



NEWSLETTER AUGUST 2023

# MEDI UPDATES

On this Independence Day, We would like to take a moment to reflect upon the values that have shaped us as a nation and the progress we have made. Independence Day is not just about commemorating our freedom from colonial rule, but it is also a reminder of the countless sacrifices made by our brave forefathers who fought for justice, equality, and liberty. Their unwavering determination laid the foundation of our great nation.

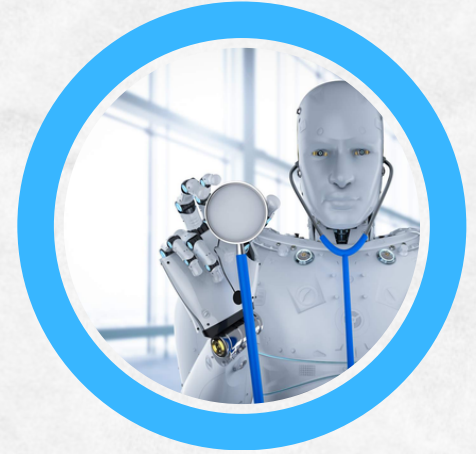


NEUROSURGERY & NEUROLOGY  
CARDIOLOGY  
NEPHROLOGY & UROLOGY  
CRITICAL CARE & PULMONOLOGY  
LAP SURGERY & PLASTIC SURGERY  
MEDICINE & PAEDIATRICS (NEONATOLOGY)  
ORTHOPEDIC & JOINT REPLACEMENT  
ANESTHESIA & EMERGENCY MEDICINE  
RADIOLOGY & INTERVENTIONAL RADIOLOGY  
PATHOLOGY & DIAGNOSTICS  
GASTROENTEROLOGY  
ENT, PSYCHIATRY & ALLIED SPECIALITIES

Make no mistake  
Artificial Intelligence will change the way  
medicine is practiced in the  
not-too-distant future.



## The e-doctor will see you



Already we've witnessed the birth of first generation medical chat bots such as GlassAI. These chatbots collect medical details, vital signs, allergies and medications and lab test results, and uses them to provide diagnostic suggestions, health information and treatment advice through a chatbot service, demonstrating the growing role of AI in the healthcare industry.

Clinicians however are quick to point out that humans can never be completely replaced, and patients are likely to prefer human interactions to those of a chat bot.

Screening / triage is an area where AI may have a significant impact. AI algorithms can also analyse large datasets to identify patients at high risk for certain diseases or conditions. This could help clinicians prioritise patients for further testing or treatment.

Interpretation of diagnostics such as radiology and histology is another area where AI can be useful. Radiologists often have to review hundreds or even thousands of images each day. By using machine learning algorithms to analyse these images automatically, radiologists can save time and improve accuracy.

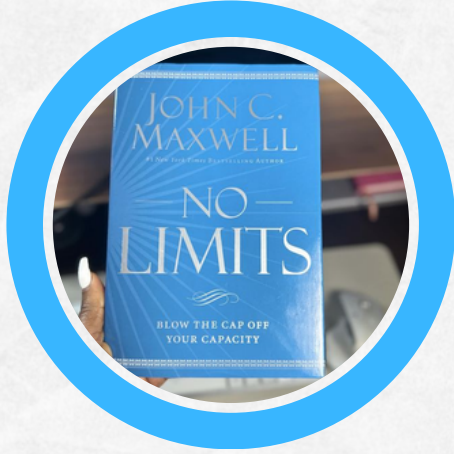
Personalised medicine based on genetic data analysis is another application for AI. By analysing large datasets of genetic information from patients with different diseases or conditions, researchers can identify patterns that may be associated with specific diseases or conditions. This can help clinicians develop personalised treatment plans for individual patients.

Drug discovery and development through machine learning algorithms is another area where AI is being tested.

In conclusion, AI has the potential to revolutionise patient care and improve outcomes in healthcare. While it cannot replace human emotion, examination skills, nuanced diagnostic skills, and other essential elements of medical care, it can augment them and provide valuable support.



“Success is not just about achieving material wealth, but about living a meaningful and purposeful life.”



## Book Troverts

### NO LIMITS by John Maxwell

10 lessons from John Maxwell "No Limits"

#### 1. Mindset Matters:

Developing a growth mindset and believing in your ability to learn and improve is crucial for personal and professional development.

#### 2. Purpose and Passion:

Identifying your purpose and pursuing it with passion can drive you to excel and overcome obstacles.

#### 3. Continuous Learning:

Lifelong learning is essential for staying relevant and adapting to changes in your field.

#### 4. Embrace Failure:

Viewing failure as a stepping stone to success and learning from setbacks can help you grow stronger.

#### 5. Goal Setting:

Setting clear, specific goals and creating a plan to achieve them is a key factor in reaching your potential.

#### 6. Effective Communication:

Developing strong communication skills can enhance your relationships and help you influence others positively.

#### 7. Leadership Skills:

Even if you're not in a formal leadership role, cultivating leadership qualities can help you stand out and contribute more effectively.

#### 8. Relationship Building:

Building and maintaining strong relationships can open doors, create opportunities, and provide valuable support.

#### 9. Time Management:

Prioritizing tasks, managing your time effectively, and focusing on high-impact activities can boost productivity.

#### 10. Resilience and Perseverance:

Overcoming challenges, staying resilient in the face of adversity, and persevering through difficulties are essential for achieving your goals.

# Research Paper Review

## Tenecteplase versus alteplase in acute ischaemic cerebrovascular events (TRACE-2)

### TENECTEPLASE VERSUS ALTEPLASE IN ACUTE ISCHAEMIC CEREBROVASCULAR EVENTS (TRACE-2): A PHASE 3, MULTICENTRE, OPEN-LABEL, RANDOMISED CONTROLLED, NON-INFERIORITY TRIAL



What was the research question?

- There is increasing interest in replacing alteplase with tenecteplase as the preferred thrombolytic treatment for patients with acute ischaemic stroke. We aimed to establish the non-inferiority of tenecteplase to alteplase for these patients.

How did they do it?

- In this multicentre, prospective, open-label, blinded-endpoint, randomised controlled, non-inferiority trial, adults with an acute ischaemic stroke who were eligible for standard intravenous thrombolysis but ineligible for endovascular thrombectomy were enrolled from 53 centres in China and randomly assigned (1:1) to receive intravenous tenecteplase (0.25 mg/kg, maximum dose of 25 mg) or intravenous alteplase (0.9 mg/kg, maximum dose of 90 mg).
- Participants had to be able to receive treatment within 4.5 h of stroke, have a modified Rankin Scale (mRS) score of no more than 1 before enrolment, and have a National Institutes of Health Stroke Scale score of 5–25

What did they find?

- The primary outcome in the modified intention-to-treat population occurred in 439 (62%) of 705 in the tenecteplase group versus 405 (58%) of 696 in the alteplase group (RR 1.07, 95% CI 0.98–1.16)
- Symptomatic intracranial haemorrhage within 36 h was observed in 15 (2%) of 711 in the tenecteplase group and 13 (2%) of 706 in the alteplase group (RR 1.18, 95% CI 0.56–2.50). Mortality within 90 days occurred in 46 (7%) individuals in the tenecteplase group versus 35 (5%) in the alteplase group (RR 1.31, 95% CI 0.86–2.01).
- Tenecteplase was non-inferior to alteplase in people with ischaemic stroke who were eligible for standard intravenous thrombolytic but ineligible for or refused endovascular thrombectomy.



Research Paper link for Review

[https://www.thelancet.com/journals/lanet/article/PIIS0140-6736\(22\)02600-9/fulltext](https://www.thelancet.com/journals/lanet/article/PIIS0140-6736(22)02600-9/fulltext)

# Review

## Changing Spectrum Of Enteric Fever in Recent Times

Classic reports described the characteristic stages of enteric fever in untreated individuals.

- In the first week of illness, rising ("stepwise") fever and bacteremia develop. While chills are typical, frank rigors are rare. Relative bradycardia or pulse-temperature dissociation may be observed.
- In the second week of illness, abdominal pain develops and "rose spots" (faint salmon-colored macules on the trunk and abdomen) may be seen.
- During the third week of illness, hepatosplenomegaly, intestinal bleeding, and perforation due to ileocecal lymphatic hyperplasia of the Peyer's patches may occur, together with secondary bacteremia and peritonitis.

### Recent Review

- Intestinal perforation generally occurs more frequently among adults than children and is associated with high mortality rates. Typhoid intestinal perforation usually occurs in the ileum during the third week of febrile illness and is due to necrosis of the Peyer's patches in the antimesenteric bowel wall
- Patients with severe enteric fever may develop "typhoid encephalopathy," with altered consciousness, delirium, and confusion. This has been observed in up to 17 percent of patients, with no clear frequency difference between children and adults
- Although headache is a frequent symptom reported in 44 to 94 percent of cases, other neurological manifestations including disordered sleep patterns, acute psychosis, myelitis, and rigidity have been observed but are uncommon, as are meningitis and focal central nervous infections with *S. Typhi*



CRITICAL CARE TEAM OF DIVINE LIFE HOSPITAL

DR NAAZ HUMDULAY  
DR SANDEEP KAPADIA  
DR MAULIK PATEL  
DR ADITYA PANDYA  
DR PRAGYA GUPTA

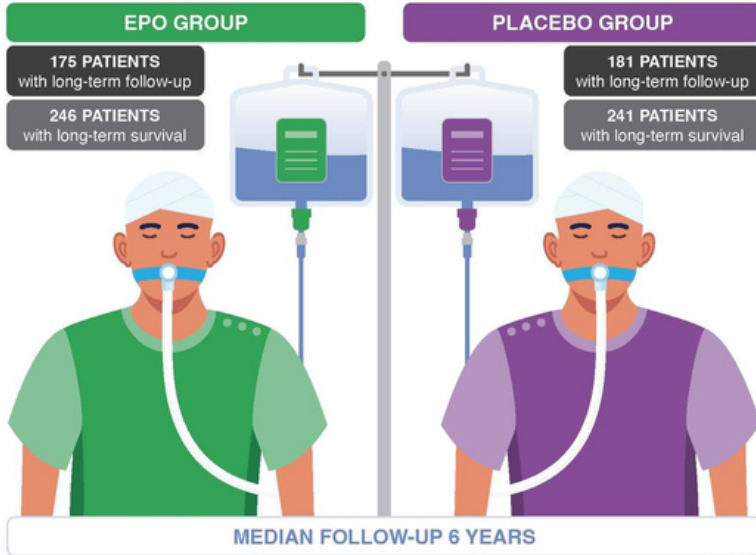
## The effect of recombinant erythropoietin on long-term outcome after moderate to severe traumatic brain injury

Can recombinant erythropoietin (EPO) administered for traumatic brain injury (TBI) increase long-term survival?

### STUDY DESIGN

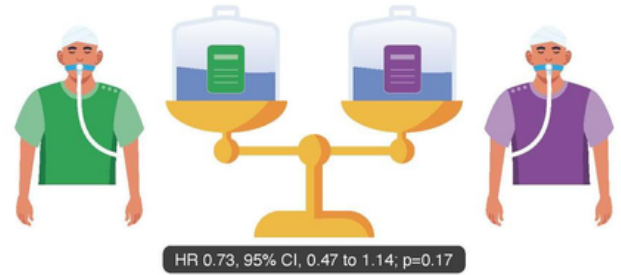
**356**  
ICU PATIENTS

Follow up study of the randomized clinical trial EPO-TBI conducted on patients with moderate to severe traumatic brain injury treated with drug recombinant erythropoietin (EPO) once weekly for up to three doses during stay in the ICU.

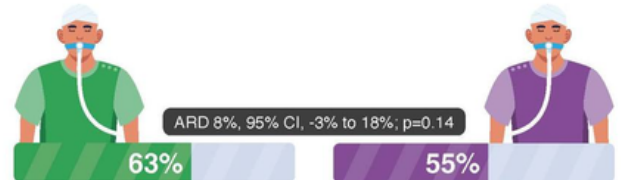


## RESULTS

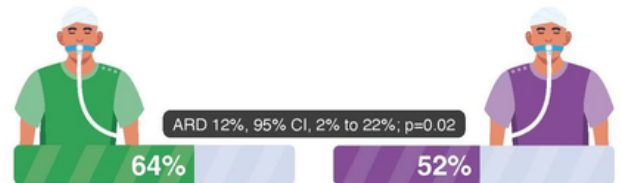
### TIME TO MORTALITY FOR EPO vs PLACEBO



### GOOD OUTCOME RATES (GOSE 5-8)



### CHANGE IN LONG-TERM FUNCTIONAL OUTCOME



### CONCLUSIONS

EPO did not decrease overall long-term mortality nor improved functional outcome in moderate or severe TBI patients treated in the ICU. But the limited sample size makes it difficult to make final conclusions about the use of EPO in TBI.

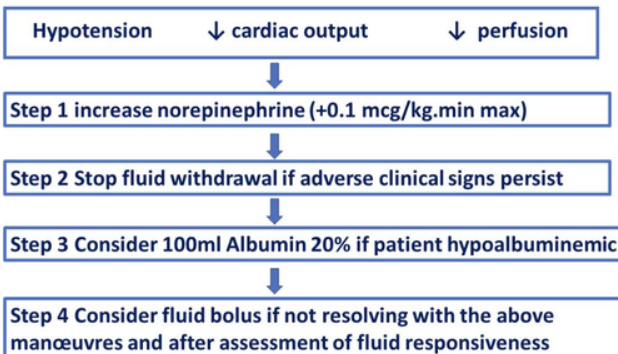
Intensive Care Med (2023) 49(7): 831-839

Intensive Care Med  
<https://doi.org/10.1007/s00134-023-07164-y>

### UNDERSTANDING THE DISEASE

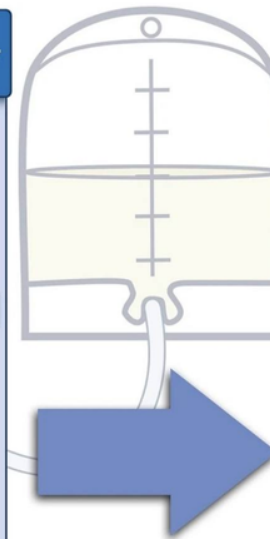
## The nuts and bolts of fluid de-escalation

Daniel De Backer<sup>1</sup>, Marlies Ostermann<sup>2</sup> and Xavier Monnet<sup>3</sup>



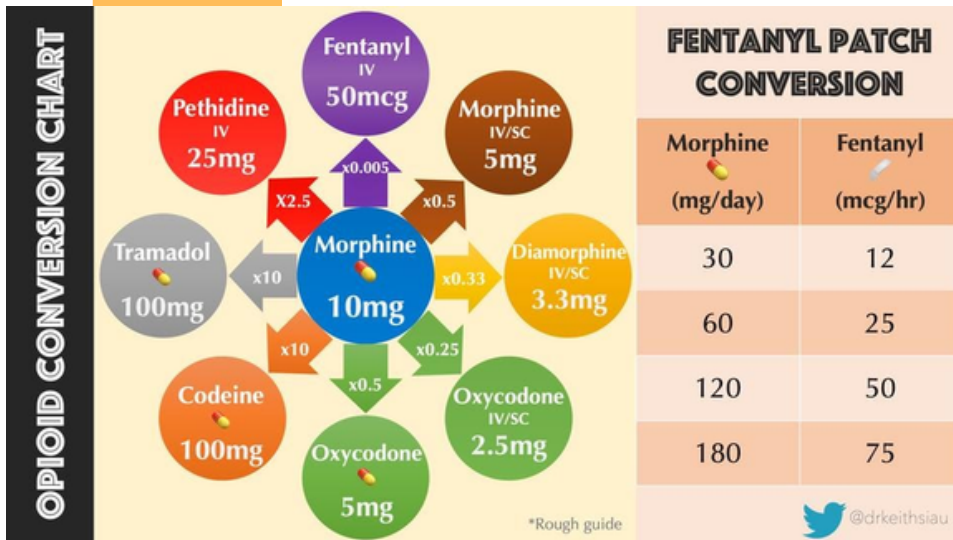
### Identification of the patient suitable for fluid withdrawal

- Signs of fluid intolerance**
  - High CVP
  - High EVLWI
  - B-lines +++
  - Venous stasis
- Absence of preload responsiveness**
  - PLR
  - Pulse pressure variations
- Hemodynamic stability**
  - No hypoperfusion
  - Minimal doses vasoactive agents



### Process of safe fluid withdrawal

- Method**
  - Diuretics
  - Ultrafiltration
- Dose (adapted to net fluid retrieval and tolerance)**
- Safety limits (value ± trajectories)**
  - MAP
  - Vasopressor dose
  - Cardiac output
  - CRT
  - Lactate



### #Opioid Conversion Chart - Morphine Equivalents...

- Morphine 10 mg x 0.5 = Morphine 5 mg IV
- Morphine 10 mg x 0.33 = Diamorphine 3.3 mg IV
- Morphine 10 mg x 0.25 = Oxycodone 2.5 mg IV
- Morphine 10 mg x 0.5 = Oxycodone 5 mg PO
- Morphine 10 mg x 10 = Codeine 100 mg PO
- Morphine 10 mg x 10 = Tramadol 100 mg PO
- Morphine 10 mg x 2.5 = Pethidine 25 mg IV
- Morphine 10 mg x 0.005 = Fentanyl 50 mcg IV



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Divine Life Hospital, Post Office Road, Adipur  
 Divine Kutch Life Care, 7 Arrows, Bhuj  
 Divine Hospital, Anjar

[www.divinelifehospital.com](http://www.divinelifehospital.com)  
[www.mediaidhealthcarellp.com](http://www.mediaidhealthcarellp.com)

[admin@divinelifeadipur.com](mailto:admin@divinelifeadipur.com)



Let us cherish the spirit of independence today and every day.  
Let us celebrate the diversity that defines us and embrace the  
unity that binds us.

Together, we can overcome any obstacle and continue to  
progress towards a brighter future.

**THANK YOU**

**Divine Life Hospital, Post office road, Adipur**