Supplemental Materials:

In-Group comparisons using Dunn Test for continuous non-parametric variables. In-group comparison is considered significant if p value<**0.025** to adjust for additional computations.

GCS:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.50 |  |  |  |
| 3:1 | 0.0001 | 0.44 | 0.43 |  |  |
| 4:1 | 0.0001 | 0.05 | 0.04 | 0.07 |  |
| 5:1 | 0.0001 | 0.0001 | 0.00001 | 0.0001 | 0.01 |

WB units:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.0001 |  |  |  |
| 3:1 | 0.007 | 0.0001 | 0.0001 |  |  |
| 4:1 | 0.49 | 0.0001 | 0.0001 | 0.03 |  |
| 5:1 | 0.013 | 0.0001 | 0.0001 | 0.0001 | 0.06 |

pRBC units:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | NA |  |  |  |  |
| 2:1 | NA | 0.0001 |  |  |  |
| 3:1 | NA | 0.0001 | 0.0001 |  |  |
| 4:1 | NA | 0.0001 | 0.0001 | 0.0001 |  |
| 5:1 | NA | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

FFP units:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.0001 |  |  |  |
| 3:1 | 0.0001 | 0.0001 | 0.0006 |  |  |
| 4:1 | 0.0001 | 0.0001 | 0.0001 | 0.001 |  |
| 5:1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

Platelet units

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0002 |  |  |  |  |
| 2:1 | 0.0001 | 0.05 |  |  |  |
| 3:1 | 0.0001 | 0.0009 | 0.04 |  |  |
| 4:1 | 0.0001 | 0.0001 | 0.0009 | 0.08 |  |
| 5:1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

pRBC:FFP ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | NA |  |  |  |  |
| 2:1 | NA | 0.0001 |  |  |  |
| 3:1 | NA | 0.0001 | 0.04 |  |  |
| 4:1 | NA | 0.0001 | 0.0001 | 0.004 |  |
| 5:1 | NA | 0.0001 | 0.07 | 0.23 | 0.0001 |

pRBC:PLT ratio

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | NA |  |  |  |  |
| 2:1 | NA | 0.0001 |  |  |  |
| 3:1 | NA | 0.0001 | 0.09 |  |  |
| 4:1 | NA | 0.0001 | 0.02 | 0.24 |  |
| 5:1 | NA | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

Sum of WB + pRBC units

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.45 |  |  |  |
| 3:1 | 0.0001 | 0.007 | 0.005 |  |  |
| 4:1 | 0.0001 | 0.0001 | 0.0001 | 0.003 |  |
| 5:1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |

ISS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.16 |  |  |  |
| 3:1 | 0.0001 | 0.50 | 0.17 |  |  |
| 4:1 | 0.0001 | 0.006 | 0.0002 | 0.006 |  |
| 5:1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.004 |

NISS

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | WB only | 1:1 | 2:1 | 3:1 | 4:1 |
| 1:1 | 0.0001 |  |  |  |  |
| 2:1 | 0.0001 | 0.32 |  |  |  |
| 3:1 | 0.0001 | 0.07 | 0.021 |  |  |
| 4:1 | 0.0001 | 0.06 | 0.018 | 0.40 |  |
| 5:1 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.004 |

Results of Logistic Regression Model:

|  |  |  |
| --- | --- | --- |
| Variable | OR | 95% CI |
| WB only | Ref |  |
| 1:1 | 0.74 | 0.28 – 1.95 |
| 2:1 | 1.61 | 0.69 – 3.74 |
| 3:1 | 1.37 | 0.56 – 3.37 |
| 4:1 | 2.85 | 1.19 – 6.81 |
| 5:1+ | 2.89 | 1.29 – 6.49 |
| Age 18-45 | 1.Ref |  |
| Age 46-65 | 1.24 | 0.81 – 1.91 |
| Age 66 and older | 3.12 | 1.77 – 5.51 |
| Female sex | Ref |  |
| Male sex | 1.45 | 0.92 – 2.31 |
| NISS | 1.72 | 0.71 – 4.16 |
| Shock Index>1 | 0.96 | 0.68 – 1.35 |
| Log time to surgery | 0.70 | 0.55 – 0.88 |
| Penetrating injury | 0.89 | 0.57 – 1.38 |
| GCS<8 | 3.16 | 2.19 – 4.56 |
| Total units (WB+pRBC+FFP) | 1.04 | 1.03 – 1.05 |
| pRBC:FFP Ratio 1:1 | 0.44 | 0.13 – 1.51 |
| pRBC:FFP Ratio 2:1 | 0.66 | 0.18 – 2.37 |
| pRBC:FFP Ratio 3:1 | 0.64 | 0.13 – 3.09 |
| Hemorrhage control surgery: Laparotomy | Ref |  |
| Thoracotomy | 6.29 | 3.87 – 10.22 |
| Sternotomy | 0.54 | 0.06 – 4.60 |
| Pelvic packing | 0.40 | 0.08 – 2.03 |
| Extremity procedures | 0.26 | 0.03 – 2.02 |
| Other | 0.10 | 0.01 – 0.81 |
| AIS abdomen ≥ 3 | 1.01 | 0.65 – 1.56 |
| AIS chest ≥ 3 | 1.47 | 0.89 – 2.44 |

Results of Cox Regression Model:

|  |  |  |
| --- | --- | --- |
| Variable | HR | 95% CI |
| WB only | Ref |  |
| 1:1 | 1.65 | 0.64 – 4.27 |
| 2:1 | 1.27 | 0.58 – 2.79 |
| 3:1 | 2.83 | 1.18 – 6.77 |
| 4:1 | 3.67 | 1.57 – 8.57 |
| 5:1+ | 1.97 | 0.92 – 4.22 |
| Age 18-45 | Ref |  |
| Age 46-65 | 0.75 | 0.52 – 1.08 |
| Age 66 and older | 1.12 | 0.67 – 1.86 |
| Female sex | Ref |  |
| Male sex | 1.24 | 0.83 – 1.84 |
| NISS | 0.89 | 0.38 – 2.11 |
| Shock Index>1 | 0.70 | 0.52 – 0.93 |
| Log time to surgery | 0.73 | 0.59 – 0.89 |
| Penetrating injury | 1.20 | 0.83 – 1.75 |
| GCS<8 | 0.73 | 0.52 – 1.03 |
| Total units (WB+pRBC+FFP) | 0.99 | 0.99 – 0.99 |
| pRBC:FFP Ratio 1:1 | 1.38 | 0.53 – 3.57 |
| pRBC:FFP Ratio 2:1 | 1.69 | 0.62 – 4.64 |
| pRBC:FFP Ratio 3:1 | 4.47 | 1.26 – 15.87 |
| Hemorrhage control surgery: Laparotomy | Ref |  |
| Thoracotomy | 1.71 | 1.20 – 2.45 |
| Sternotomy | 0.67 | 0.08 – 5.62 |
| Pelvic packing | 1.14 | 0.27 – 4.90 |
| Extremity procedures | Omitted |  |
| Other surgeries | 0.80 | 0.11 – 5.97 |
| AIS abdomen ≥ 3 | 1.24 | 0.24 – 1.86 |
| AIS chest ≥ 3 | 1.04 | 0.67 – 1.62 |

Results of multivariable logistic regression analysis with different ratio groups used as reference group, providing adjusted in-group estimates of OR. Analyses were adjusted for demographics (age, gender), injury severity and pattern (injury severity score, penetrating trauma), time to hemorrhage control surgery, hemodynamic status on presentation defined by shock index, Glasgow Coma Scale (GCS) on presentation, total units of transfusion administered, and type of hemorrhage control surgery performed

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Adjusted Odds Ratios Compared to Reference Group | | | | |
| Reference Group |  | 1:1 | 2:1 | 3:1 | 4:1 | 5:1 |
| WB | 0.74 (0.28 – 1.95) | 1.61 (0.69 – 3.74) | 1.37 (0.56 – 3.37) | **2.85 (1.19 – 6.81)** | **2.89 (1.29 – 6.49)** |
| 1:1 |  | 2.20 (0.93 – 5.18) | 1.87 (0.74 – 4.69) | **3.87 (1.60 – 9.40)** | **3.94 (1.75 – 8.88)** |
| 2:1 |  |  | 0.85 (0.41 – 1.75) | 1.76 (0.90 – 3.46) | **1.79 (1.03 – 3.21)** |
| 3:1 |  |  |  | 2.08 (0.98 – 4.41) | **2.11 (1.11 – 3.99)** |
| 4:1 |  |  |  |  | 1.02 (0.57 – 1.81) |