



Soutien médico-chirurgical des opérations spéciales

** pour le Club des anesthésistes-réanimateurs et urgentistes militaires*

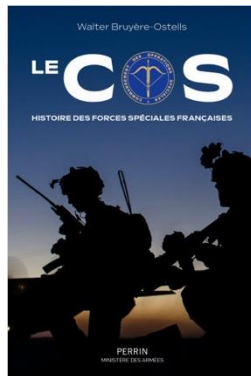
Médecin en chef (Pr) PASQUIER Pierre

Anesthésiste-réanimateur du service de santé des armées
Professeur agrégé du Val-de-Grâce _ Académie de santé
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Conflits d'intérêt

- **Institutionnels, académiques et scientifiques:**
 - Service de santé des armées;
 - Société française d'anesthésie-réanimation _ Comité ACUTE.



Commandement des opérations spéciales,
4 composantes: Terre, Air, Mer, **Santé**

1. *Les opinions exprimées dans cette présentation sont celles des auteurs, et ne reflètent pas la politique officielle du SSA.*
2. *Respect des règles de sécurité opérationnelle.*

Messages importants

Pour les opérations spéciales:

- Un soutien médico-chirurgical indispensable, parfois spécifique;
- Des principes physiopathologiques et thérapeutiques communs;
- Des conditions d'emploi en évolution constante.



Opérations spéciales?

Comme dans les films?



Des missions typées

Petits groupes
Discrétion
Fulgurance

Actions directes
Contre-terrorisme
Libération d'otages
Evacuation de ressortissants
Renseignement
[...]



Des missions risquées, une épidémiologie spécifique des blessés de guerre

2007-2020
US
Department of Defense
Trauma Registry

Table 1. Demographic, mechanism of injury, injury severity score, injury locality, outcome metrics.

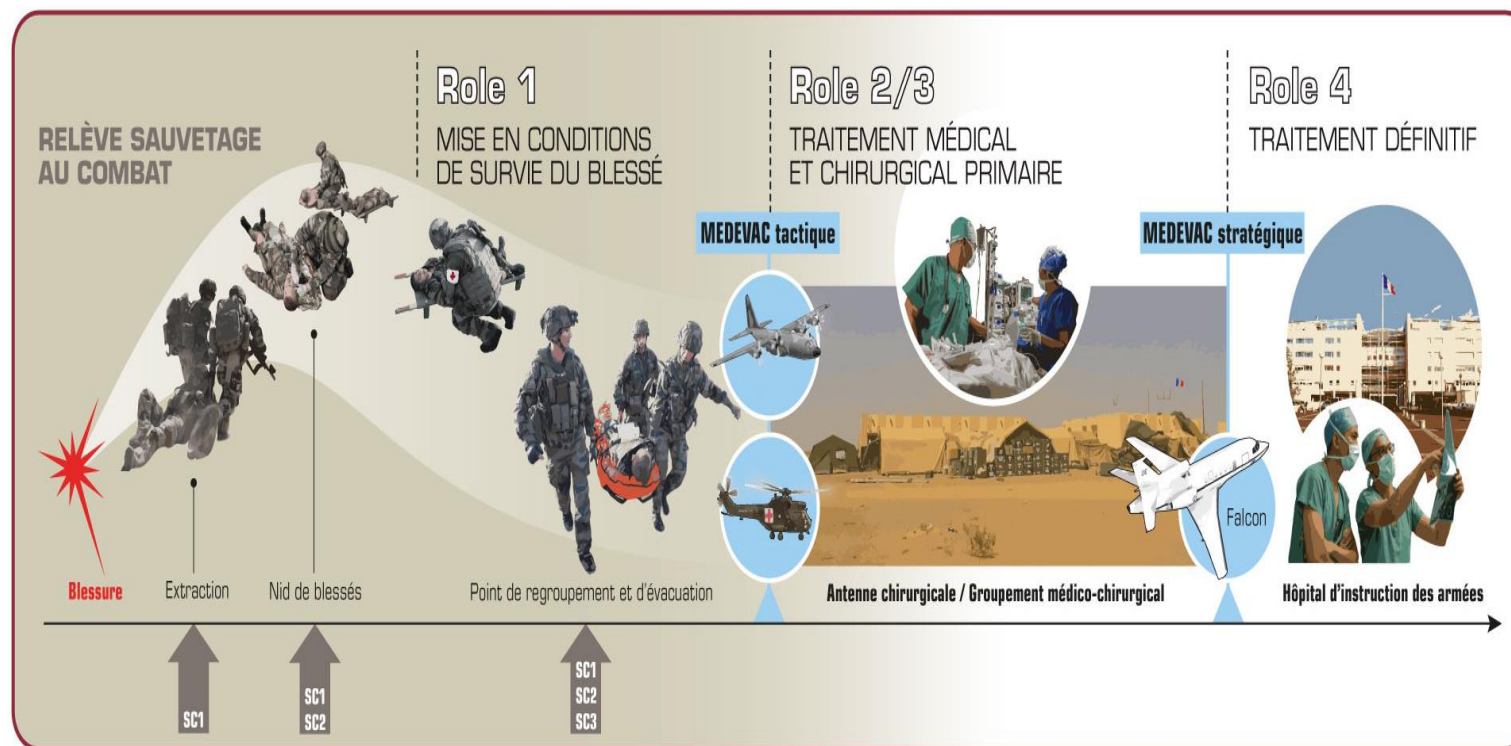
		Conventional n=1806	Special Operations n=130	p-value
Demographics	Age	24 (21-27)	30 (27-33)	<0.001
	Male	99% (1800)	100% (129)	0.549
Mechanism of injury	Explosive	61% (1115)	44% (58)	<0.001
	Fall	3% (60)	4% (6)	
	Firearm	22% (402)	42% (55)	
	Motor vehicle	3% (54)	3% (4)	
	Other	9% (174)	4% (6)	
Injury Severity Score		8 (4-14)	10 (4-17)	0.387
Serious injury by body region	Head/neck	9% (171)	6% (8)	0.270
	Face	1% (14)	0% (0)	0.617
	Thorax	10% (182)	6% (9)	0.287
	Abdomen	6% (116)	7% (10)	0.555
	Extremities	28% (520)	37% (48)	0.043
	Skin	2% (52)	3% (4)	0.786
Outcome	Alive	98% (1784)	97% (126)	0.212

Soutien médical spécial?

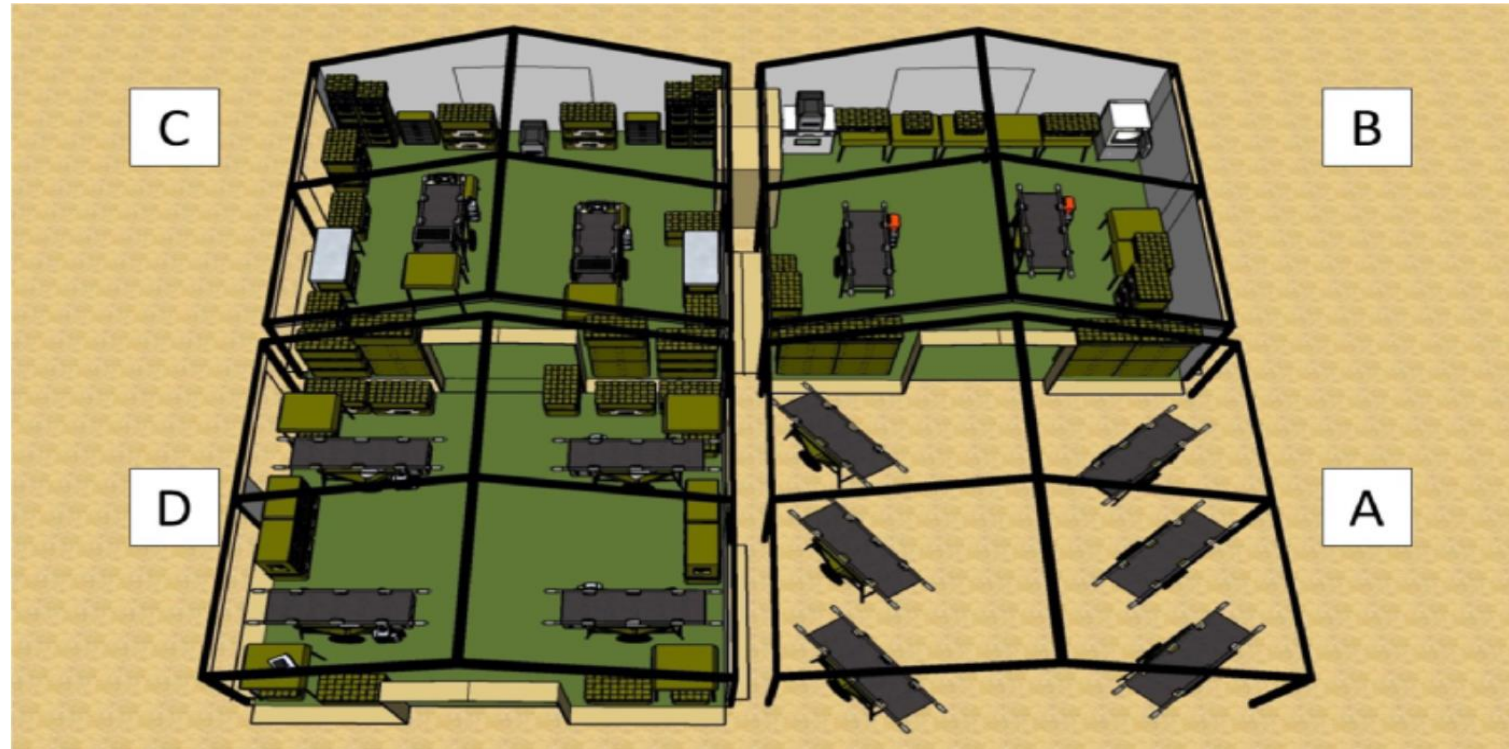
Ce qui ne change pas, c'est la vitesse de saignement du blessé



S'appuyer d'abord sur ce qui existe et qui fonctionne



Les antennes de réanimation et de chirurgie de sauvetage



Luft A, et al. *Mil Med* 2022

Respecter les délais # Golden Hour



Stacy Shackelford • 1er

Trauma Medical Director, Defense Health Agency
Colorado Springs Market

2 mois • 🌐

It's true—the golden hour is real!

The Golden Hour of Casualty Care: Rapid Handoff to Surgical ... : Annals of Surgery

journals.lww.com • Lecture de 2 min

population-based cohort study included US military casualties injured in Afghanistan and Iraq, January 200...

5269 combattants US
2007_2015

**Blessure – CHIR
≤ 1 heure

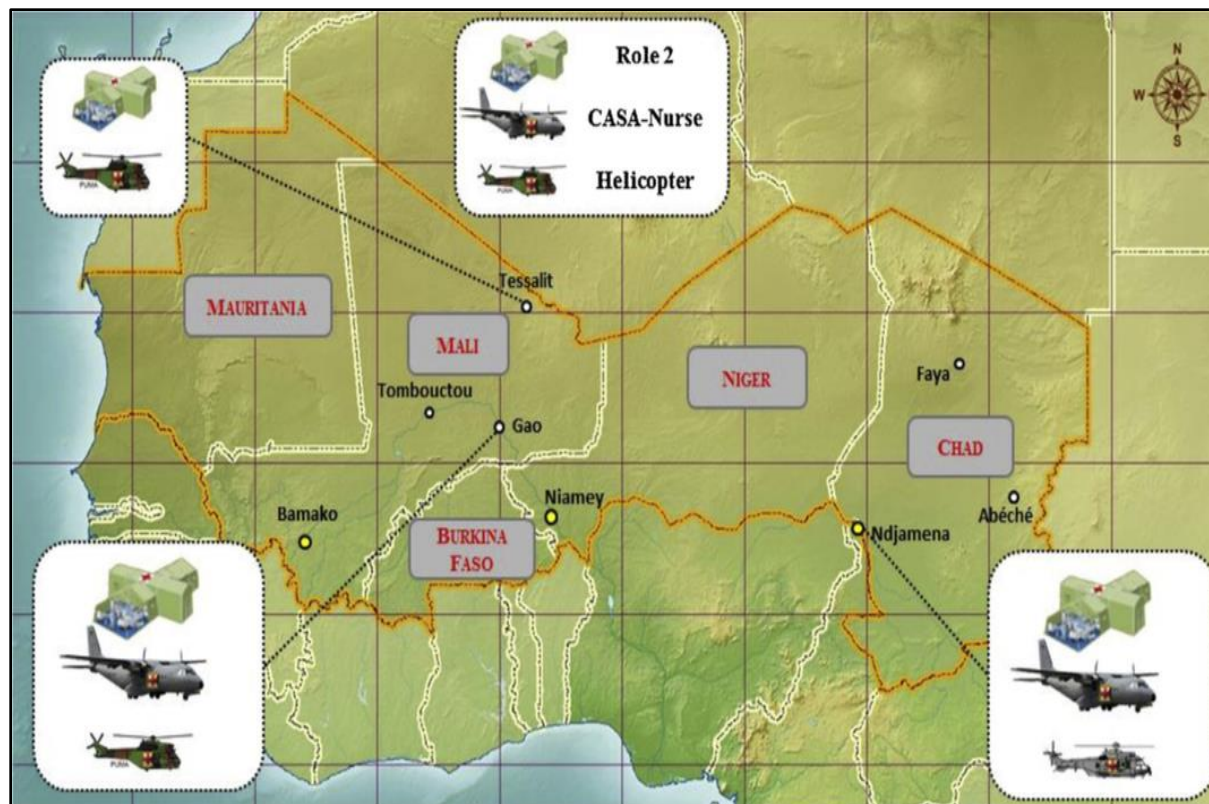
↓ 66% mortalité**

Mais parfois les opérations sont spéciales...

Modes d'insertion



Éloignement

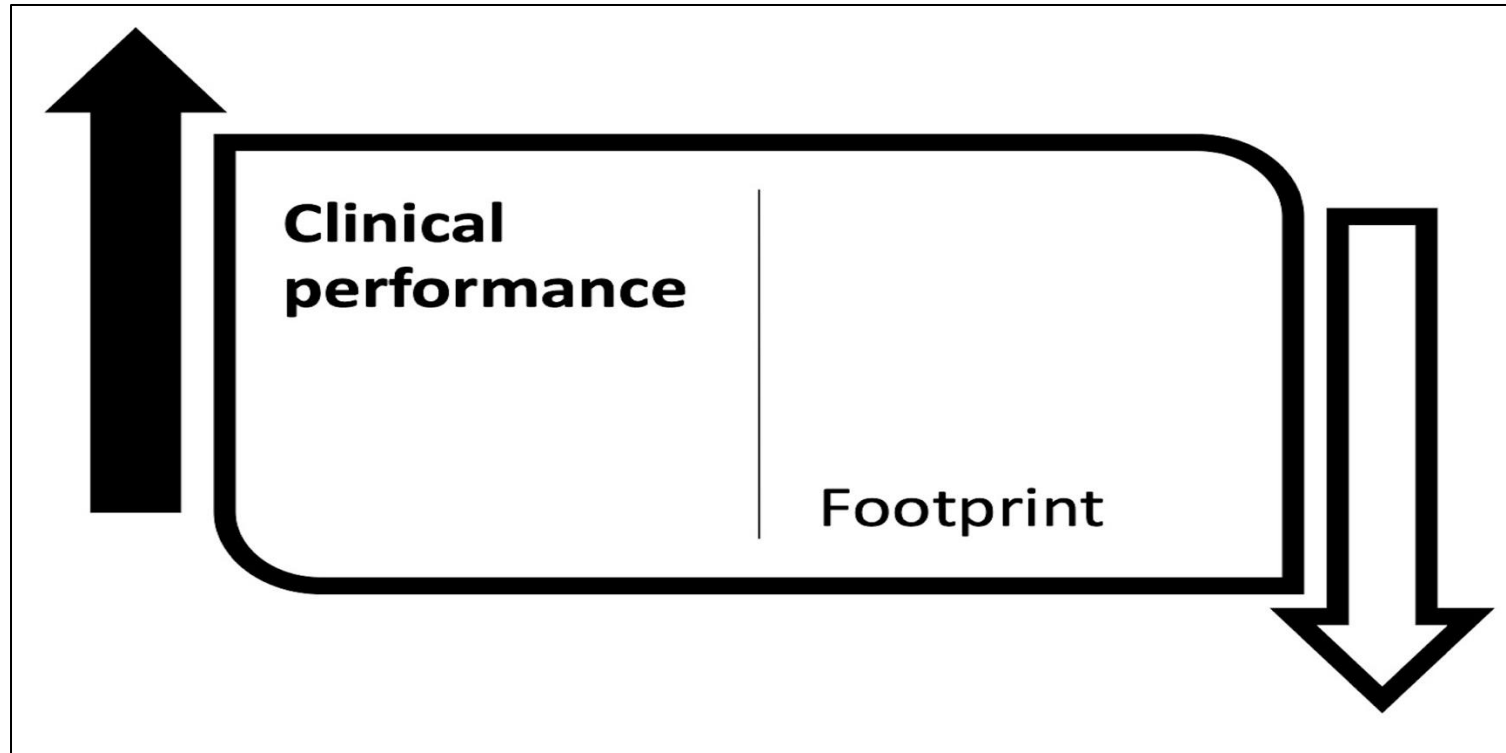


Discrétion



Carfantan C, et al. *Injury* 2016

Et il faut trouver un équilibre



Des équipes AR-CHIR pour les OS



A le module de chirurgie vitale

B son Harpon

Damage control de l'extrême-avant

AR



CHIR



IADE



IBODE



Quel que soit le vecteur, le lieu:

- aéronefs (avions, hélicoptère);
- navires;
- camions;
- abris sommaires;
- immeubles d'opportunité...



Quelles perspectives?

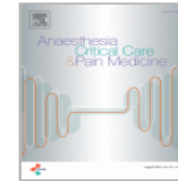
Déjà de nouveaux enseignements



Anaesthesia Critical Care & Pain Medicine



Available online 30 July 2024, 101409

In Press, Journal Pre-proof  [What's this?](#)



Review article

Lessons learned from the war in Ukraine for the anesthesiologist and intensivist: A scoping review

Audrey Jarrassier^a  , Nicolas Py^a, Gaël de Rocquigny^a, Mathieu Raux^b,
Sigismond Lasocki^c, Clément Dubost^{a d}, Emmanuel Bordier^a, Nicolas Libert^{d e},
Thomas Leclerc^{d e}, Éric Meaudre^{d f}, Pierre Pasquier^{d e g}

Jarrassier A, et al. *Anaesth Crit Care Pain Med* 2024



Continuer à s'entraîner

“You fight like you train!”



General Georges S. Patton

... dans toutes les dimensions




Injury International Journal of the Care of the Injured






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LETTER TO THE EDITOR · Volume 55, Issue 6, 111571, June 2024 [Download Full Issue](#)

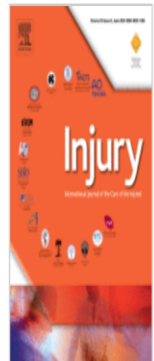
Reinforced predeployment training of European military surgical teams: The key requirements are technical, non-technical, and also tactical skills

[N Py](#)^a   · [A Jarrassier](#)^a · [E Meaudre](#)^{b,c} · [P Pasquier](#)^{c,d,e}

[Affiliations & Notes](#) ▾ [Article Info](#) ▾

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Tirer des enseignements précieux du passé



MILITARY MEDICINE, 158, 12:816, 1993

Medical Care Behind Enemy Lines: A Historical Examination of Clandestine Hospitals

LTC Marc G. Cloutier, MSC USA

Current medical doctrine states that hospital support to unconventional forces will be provided by conventional medical units in the theater. During such operations, the tactical situation may preclude timely hospital care to the detriment of the patient and his unit's effectiveness. To find a viable solution, this study investigates the concept of clandestine hospitals employed during World War II and by North Vietnamese soldiers and Afghan resistance fighters. A test of the concept by a Special Forces Medical Detachment is also described. The characteristics of successful clandestine hospital operations and lessons learned are discussed.

ment is unprogrammed by the medical force structure and the medical training base. Doctrine developed by the Army Medical Department addresses only the requirement to support Special Forces in a developed theater, and states that Health Services Support will be provided on an area basis by conventional theater medical facilities and units.^{2,3}

The objective of this study is to propose an operational concept for organic hospital support to SOF when involved in deep operations behind enemy lines. The proposed concept and recommendations are based on a review of historical accounts of

Cloutier MG. *Mil Med* 1993

... assez proches de nos réflexions actuelles



Clandestine hospitals were organized and configured in an extremely lightweight mode.

- Medical supplies and equipment were severely limited in order for the hospital to remain undetected, and able to relocate rapidly as the tactical situation dictated.

- For medical supplies, only the basic necessities were included.

- Equipment was also severely limited, and the doctors depended extensively on their resourcefulness and innovative ability to find alternative means of treating patients.

- The diagnostic burden shifted from reliance on diagnostic equipment to the physician's intuitive insights and differential diagnostic ability.

Et toujours s'adapter, innover




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ORIGINAL RESEARCH

TRANSFUSION

Performance of far forward iceless blood storage containers in controlled cold environments

Antoine Vuong^{1,2}  | Clément Derkenne^{2,3} | Stéphane Travers^{2,4} |
Olivier Javaudin⁵  | Benoît Clavier⁵ | Christophe Martinaud²  |
Pierre Pasquier^{2,6,7}



Que retenir,
quand vous aurez déjà tout oublié?

3 messages clés

1. Le but = sauver des vies

→ un très bon niveau de soins, parfois dans de très mauvaises conditions.

2. Les moyens = pas de modèle unique

→ la bonne équipe médico-chirurgicale, au bon endroit, au bon moment.

3. La façon de faire = l'état d'esprit – Forces spéciales – « *faire autrement* »

→ combiner approches innovantes et entraînement rigoureux.

Pour aller plus loin

- **Pasquier P, et al.** Irregular warfare must combine good medicine, with both good tactics and good strategies: Position paper by the French Special Operations Forces Medical Command. *J Trauma Acute Care Surg 2024*
- **Hornez E, et al.** Ultra-forward surgical support for special operations forces. Conception, development and certification of the French Special Operations Surgical Team (SOST) airborne capability. *Injury 2024*
- **Pasquier P, et al.** Review of the Paris Special Operations Forces Combat Medical Care Conference, Fall 2022. *J Spec Oper Med 2023*
- **Daniel Y, et al.** Tactical damage control resuscitation in austere military environments. *J R Army Med Corps 2016*



Questions & commentaires?



PARIS SOF CMC conference Fall 2024



Paris Special Operations – Combat Medical Care conference

**Paris, FRANCE
October 15-16, 2024**

Scientific discussions, hands-on workshops, Industrial exhibition.

More information coming soon at www.cmc-conference.de

cmc-conference.de

