorragique + TXA précoce + anticipation transfusion
- Intubation n’est pas un geste neutre
- Les agressions secondaires sont évitables
- Temps préhospitalier déterminant
- Formation, simulation et protocoles indispensables