



“REALITY CHECK”- WHAT HAVE WE DONE AND WHERE DO WE NEED TO GO?

ELON GLASSBERG, MD, MHA, MBA

BRIGADIER GENERAL, IDF MEDICAL CORPS
IMMEDIATE PAST SURGEON GENERAL

PROF. OF SURGERY, TRAUMA SURGERY

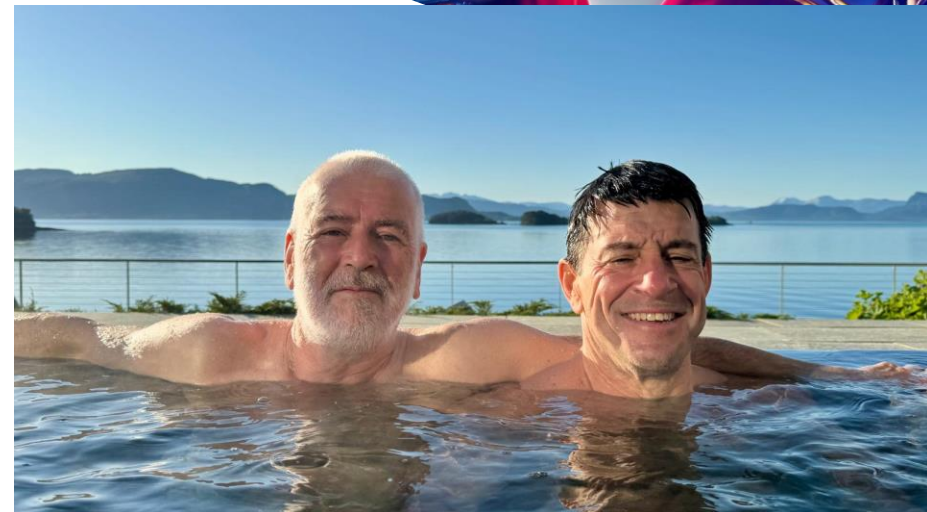
BOARD CERTIFIED IN HEALTH MANAGEMENT

VISION: To improve outcomes from traumatic hemorrhagic shock by optimizing the acute phase of resuscitation.

VISION: To improve outcomes from traumatic hemorrhagic shock by optimizing the acute phase of resuscitation.



VISION: To improve outcomes from traumatic hemorrhagic shock by optimizing the acute phase of resuscitation.



VISION: To improve
shock by optimiz

orrhagic
tion.

Birthday KID 🥳





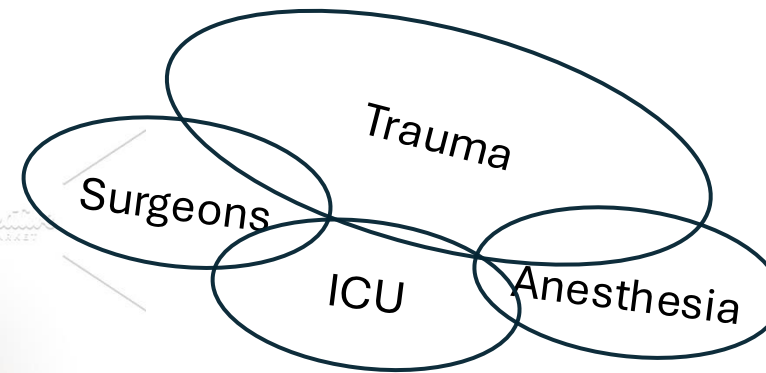
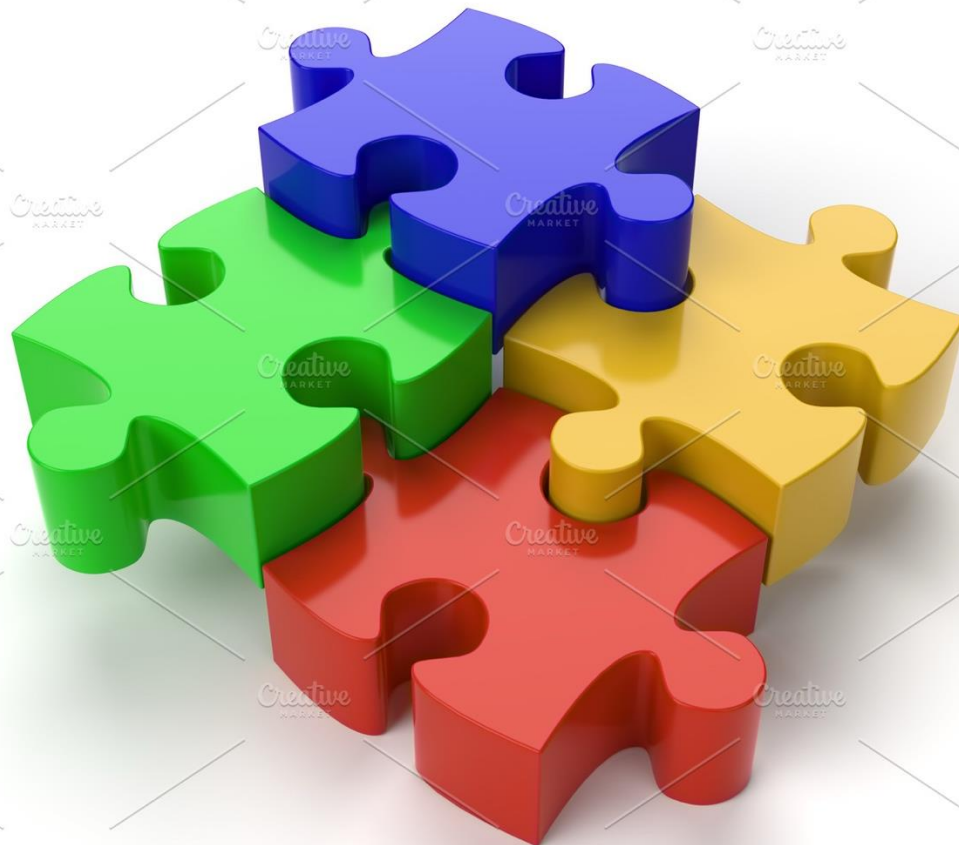
“An international multidisciplinary network of civilian and military providers ranging from first responders and medics to critical care physicians and from basic scientists to clinical trialists”



“An international **multidisciplinary** network of civilian and military providers ranging from first responders and medics to critical care physicians and from basic scientists to clinical trialists”

Pre-hospital providers
(SOF)

Blood Bankers



Basic scientists

Pre-hospital providers
(SOF)

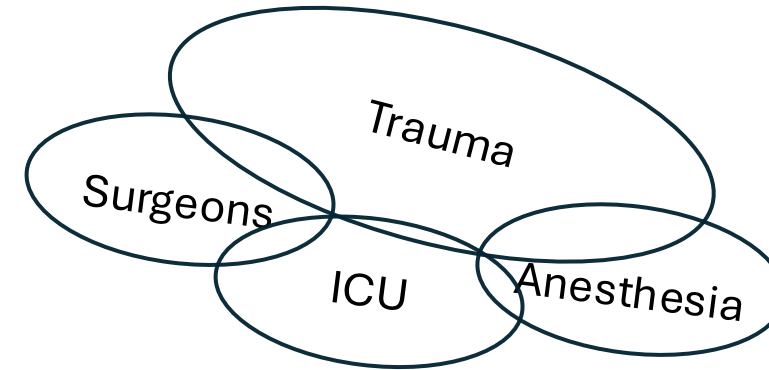
Education

Blood Bankers

Leadership



OGV



Basic scientists

Industry



“An **international** multidisciplinary network of civilian and military providers ranging from first responders and medics to critical care physicians and from basic scientists to clinical trialists”

COUNTRIES REPRESENTED AT THIS YEAR'S CONFERENCE



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CANADA



CZECH REPUBLIC



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IRELAND



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NETHERLANDS



NEW ZEALAND



NORWAY



SINGAPORE



SPAIN



SWEDEN



SWITZERLAND



TAIWAN



UNITED KINGDOM



UNITED STATES



“An international multidisciplinary **network** of civilian and military providers ranging from first responders and medics to critical care physicians and from basic scientists to clinical trialists”





of members: 1048



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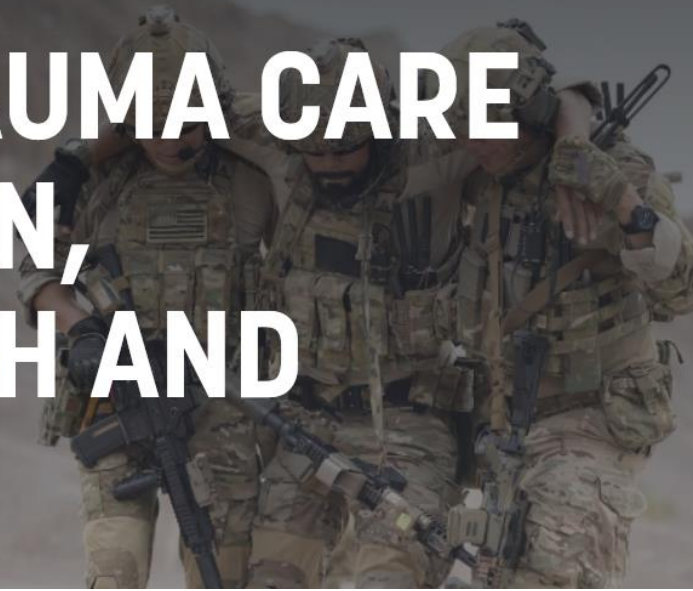
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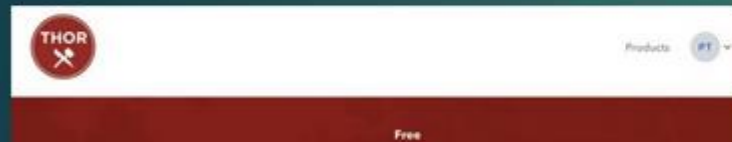
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internationally**



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Free

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23 Lessons

The THOR Network presents a current evidence based field transfusion course.

In English.

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Free

Навчальний курс з переливання цільної крові в польових умовах

Course • 23 Lessons

Курс доступний українською мовою

Цей курс є безкоштовним

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“Pre- conference”









WHEN YOU COME IN

SECOND PLACE

If I have seen further than others, it is
by standing upon the shoulders of giants.

Isaac Newton

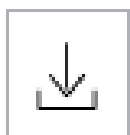
➤ [Transfusion](#). 2013 Jan;53 Suppl 1:9S-16S. doi: 10.1111/trf.12030.

Remote damage control resuscitation and the Solstrand Conference: defining the need, the language, and a way forward

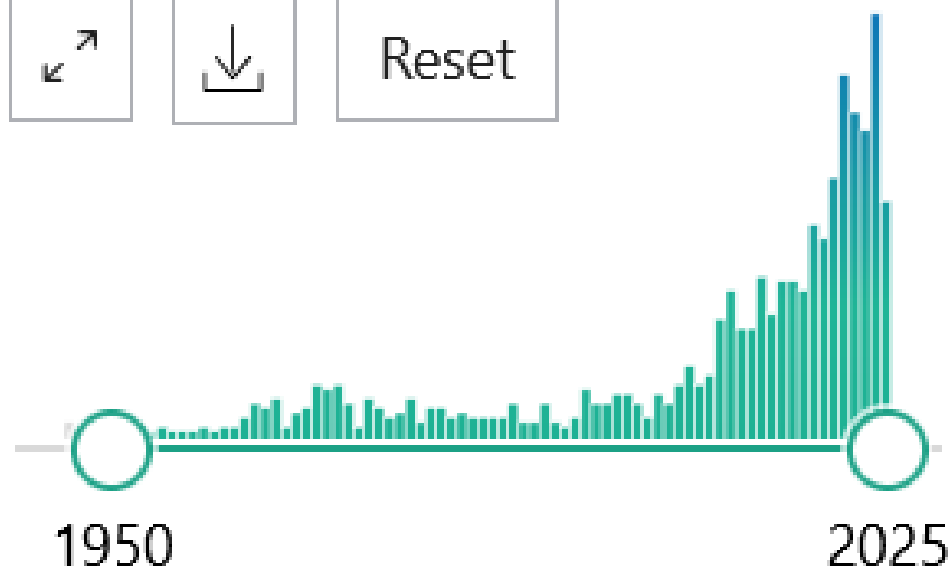
Robert T Gerhardt ¹, Geir Strandenes, Andrew P Cap, Francisco J Rentas, Elon Glassberg, Jeff Mott, Michael A Dubick, Philip C Spinella; THOR Network and RemTORN Study Groups

“Whole Blood + Trauma”

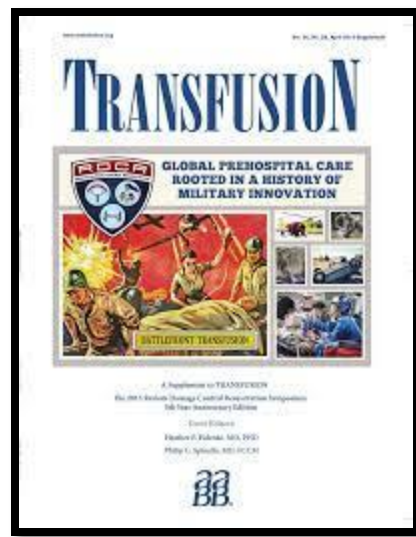
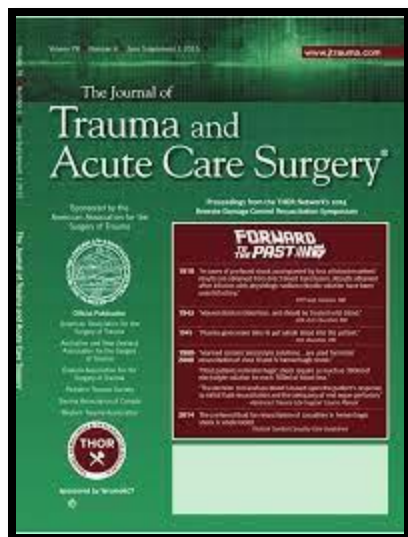
RESULTS BY YEAR



Reset



If I have seen further than others, it is
by standing upon the shoulders of giants.
Isaac Newton

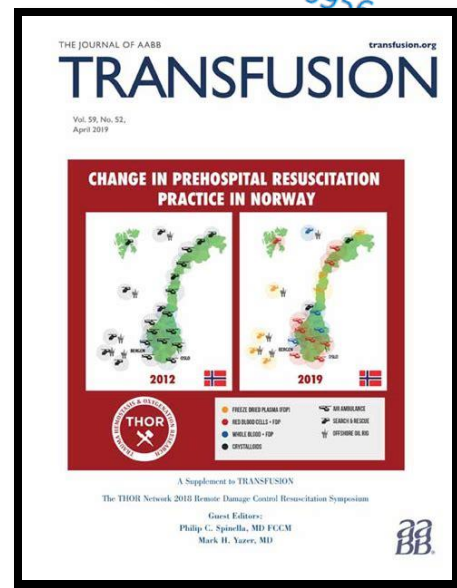
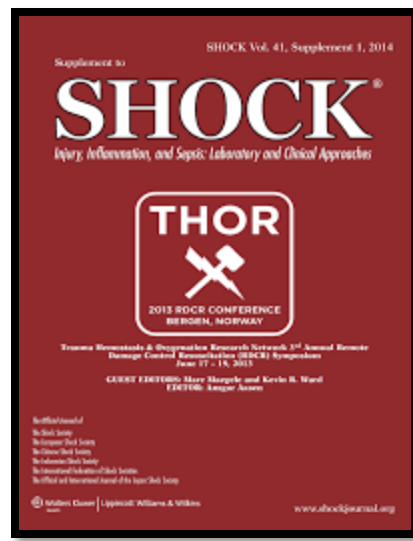
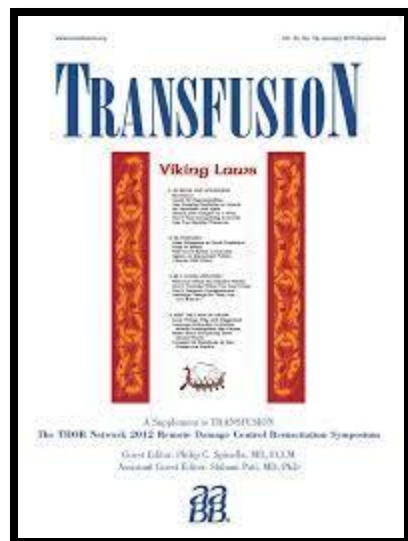


> Transfusion. 2022 Aug;62 Suppl 1:S1-S11. doi: 10.1111/trf.16956. Epub 2022 Jun 29.

The publication impact of the first 100 THOR network publications by bibliometric and social network analyses

Tom Woolley ¹, James R Stubbs ², Evan Sprague ³, Amy M Suiter ⁴, Cathy C Sarli ⁴,
Geir Stranden ⁵, Philip C Spinella ⁶

Affiliations + expand
MID: 35765971 DOI: 10.1111/trf.16956



Collaborations:

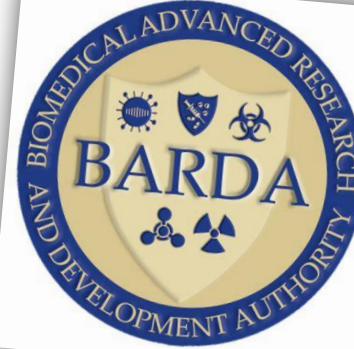


UNITED NATIONS

(Pat Thompson)



National Institutes
of Health



World Health
Organization

(Mark Yazer)



ALLO HOPE
FOUNDATION



(Becket, CAP...)



EUROPEAN
BLOOD
ALLIANCE

Ranger Whole Blood Program wins an Army's Greatest Innovation Award

By Maj. Tony Mayne March 14, 2017



RELATED STORIES

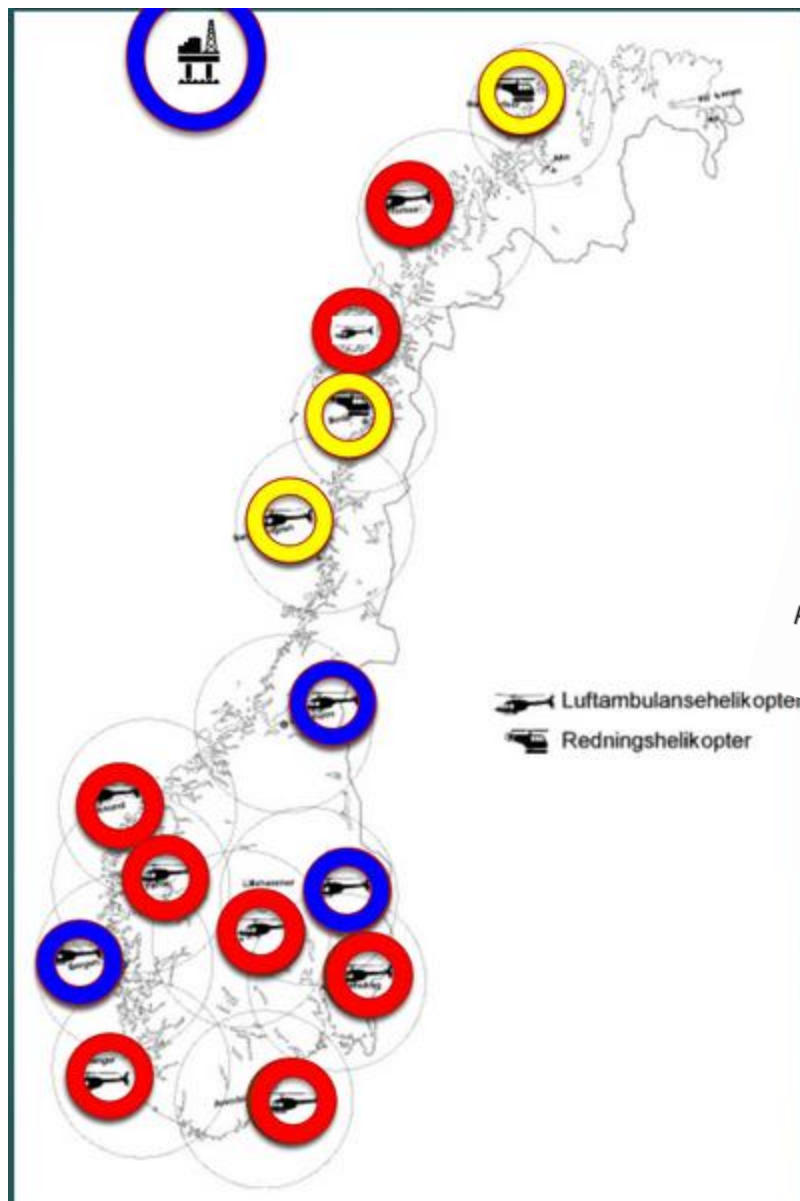
NOVEMBER 8, 2024

U.S. Army awards contract for domestic TNT production

JUNE 28, 2024

Army awards \$4.5 billion Patriot Advanced Capability-3 Missile Segment Enhancement missile multiyear contract

AUGUST 31, 2023



► Scand J Trauma Resusc Emerg Med. 2022 Dec 9;30:65. doi: [10.1186/s13049-022-01051-z](https://doi.org/10.1186/s13049-022-01051-z)

Implementation of a low-titre whole blood transfusion program in a civilian helicopter emergency medical service

[Geir Arne Sunde](#)^{1,2,✉}, [Christopher Bjerkvig](#)^{1,2,5}, [Marit Bekkevold](#)^{3,4}, [Einar K Kristoffersen](#)^{6,7}, [Geir Strandenes](#)⁷, [Øyvind Bruserud](#)¹, [Torunn Oveland Apelseth](#)^{6,7,8}, [Jon-Kenneth Heltne](#)^{1,2,5}

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PMCID: PMC9733220 PMID: [36494743](https://pubmed.ncbi.nlm.nih.gov/36494743/)

Damage Control Resuscitation



HEMORRHAGE is the leading cause of preventable death
DO YOUR PART TO CONTROL IT

JOINT TRAUMA SYSTEM CLINICAL PRACTICE GUIDELINE (JTS CPG)



Damage Control Resuscitation

This CPG provides evidence-based guidance to minimize variation in resuscitation practices and improve the care of massively hemorrhaging, severely injured casualties.

Contributors

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COL Jennifer Gurney, MC, USA
Philip C. Spinella, MD, FCCM
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Special Forces
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CDR Jacob Glaser, MC, USN

First Publication Date: 18 Dec 2004

Publication Date: 12 Jul 2019

Publication Supersedes: 03 Feb 2017



REPLACE IT

- NO CRYSTALLOID**
- NO HEXTEND**
- ✓ **LTOWB**
- ✓ **WFWB**
- ✓ **Plasma: RBC (1:1:1)**

ure

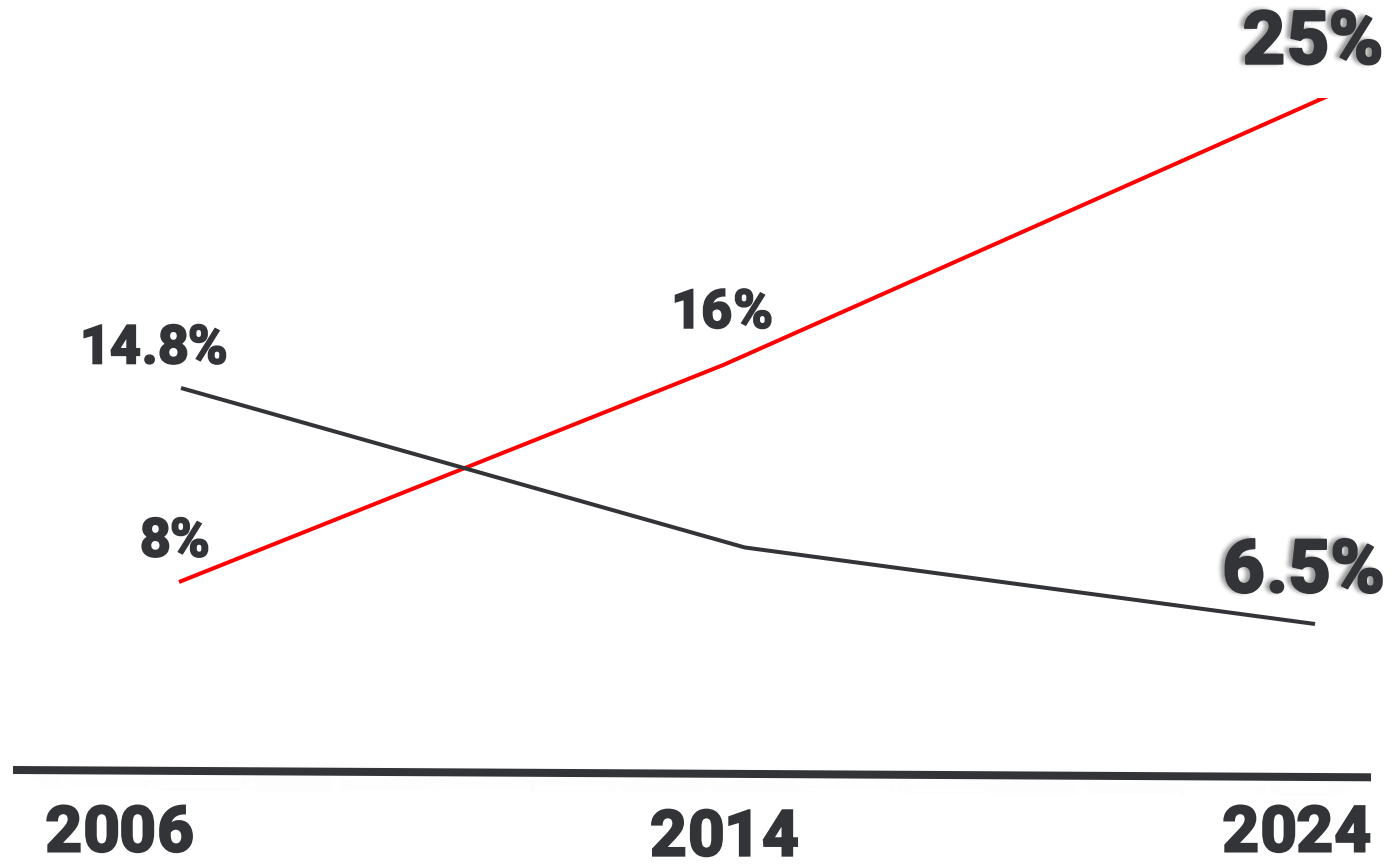






CIV- MIL partnership





Case Fatality Rates vs. Injury Severity Scores

FDA ISSUES FINAL GUIDANCE TO PERMIT MANUFACTURE OF COLD-STORED PLATELETS

June 23, 2023



doi: 10.1097/TA.0000000000001822.

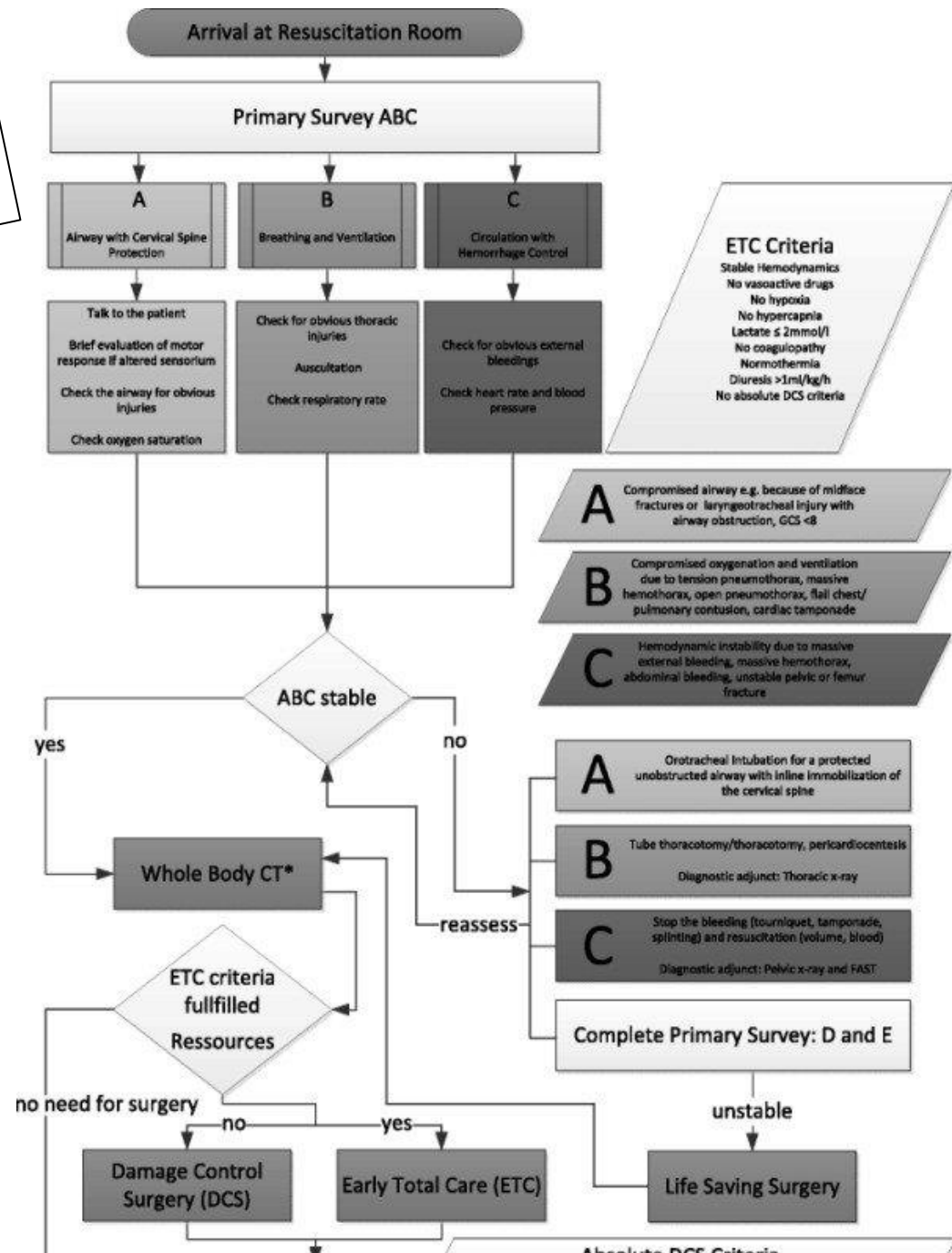
Airway and ventilation management strategies for hemorrhagic shock. To tube, or not to tube, that is the question!

Anthony J Hudson¹, Geir Strandenes, Christopher K Bjerkvig, Marius Svanevik, Elon Glassberg

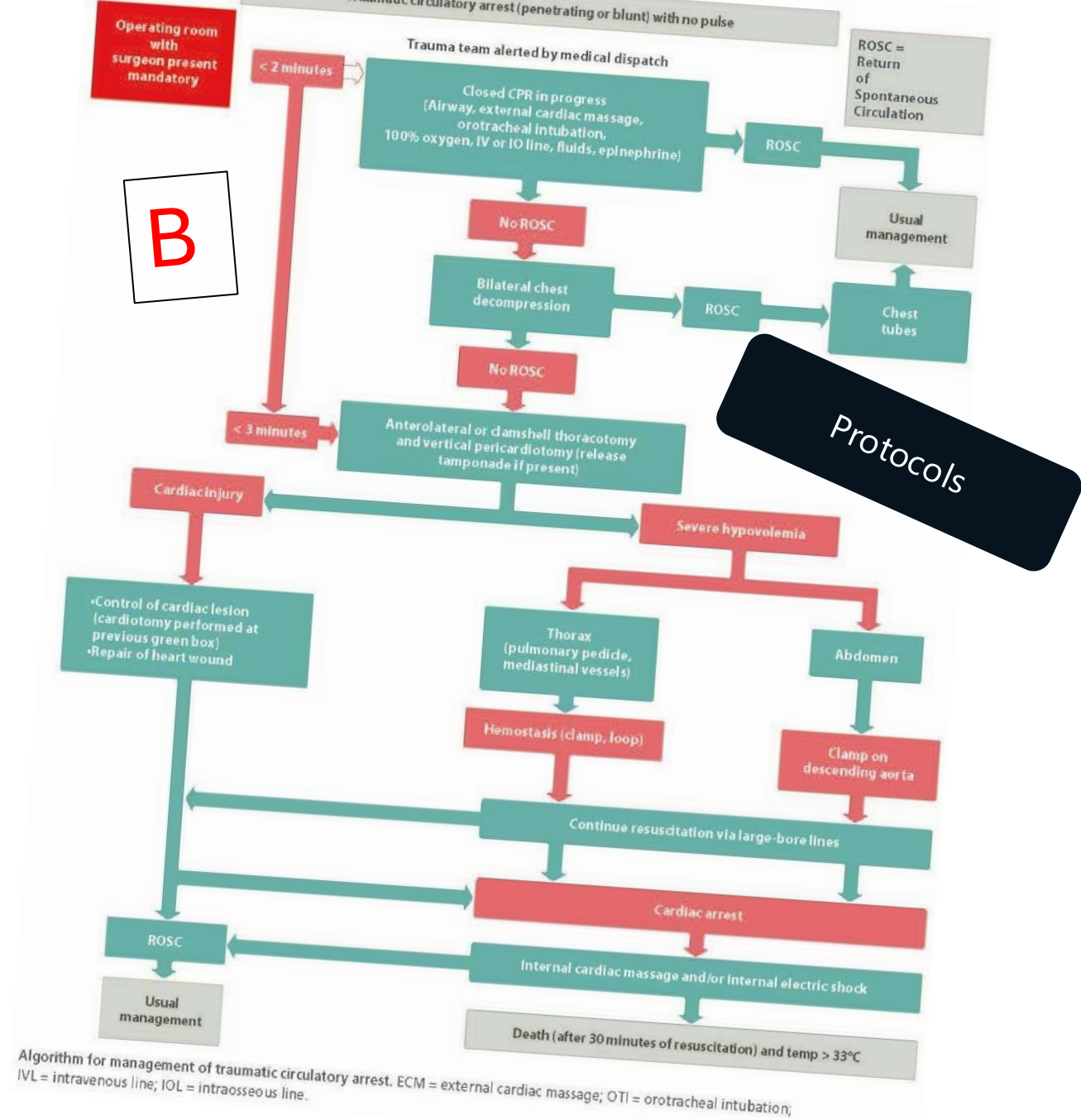
The effectiveness of the manual pressure points technique for hemorrhage control–The 2022 THOR pre-conference meeting experience

Patrick Thompson¹, Elon Glassberg^{1 2 3 4}, Yuval Alon², Christopher K Bjerkvig^{5 6}, Hakon S Eliassen^{1 6}, Irina Radomislensky^{2 7}, Geir Strandenes^{1 8}, Tomer Talmy^{2 9}, Ofer Almog^{2 9}

A



B





נתיב האוויר – הערכה וטיפול

פרוטוקול הערכת וניהול נתיב האוויר



ספר הטראומה והרפואה המבצעית

3

פרוטוקול טיפול בפצוע חזה מונשם



Position papers

THOR Network Position Papers

Trauma Hemostasis and Oxygenation Research Network Position Paper on the Role of Hypotensive Resuscitation As Part of Remote Damage Control Resuscitation: [Click to Read](#)

THOR- AABB Working Party Recommendations for a Prehospital Blood Product Transfusion Program: [Click to Read](#)

It is Time to Reconsider Leukoreduction of Whole Blood For Use in Patients With Life-Threatening Hemorrhage: [Click to Read](#)

U.S. Cities Will Not Meet Blood Product Resuscitation Standards During Major Mass Casualty Incidents: Results of a THOR-AABB Working Party Prospective Analysis: [Click to Read](#)

Trauma Hemostasis and Oxygenation Research Position Paper on Remote Damage Control Resuscitation: Definitions, Current Practice, and Knowledge Gaps: [Click to Read](#)

International conferences + “THOR on the road”

- Norway 😊

- Italy*

- Israel*

- Spain

- Brazil

- Switzerland

- Australia*

International conferences + “THOR on the road”

- Norway 😊
- Italy*
- Israel*
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- Switzerland
- Australia*

* Collaborations with National Blood Supply Services



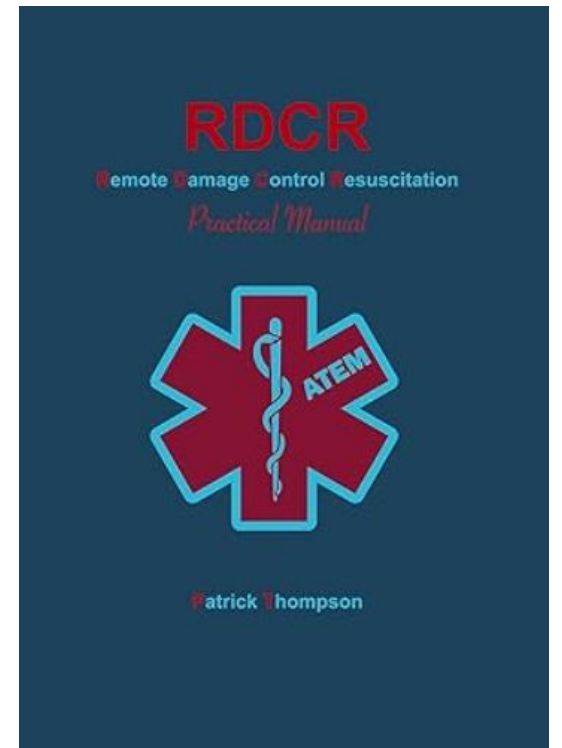
THOR Down Under #THUNDER

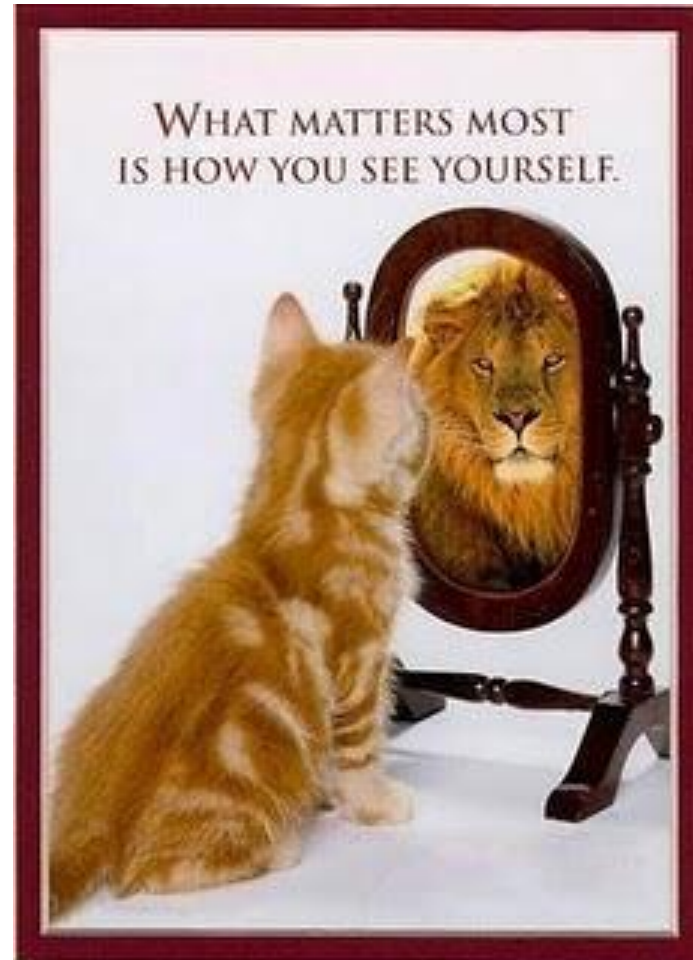
2025 CONFERENCE

29 – 31 October 2025 • Perth, Australia

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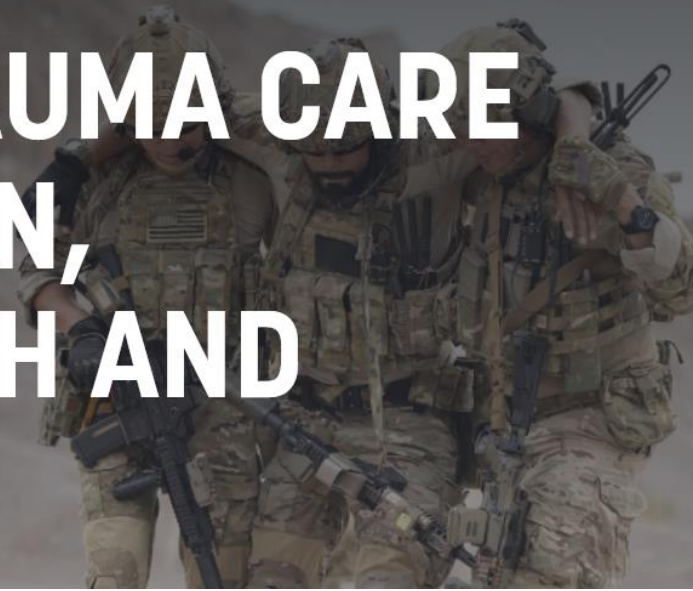
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Advocacy



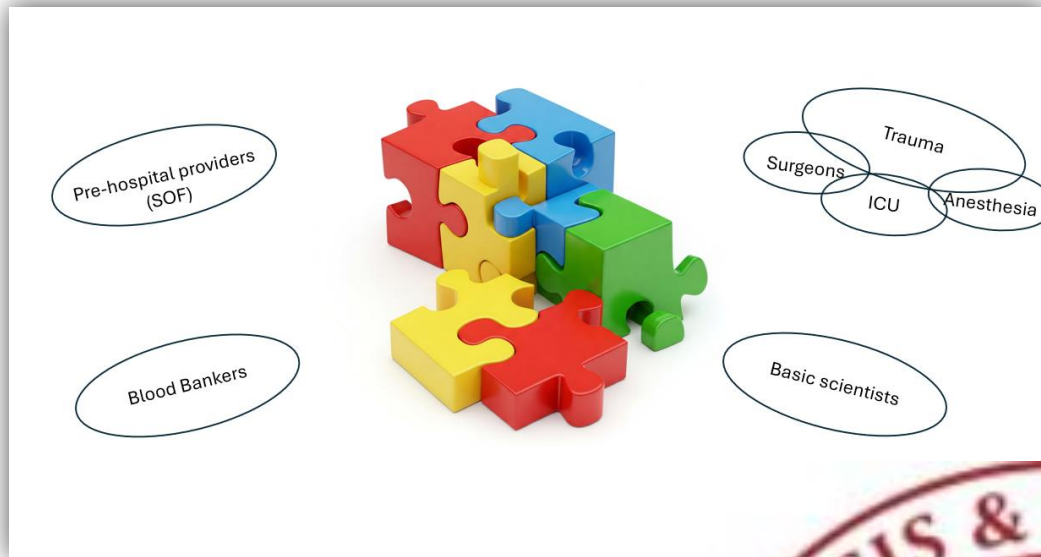
A high-angle, top-down photograph of a massive, dense crowd of people. The individuals are packed closely together, filling the entire frame. They are wearing a variety of colorful clothing, creating a mosaic of colors like red, blue, yellow, and green against a darker background. Overlaid on the center of the image is the text '8 Billion' in a large, white, sans-serif font. The number '8' is particularly large and prominent on the left. A white rectangular box is positioned over the word 'Billion', containing the red text '0.00625'.

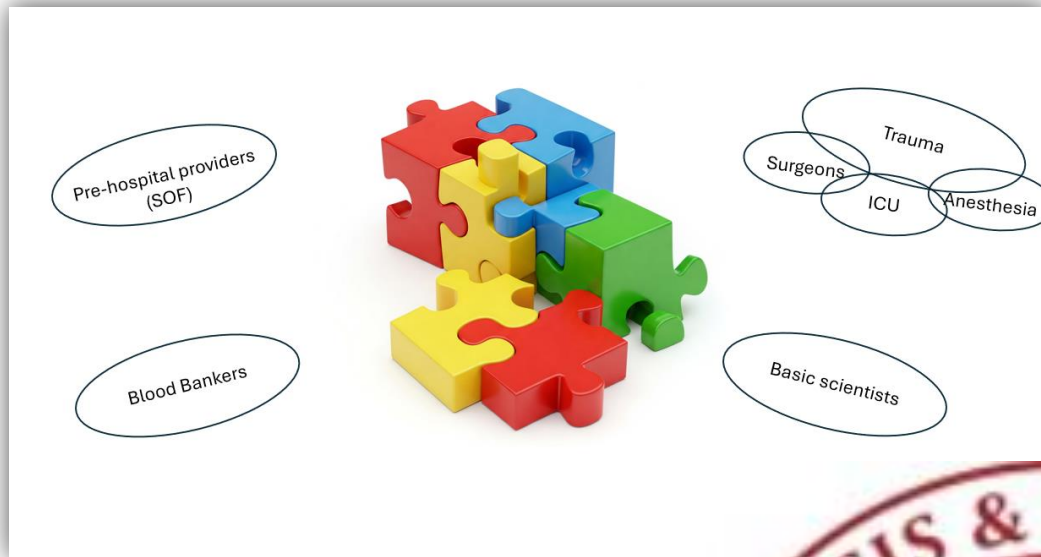
8 Billion

0.00625



“THOR is not just about Blood “





**THIS IS ONLY
THE
BEGINNING**



ELON GLASSBERG, MD, MHA, MBA

BRIGADIER GENERAL, IDF MEDICAL CORPS
IMMEDIATE PAST SURGEON GENERAL

PROF. OF SURGERY, TRAUMA SURGERY

BOARD CERTIFIED IN HEALTH MANAGEMENT