

MTQIP

Proposal for monitoring site performance for massive transfusions (MT)

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Current State

- “MTP” for patients 4+ PRBC in first 4 hours
- Patients who receive no FFP are not counted
- Extremely bad PRBC:FFP ratios skew results
- Some centers perform few, if any, MT’s
- MTQIP scoring tied to these results

Questions for our group

- What ratio is supported by the literature?
- Which patients should be included?
 - 4 units PRBC or some other number?
- What should be done with patients who receive no FFP and data is not included?
- How should we handle centers with few MT's (should there be a minimum of 5/year)?

Literature review

- No consensus on 1:1 versus 1:2
- Ratios >1:2 are associated with poorer outcomes
- MTP is poorly defined, in general, but most would focus on the first 4 hours rather than total blood products at 24 hours (outcomes improve with earlier correction)
 - PROPPR Trial JB Holcomb, et al. *JAMA* 2015, 313:471-482.
 - Rowell, et al. *J Trauma* 2011 Aug;71(2 Suppl 3):S353-7.

At what point should we trigger MTP?

- <4 units PRBC
- 4 units PRBC
- >4 units PRBC

Based on patterns in starting FFP for MTP at many centers

“Four-tier” proposal for reporting the PRBC:FFP ratio

Four tiers, of which the **top two receive full credit:**

Tier 1: Ratio 1-1.5

Tier 2: Ratio 1.6-2

Tier 3: Ratio 2.1-2.5

Tier 4: Ratio >2.5 (includes patients with no FFP!)

MTQIP would report the % of MT resuscitations in each category for each site. 100% points in top two tiers, 50% in tier 3, 0% in tier 4)

Example-not so perfect anymore!

- 20 MT's of which 5 were excluded for no FFP
- Previous overall ratio of 1.8
- New report (now includes all 20 patients):

Tier 1 Ratio 1-1.5	25%
Tier 2 Ratio 1.6-2	25%
Tier 3 Ratio 2.1-2.5	25%
Tier 4 Ratio >2.5	25% (includes no FFP)

= 50% compliant

$$\text{Points} = (\% \text{ Tiers 1+2}) * 0.1 + (\% \text{ Tier 3}) * 0.05 = 6.25$$

Example-outlier less of an issue

- 20 MT's of which two were extreme outliers
 - (2 patients with 6uPRBC:1FFP)
- Previous overall ratio of 2.25:1
- New report:

Tier 1 Ratio 1-1.5	25%
Tier 2 Ratio 1.6-2	40%
Tier 3 Ratio 2.1-2.5	25%
Tier 4 Ratio >2.5	10%

= 65 % compliant

$$\text{Points}=(\% \text{ Tiers } 1+2)*0.1 + (\% \text{ Tier } 3)*0.05 = 6.75$$

How will this change results?

Definition Units/4 hours	# Centers Less points	# Centers More points	# Centers No change	Mean Number Points PRE	Mean Number Points POST
4 PRBC	19	4	3	6.1	4.9
5 PRBC	17	6	3	6.0	5.3

Additional questions?

- At what number of MT's should a center be excluded for this metric?
 - Currently one center with no MT
- If no MT's for time period total points will not include those available for MT (10 less points in the denominator)

Questions?



TEXT MESSAGING

lol no im nt bsy im only drving