

Compliance with a Restrictive Blood Transfusion Strategy: Do We Actually Follow Scientific Evidence?

“Despite level-1 evidence for transfusing burn patients, practice patterns vary greatly”

Significance Statement

- Many burn centers use a restrictive blood transfusion strategy based on randomized controlled trials in burn patients (e.g. Transfusion Requirements in Burn Care Evaluation - TRIBE) and non-burn populations (e.g. Transfusion Requirements in Critical Care – TRICC),
- These trials have demonstrated no increased morbidity or mortality between restrictive and liberal transfusion approaches.
- The **purpose of this study** was to evaluate the adherence to a restrictive hemoglobin transfusion trigger strategy of 7 g/dL at a major burn centre in Canada

Data Source, Population and Results

- We identified 66 adult patients, who were administered 691 transfusions (TXns), admitted to the Ross Tilley Burn Centre in Toronto, Ontario Canada (regional ABA-verified burn centre) over a three-year period who received at least one unit of blood (RBC) outside of the operating room
- Up to one third of patients received a transfusion for a trigger greater than 7g/dL
- Regular hour transfusions (0800 to 1700, n=207) were given for a significantly higher HGb [7 (6.7-7.1), p< 0.001] with significantly more non-compliance with the restrictive strategy (50%, p< 0.001) compared to on-call transfusions
- Pre-TRIBE TXns (n=484) were given for significantly lower HGb than 172 post TRIBE TXns [6.8 (6.4-7) vs 6.9 (6.6-7.1) gm/dL respectively, p=0.001] and at significantly lower rate of non-compliance with the 7 gm/dL threshold than post TRIBE transfusions (28.1% vs 37.8%, respectively, p=0.02).
- On average, patients admitted to the RTBC are maintained at a hemoglobin above 7g/dL over the first 30 days of admission

Figure 1. Population identification

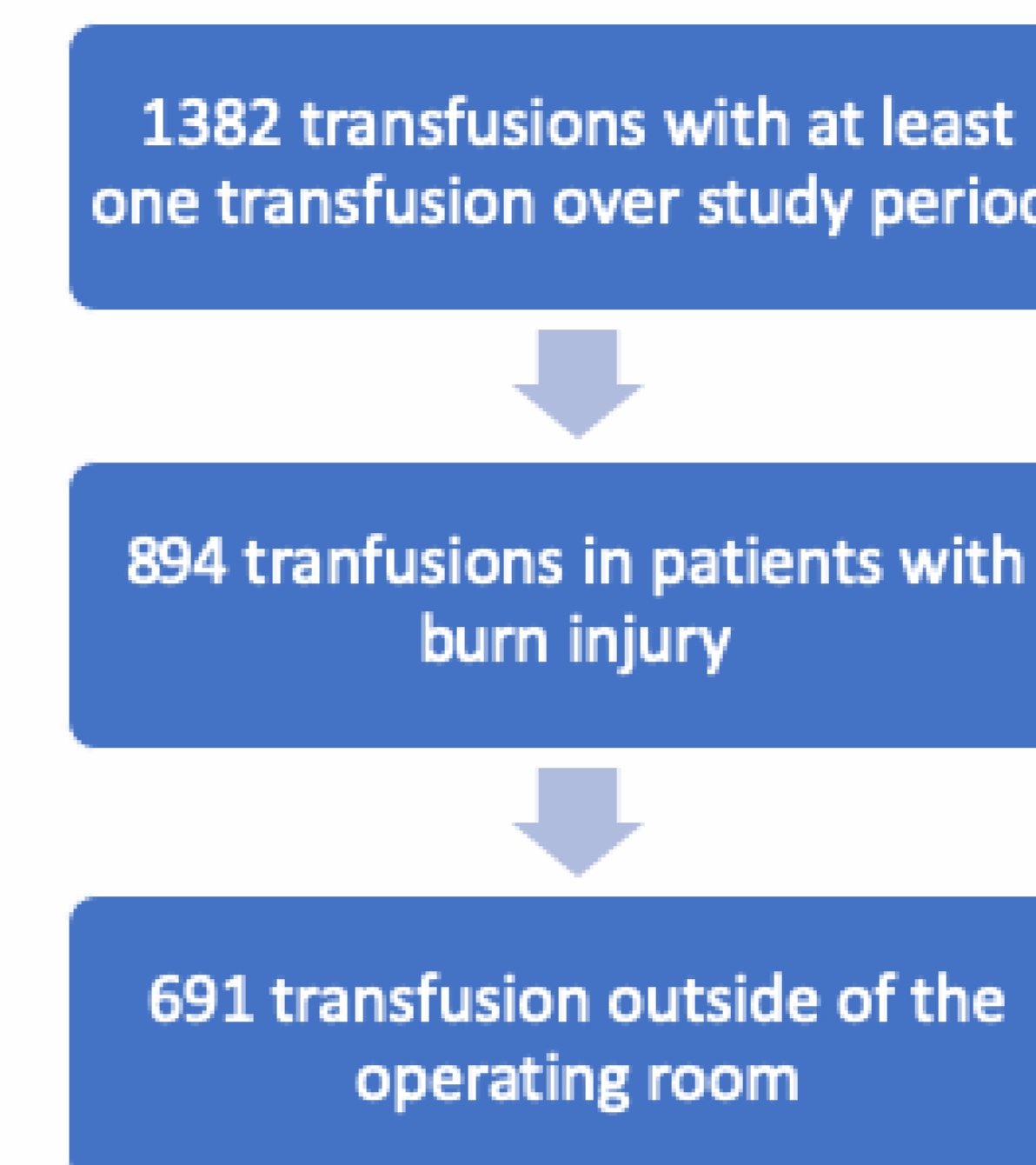
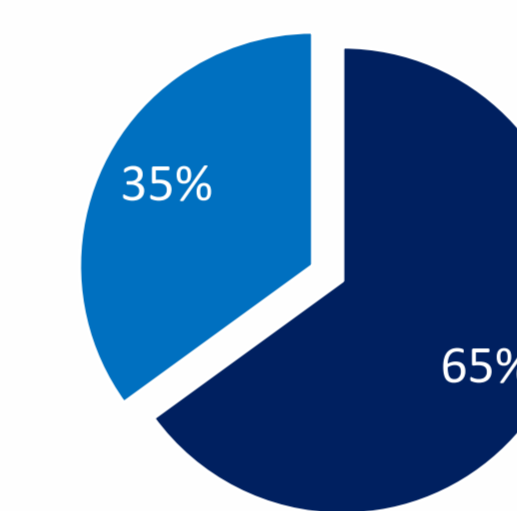


Table 1. Demographic information

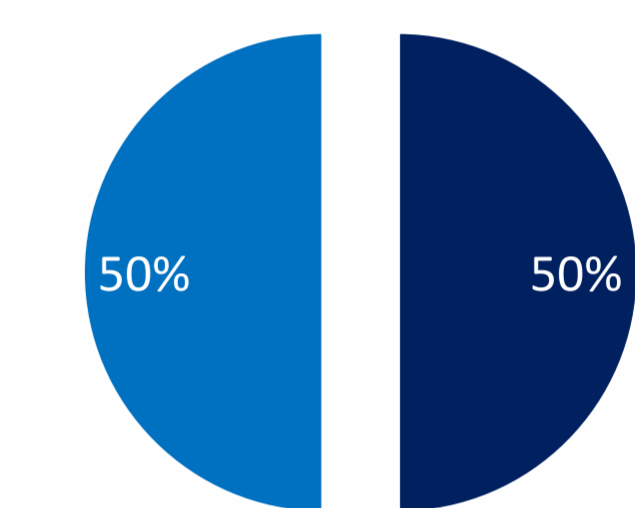
Question	Summarized Survey Data (n=66)
Age (years)	Mean 53.2
Male	46 (69%)
TBSA	Mean 28%
Full Thickness Burn	Mean 16%
Inhalation Injury	26 (39%)
Burn Type	
Flame	49 (67%)
Scald	8 (12%)
Chemical	2 (3%)
Other	8 (12%)
Length of Stay (days)	Mean 4
Mortality	10 (15%)

OVERALL COMPLIANCE WITH TRIBE TRANSFUSION TRIGGER



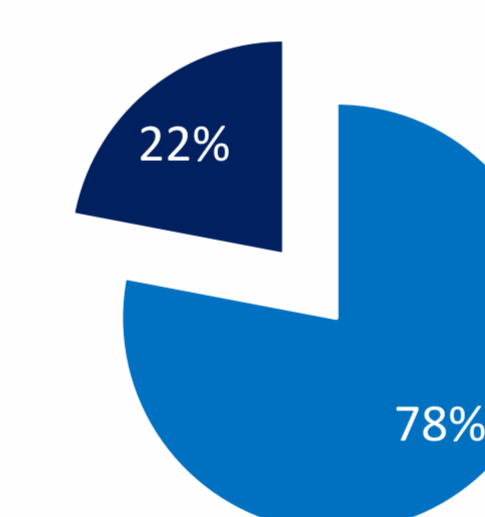
■ Compliance ■ Non-compliance

DAYTIME SHIFT COMPLIANCE WITH TRIBE RECOMMENDATIONS



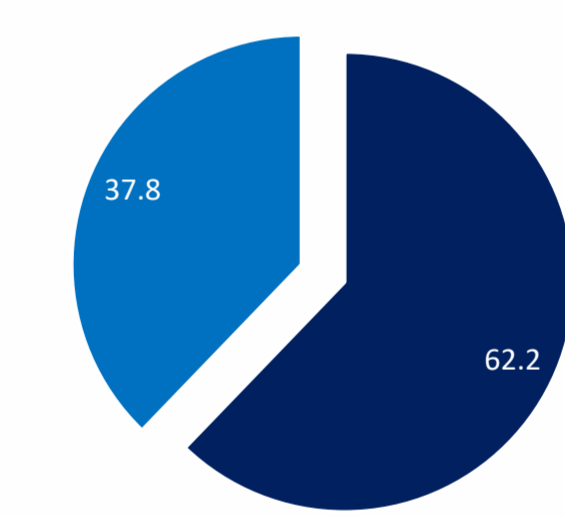
■ Compliance ■ Non-compliance

ON-CALL SHIFT COMPLIANCE WITH TRIBE RECOMMENDATIONS



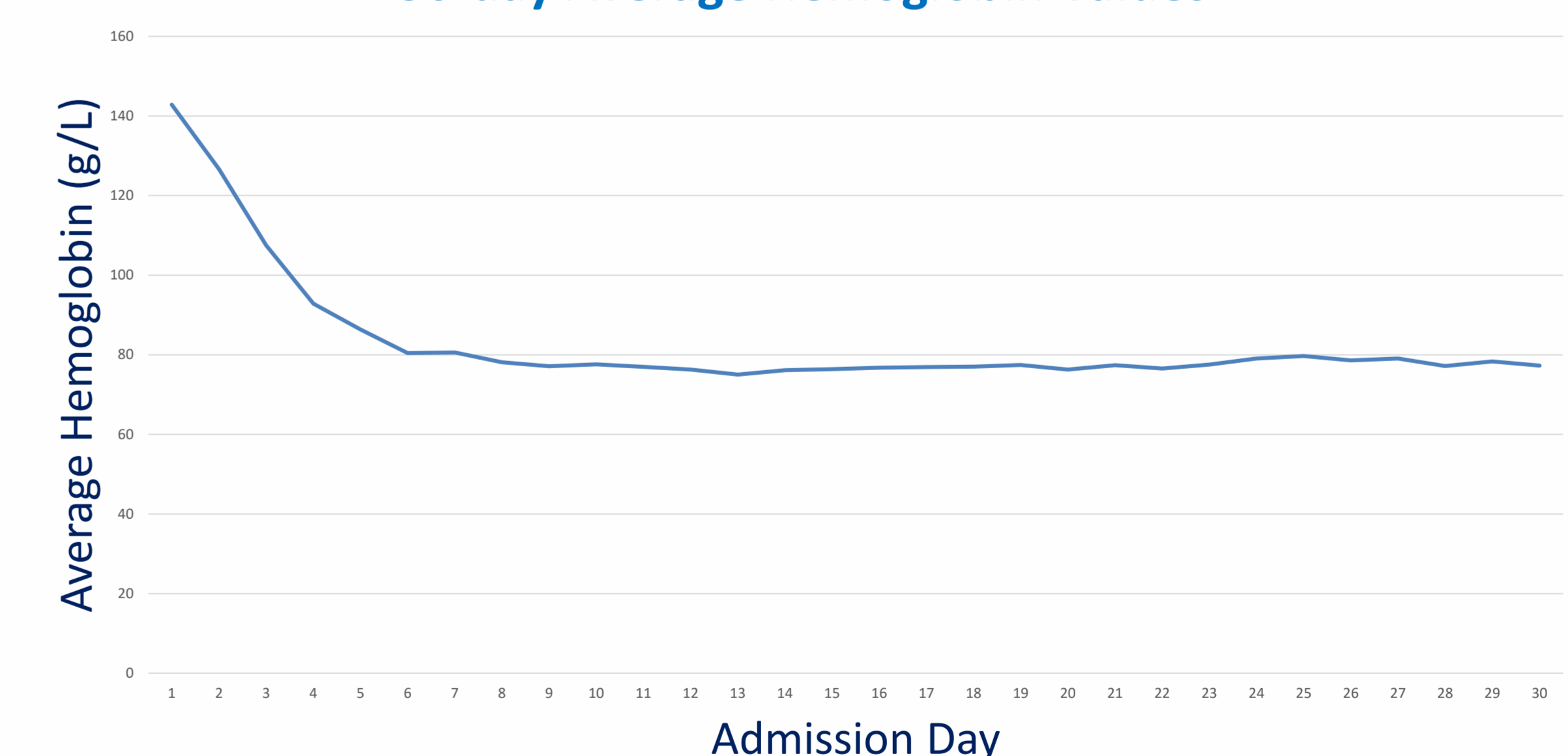
■ Compliance ■ Non-compliance

NON-COMPLIANCE RATE POST-TRIBE TRIAL PUBLICATION



■ Compliance ■ Non-compliance

30-day Average Hemoglobin Values



Lessons Learned

- These results identify important areas for improvement in adherence to our restrictive transfusion strategy at RTBC
- Further quality improvement initiatives must aim to identify reasons for practice variability

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