

Major Traumatic Haemorrhage Management in Queensland's Aeromedical Retrieval System & The ROUGE Study



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ROUGE
STUDY



**EaRly FibrinOgen Concentrate (FibC)
for Major TraUmatic Haemorrhage**

Retrieval Services Queensland

Coordinates & Manages the Queensland Health Aeromedical Network



YALURIN



CHQRS



babcock™



Retrieval Services Queensland

Retrieval Services Queensland (RSQ)


Aeromedical Assets

Horn Island




Babcock - R700


Townsville




RFDS



RFDS - Day 2




QGov Air - R521




LifeFlight - Challenger 604 Jet

Mackay




CQ Rescue - R401

Cairns




RFDS




QGov Air - R510

Mount Isa



RFDS



LifeFlight - R400

Charleville



RFDS




Roma




LifeFlight - R566

Bundaberg



RFDS



LifeFlight - R522

Brisbane Archerfield




QGov Air - R500

Toowoomba




LifeFlight - R588

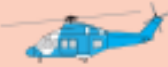
Rockhampton



RFDS



RFDS - Day 2



CapRescue - R300

Sunshine Coast



LifeFlight - R511


Brisbane Airport



RFDS



RFDS - Day 2

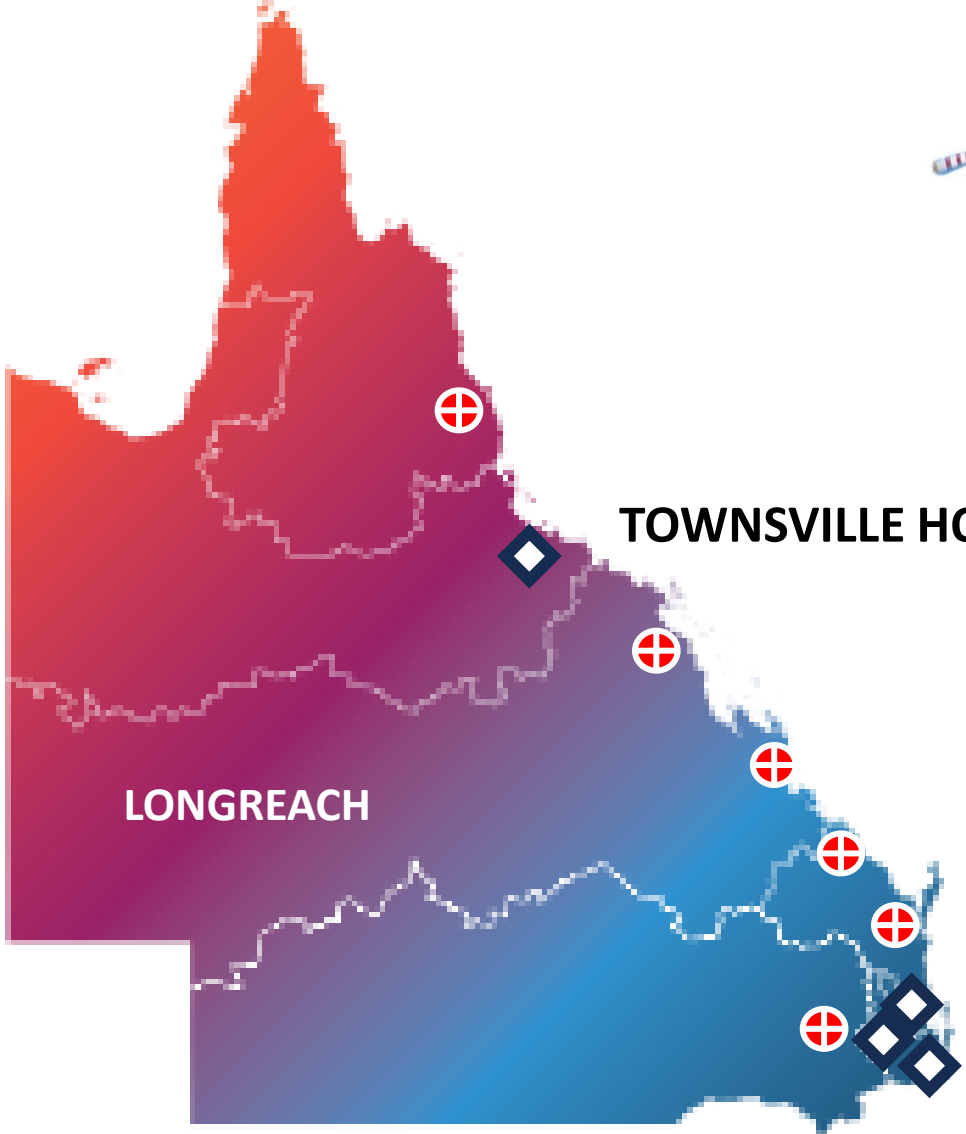


LifeFlight - R533



LifeFlight - Challenger 604 Jet

THURSDAY ISLAND



TOWNSVILLE HOSPITAL

LONGREACH

BRISBANE & GOLD COAST



- Major trauma is the leading cause death Queenslanders under 45
- Mortality 63% higher in remote & rural patients than major cities



Prehospital Traumatic Haemorrhage Management in Queensland



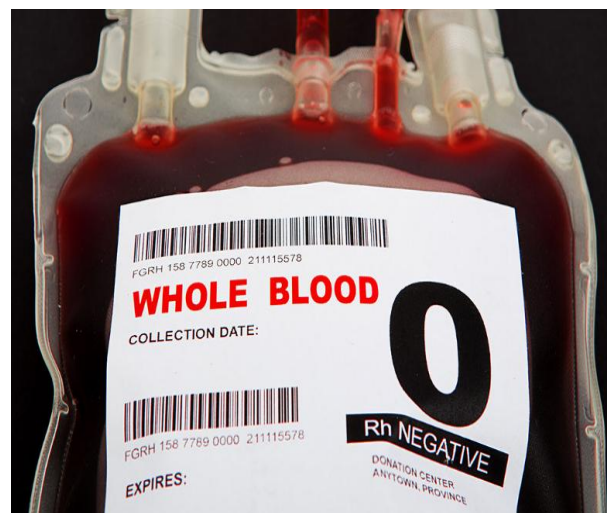


Prehospital Blood Product Resuscitation

Plasma

Whole Blood

Fibrinogen



Prehospital Air Medical Plasma (PAMPer) Trial

COMBAT Research Study

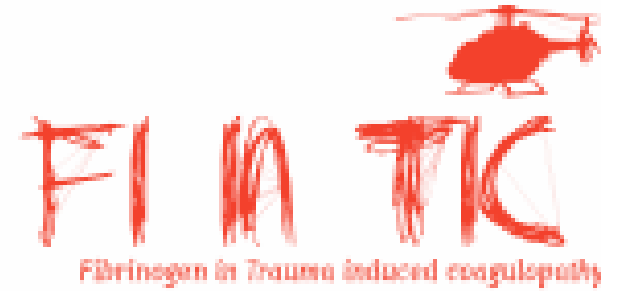
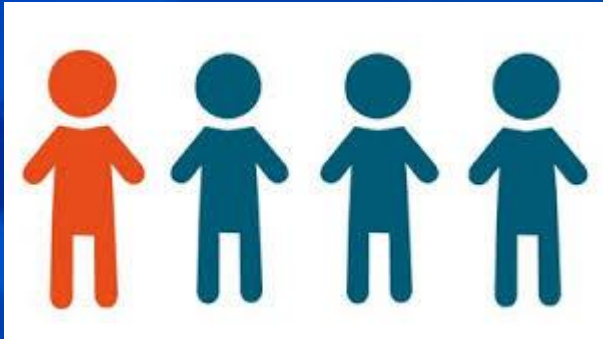
Control of Major Bleeding After Trauma
The benefits of giving plasma early to traumatically injured patients



CRYOSTAT-2
EARLY CRYOPRECIPITATE IN TRAUMA



Fibrinogen



Prehospital Identification of Patients with Low Fibrinogen



> *Emerg Med Australas.* 2020 Oct;32(5):786-792. doi: 10.1111/1742-6723.13510. Epub 2020 Apr 11.

Viscoelastic haemostatic assays in aeromedical transport

Comparison between point-of-care international normalised ratio, COAST, TICCS and truncated FibAT scores to rule in clinically significant hypofibrinogenaemia in the prehospital setting **FREE**

 Daniel Bodnar^{1, 2, 3}, Glenn Ryan⁴, Andrew Colen³, Gary Berkowitz³, Sue Williams⁵, Martin Wullschleger^{2, 6}, A

FIBAT SCORE

Age < 33

PH HR > 100
PH SBP < 100

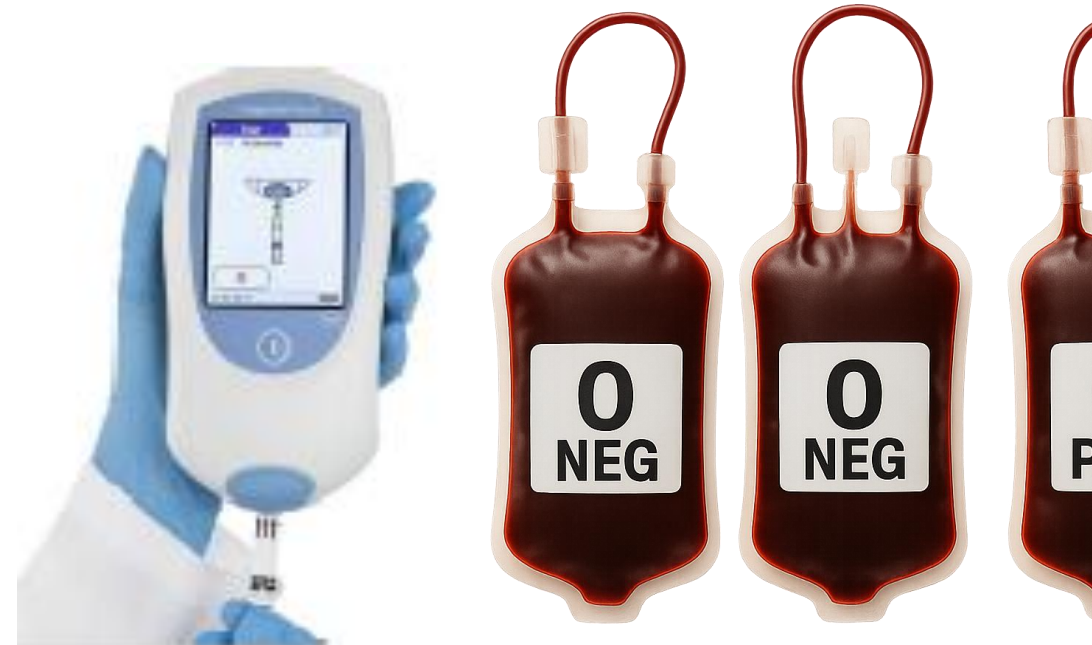
T < 36

FAST positive

Δ Hb > 2g/dL,

ED Hb < 12g/dL

ED lactate > 2.5mmol/L





Queensland Aeromedical Standard Operating Procedures

Fibrinogen Concentrate for Major Haemorrhage

RP4014

Criteria For FibC Administration in Major Traumatic Haemorrhage:

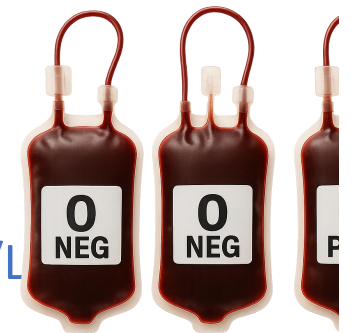
- FIBAT score ≥ 4
- $INR \geq 1.3$
- Transfusion > 2 units red blood cells

FIBAT SCORE

- Age < 33
- PH HR > 100
- PH SBP < 100
- T < 36
- FAST positive



- $\Delta Hb > 2g/dL$,
- ED Hb $< 12g/dL$
- ED lactate $> 2.5mmol/L$



ROUGE STUDY



EaRly FibrinOgen Concentrate for Major TraUmatic HaemorrhaGE

- Evaluate the effectiveness of early administration of FibC in the PHRM environment
- Determine whether the Queensland Aeromedical SOP indications for administration of FibC accurately identify patients with low fibrinogen.



ROUGE STUDY



Design

- Prospective, non-randomised, multi-site study within Queensland's state-wide aeromedical pre-hospital and retrieval service
 - Recruit 200 Adult Trauma patients who meet criteria for FibC administration according to the SOP for Traumatic Haemorrhage
 - Paired ROTEM & Clauss Fibrinogen samples pre-FibC and just prior to hospital arrival
- A retrospective comparator cohort



ROUGE STUDY



Outcomes

1. Improvement in hospital arrival fibrinogen levels by 0.5g/L
2. Reduction in transfusion requirements in the first 24 hours of hospital admission
3. Assess the pre-FibC fibrinogen level against the criteria for FibC administration as per the Queensland Aeromedical SOP:
 - a) FibAT
 - b) Point of care INR
 - c) Transfusion of >2Units PRBC



ROUGE STUDY



Thank you!



Royal Flying Doctor Service



Emergency Medicine Foundation



Motor Accident
Insurance Commission