**Table S1**. Intention-to-Treat population. Demographics by IMPACT Extended Model Sum Score (IEMSS).

**Low Sum Score Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| Age (years) | Mean | 30.5 | 29.8 | 30.2 |
| Median  | 28.0 | 28.5 | 28.0 |
| SD  | 9.8 | 10.1 | 9.9 |
| Age (n(%))\* | < 45 years | 50 (87.7) | 51 (91.1) | 101 (89.4) |
| >= 45 years | 7 (12.3) | 5 (8.9) | 12 (10.6) |
| Sex (n(%)) | Male  | 47 (82.5) | 50 (89.3) | 97 (85.8) |
| Female | 10 (17.5) | 6 (10.7) | 16 (14.2) |

**Medium Sum Score Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| Age (years) | Mean | 41.1 | 39.9 | 40.4 |
| Median  | 39.0 | 37.5 | 38.5 |
| SD  | 13.4 | 13.5 | 13.4 |
| Age (n(%))\* | < 45 years | 34 (60.7) | 40 (62.5) | 74 (61.7) |
| >= 45 years | 22 (39.3) | 24 (37.5) | 46 (38.3) |
| Sex (n(%)) | Male  | 49 (87.5) | 55 (85.9) | 104 (86.7) |
| Female | 7 (12.5) | 9 (14.1) | 16 (13.3) |

**High Sum Score Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| Age (years) | Mean | 39.7 | 39.1 | 39.5 |
| Median  | 41.0 | 37.0 | 37.0 |
| SD  | 18.2 | 17.4 | 17.8 |
| Age (n(%))\* | < 45 years | 47 (57.3) | 40 (55.6) | 87 (56.5) |
| >= 45 years | 35 (42.7) | 32 (44.4) | 67 (43.5) |
| Sex (n(%)) | Male  | 61 (74.4) | 59 (81.9) | 120 (77.9) |
| Female | 21 (25.6) | 13 (18.1) | 34 (22.1) |

\* Field used to calculate IEMSS tertiles

**Table S2**. Intention-to-Treat population. Baseline Characteristics by IMPACT Extended Model Sum Score (IEMSS) tertile.

**Low Sum Score Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| \*GCS Sum score (n(%)) | 3-8 | 26 (45.6) | 29 (51.8) | 55 (48.7) |
| 9-12 | 21 (36.8) | 13 (23.2) | 34 (30.1) |
| 13-15 | 10 (17.5) | 14 (25.0) | 24 (21.2) |
| \*Pupillary response | 2 reacting | 54 (94.7) | 51 (91.1) | 105 (92.9) |
| 1 reacting | 2 (3.5) | 4 (7.1) | 6 ( 5.3) |
| 0 reacting | 1 (1.8) | 1 (1.8) | 2 ( 1.8) |
| \*CT Marshall Score | I | 2 (3.5) | 0 | 2 ( 1.8) |
| II | 13 (22.8) | 11 (19.6) | 24 (21.2) |
| III | 7 (12.3) | 9 (16.1) | 16 (14.2) |
| IV | 5 (8.8) | 5 ( 8.9) | 10 ( 8.8) |
| V | 18 (31.6) | 20 (35.7) | 38 (33.6) |
| VI | 12 (21.1) | 11 (19.6) | 23 (20.4) |

**Medium Risk Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| \*GCS Sum score (n(%)) | 3-8 | 25 (44.6) | 34 (53.1) | 59 (49.2) |
| 9-12 | 18 (32.1) | 16 (25.0) | 34 (28.3) |
| 13-15 | 13 (23.2) | 14 (21.9) | 27 (22.5) |
| \*Pupillary response | 2 reacting | 47 (83.9) | 56 (87.5) | 103 (85.8) |
| 1 reacting | 7 (12.5) | 7 (10.9) | 14 (11.7) |
| 0 reacting | 2 ( 3.6) | 1 ( 1.6) | 3 ( 2.5) |
| \*CT Marshall Score | I |  |  |  |
| II | 7 (12.5) | 10 (15.6) | 17 (14.2) |
| III | 12 (21.4) | 14 (21.9) | 26 (21.7) |
| IV | 8 (14.3) | 5 ( 7.8) | 13 (10.8) |
| V | 13 (23.2) | 17 (26.6) | 30 (25.0) |
| VI | 16 (28.6) | 18 (28.1) | 34 (28.3) |

**High Risk Tertile**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter(s)**  | **Categories** | **Allocated****Hypothermia** | **Allocated****Control** | **Overall** |
| \*GCS Sum score (n(%)) | 3-8 | 74 (90.2) | 66 (91.7) | 140 (90.9) |
| 9-12 | 6 ( 7.3) | 5 ( 6.9) | 11 ( 7.1) |
| 13-15 | 2 ( 2.4) | 1 ( 1.4) | 3 ( 1.9) |
| \*Pupillary response | 2 reacting | 43 (52.4) | 36 (50.0) | 79 (51.3) |
| 1 reacting | 16 (19.5) | 14 (19.4) | 30 (19.5) |
| 0 reacting | 23 (28.0) | 22 (30.6) | 45 (29.2) |
| \*CT Marshall Score | I |  |  |  |
| II | 11 (13.4) | 15 (20.8) | 26 (16.9) |
| III | 20 (24.4) | 19 (26.4) | 39 (25.3) |
| IV | 8 ( 9.8) | 5 ( 6.9) | 13 ( 8.4) |
| V | 15 (18.3) | 15 (20.8) | 30 (19.5) |
| VI | 28 (34.1) | 18 (25.0) | 46 (29.9) |

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\* Fields used to calculate IEMSS tertiles

Table S3. Intracranial Pathology by IEMSS Tertile

 ITT Population

*Low Risk Mid Risk High Risk*

TH Control TH Control TH Control

EDH 19 (33.3) 25 (44.6) 6 (10.7) 14 (21.9) 12 (14.6) 7 ( 9.7)

ASDH 11 (19.3) 12 (21.4) 15 (26.8) 17 (26.6) 15 (18.3) 22 (30.6)

ASDH (MS) 14 (24.6) 14 (25.0) 21 (37.5) 20 (31.3) 31 (37.8) 22 (30.6)

DAI 10 (17.5) 8 (14.3) 15 (26.8) 13 (20.3) 29 (35.4) 21 (29.2)

tSAH 24 (42.1) 22 (39.3) 41 (73.2) 44 (68.8) 65 (79.3) 57 (79.2)

Contusion 23 (40.4) 24 (42.9) 30 (53.6) 25 (39.1) 31 (37.8) 29 (40.3)

Contusion 21 (36.8) 24 (42.9) 2 (39.3) 26 (40.6) 33 (40.2) 21 (29.2)

(MS)

 PP Population

*Low Risk Mid Risk High Risk*

TH Control TH Control TH Control

EDH 16 (50.0) 19 (46.3) 5 (12.5) 9 (22.0) 7 (13.2) 5 (10.0)

ASDH 7 (21.9) 9 (22.0) 9 (22.5) 12 (29.3) 10 (18.9) 14 (28.0)

ASDH (MS) 3 (9.4) 9 (22.0) 17 (42.5) 16 (39.0) 23 (43.4) 19 (38.0)

DAI 7 (21.9) 5 (12.2) 14 (35.0) 6 (14.6) 17 (32.1) 12 (24.0)

tSAH 15 (46.9) 16 (39.0) 29 (72.5) 29 (70.7) 43 (81.1) 41 (82.0)

Contusion 15 (46.9) 16 (39.0) 19 (47.5) 16 (39.0) 19 (35.8) 18 (36.0)

Contusion 9 (28.1) 17 (41.5) 17 (42.5) 17 (41.5) 25 (47.2) 17 (34.0)

(MS)

Table S4. Intracranial Neurosurgery by IEMSS Tertile before Randomization.

 ITT Population

*Low Risk Mid Risk High Risk*

TH Control TH Control TH Control

EVD 11 (19.3) 5 ( 8.9) 6 (10.7) 8 (12.5) 18 (22.0) 10 (13.9)

ASDH evacuated 6 (10.5) 8 (14.3) 11 (19.6) 12 (18.8) 16 (19.5) 13 (18.1)

Contusionectomy 3 ( 5.3) 3 ( 5.4) 0 2 ( 3.1) 6 ( 7.3) 3 ( 4.2)

EDH evacuated 12 (21.1) 16 (28.6) 3 ( 5.4) 5 ( 7.8) 4 ( 4.9) 5 ( 6.9)

ICH evacuated 1 ( 1.8) 3 ( 4.7) 0 3 ( 5.4) 3 (3.7) 1 ( 1.4)

Decompressive 9 12 1 0 0 2

Craniectomy

PP Population

*Low Risk Mid Risk High Risk*

TH Control TH Control TH Control

EVD 5 (15.6) 4 ( 9.8) 6 (15.0) 4 ( 9.8) 12 (22.6) 7 (14.0)

ASDH evacuated 3 ( 9.4) 5 (12.2) 9 (22.5) 8 (19.5) 13 (24.5) 13 (26.0)

Contusionectomy 2 ( 6.3) 2 ( 4.9) 0 2 (4.9) 5 (9.4) 3 (6.0)

EDH evacuated 11 (34.4) 12 (29.3) 3 (7.5) 4 (9.8) 2 (3.8) 3 (6.0)

ICH evacuated 0 2 (4.9) 1 (2.5) 2 (4.9) 2 (3.8) 1 (2.0)

Decompressive 0 0 0 0 0 0

Craniectomy

**Supplemental Figure Legends**

**Figure S1.** Score Chart for 6 Month Outcome after TBI

Eurotherm3235Trial used the sum score extended model. Hypoxia & hypotension were set to “0”.

Steyerberg EW et al., PLoS Med 5(8): e165. doi:10.1371/journal.pmed.0050165

**Figure S2**. Survival Curve for Death between randomisation and 6 months by Intervention and IEMSS

tertile for the Per-Protocol Population