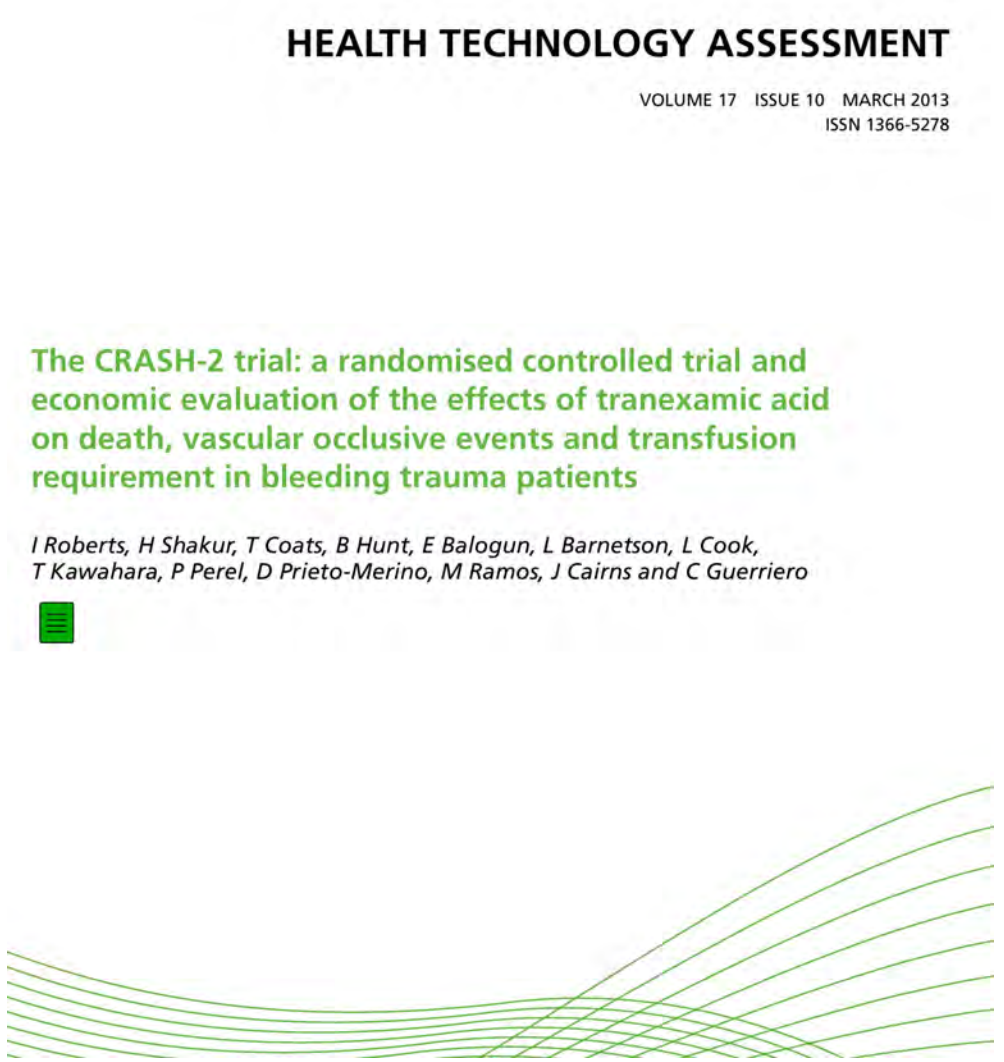
TXA - Con

Chrissy Guidry, DO

CRASH-2

- Crash-2: Large international randomized placebo controlled trial
  - TXA given to “adult trauma patients with, or at risk of, significant bleeding who were within 8 hours of injury”
  - Only 37% of patients in trial received TXA within an hour of injury
  - 20k patients
  - All-cause mortality decrease from 16% (non-TXA) to 14.5% (TXA), $p<0.05$
  - DVT similar between both groups, non-TXA and TXA



CRASH-2

- “Early administration of TXA safely reduced the risk of death in bleeding trauma patients and is highly cost-effective. Treatment beyond 3 hours of injury is unlikely to be effective. Future work [the Clinical Randomisation of an Antifibrinolytic in Significant Head injury-3 (CRASH-3) trial] will evaluate the effectiveness and safety of TXA in the treatments of isolated traumatic brain injury."

CRASH-2

- Weaknesses
  - Given to patients “suspected” of hemorrhage
  - Timing of administration so varied, hard to adapt to our practice based on these results
  - Did not include USA
  - Only 1/2 went to the OR
  - Basically a wash

MATTERs and MATTERs II

- MATTERs: military study
  - GSW or explosion battlefied trauma
  - TXA given within 1 hour of injury
  - All comers: More pRBC in TXA vs non-TXA group
  - Massive Transfused (10+ units): Similar transfusion requirements

  - 39% reduction in mortality in massively transfused patients
    - Greatest benefit mostly in massively transfused patients
    - Given with Cryo, area of greatest reduction in mortality

MATTERs and MATTERs II

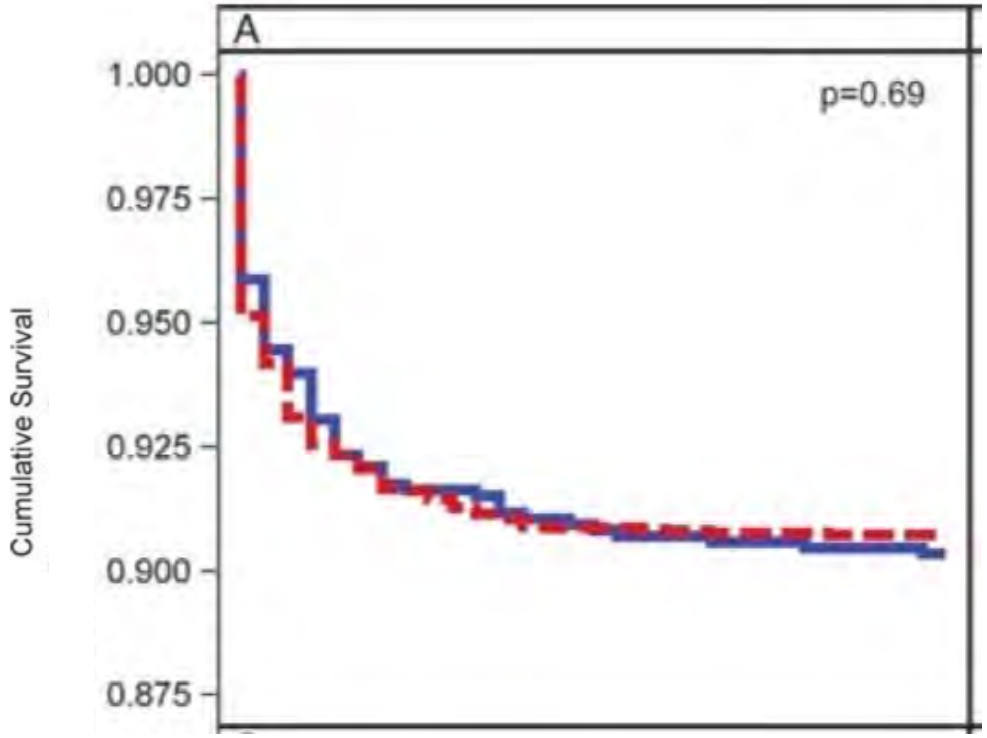
- Weakness:
  - Hard enough to get pRBC or blood pre-hospital, Cryo?!
  - Distinct patient population, healthy young, penetrating trauma
  - Follow up is difficult
    - Perhaps complications occurred but difficult to find documentation

J Trauma Acute Care Surg. 2017 Oct;83(4):579-588.

Military use of tranexamic acid in combat trauma: Does it matter?

Howard JT[1], Stockinger ZT, Cap AP, Bailey JA, Gross KR.

- Mortality was not different
- Massive Transfused patients show no difference in rRBC units given



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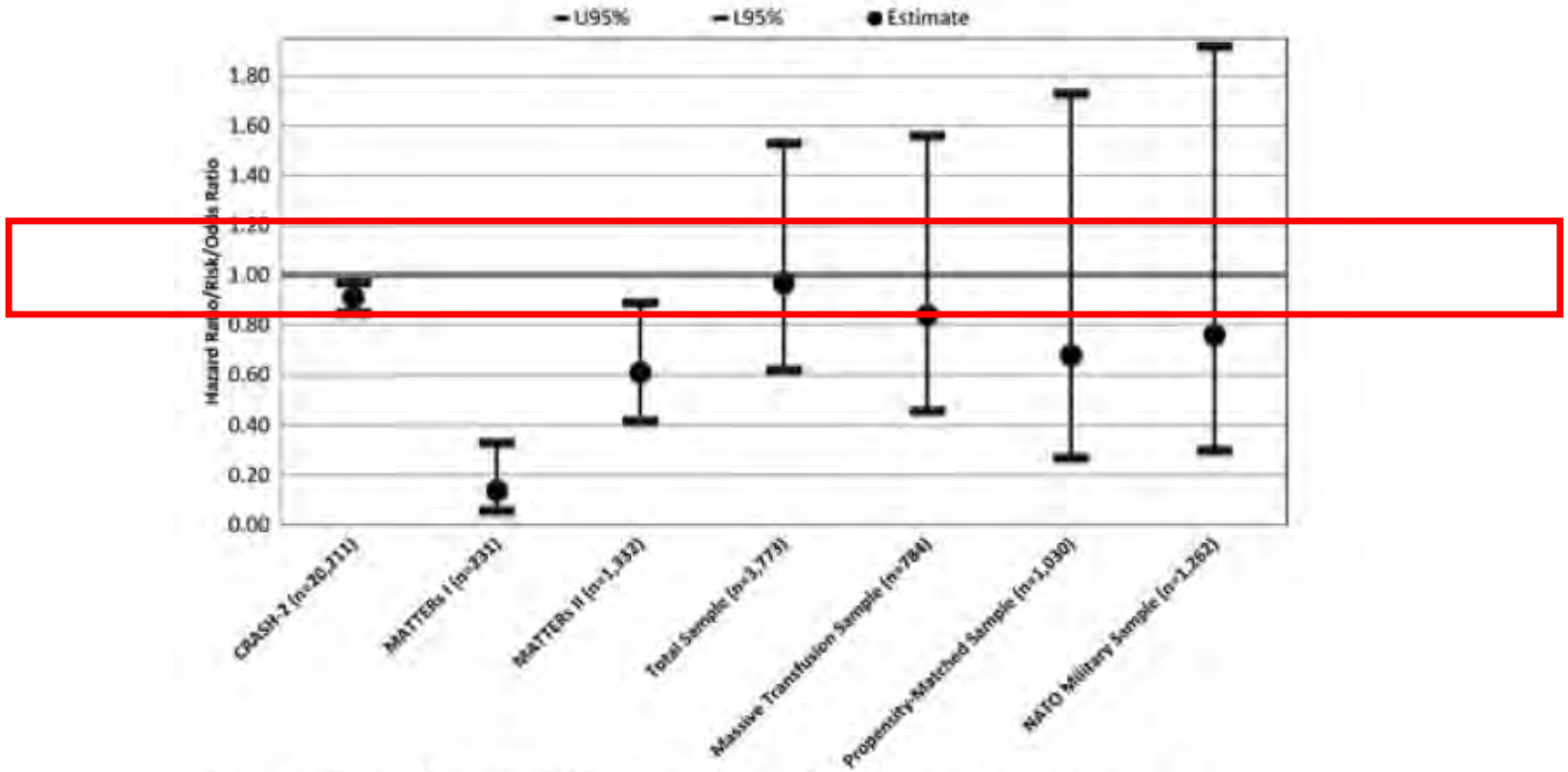

Figure 3. TXA mortality risk ratio estimates for total sample and each subsample compared with results from CRASH-2,[23] MATTERs I,[25] and II.[30]

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Variables	PE HR (95% CI)	*p*	DVT HR (95% CI)	*p*
Total sample, N = 3,766*				
TXA vs. no-TXA	2.82 (2.08–3.81)	<0.001	2.00 (1.21–3.30)	0.02
MT sample, n = 783**				
TXA vs. no-TXA	3.64 (1.96–6.78)	0.003		

J R Army Med Corps. 2018 Jul;164(3):170-171. doi: 10.1136/jramc-2017-000814. Epub 2017 Oct 9.

Civilian and military doctors' knowledge of tranexamic acid (TXA) use in major trauma: a comparison study.

Herron JBT[1], French R[2], Gilliam AD[2].

- Timing of TXA administration is important
- Survey:
  - 93% military doctors knew dose
  - 34% civilian
  - Optimal delivery time:
    - 91% military doctors
    - 24% civilian
- Caution! Education is important

Prehospital TXA

- Best Benefit (if any, in the right patient population): <1hr after injury
- ?Some benefit: <3hr after injury
- Possible harm: >3hr after injury

Thanks!