Additional Online Material

Feasibility of a Cluster Randomised Trial on the Effect of Trauma Life Support Training: A Pilot Study in India

Table of Contents

[Table of Contents 1](#_Toc204229693)

[Statistical methods for additional analyses according to the original protocol 2](#_Toc204229694)

[Estimated intracluster correlation coefficient 2](#_Toc204229695)

[Results with 95% confidence intervals (CI) 3](#_Toc204229696)

[Additional Online Table 1. Outcomes in all patients during the entire study period, by treatment arm (95% CI) 3](#_Toc204229697)

[Additional Online Table 2. Outcomes in all patients before training, by treatment arm (95% CI) 7](#_Toc204229698)

[Additional Online Table 3. Outcomes in all patients after training, by treatment arm (95% CI) 11](#_Toc204229699)

[Additional Online Table 4. Absolute change from baseline for all outcomes, comparing the period after training with the period before training, by treatment arms (95% CI) 15](#_Toc204229700)

[Additional Online Table 5. Relative change from baseline for all outcomes, comparing the period after training with the period before training, by treatment arms (95% CI) 19](#_Toc204229701)

[Additional Online Table 6. Absolute and relative differences in outcomes after training, comparing standard care with ATLS (95% CI) 23](#_Toc204229702)

[Additional Online Table 7. Absolute and relative differences in outcomes after training, comparing standard care with PTC (95% CI) 27](#_Toc204229703)

[Additional Online Table 8. Absolute and relative differences in outcomes after training, comparing ATLS with PTC (95% CI) 31](#_Toc204229704)

[Additional Online Table 9. Absolute and relative differences in changes from baseline for all outcomes, comparing standard care with ATLS (95% CI) 35](#_Toc204229705)

[Additional Online Table 10. Absolute and relative differences in changes from baseline for all outcomes, comparing standard care with PTC (95% CI) 39](#_Toc204229706)

[Additional Online Table 11. Absolute and relative differences in changes from baseline for all outcomes, comparing ATLS with PTC (95% CI) 43](#_Toc204229707)

# Statistical methods for additional analyses according to the original protocol

We compared patients outcomes in all possible combinations of trial arms. In each combination we compared both differences in final values and differences in change from baseline. For the intervention arms the change from baseline was calculated as the difference between the one month period of data collection before the training was undertaken and the three month period after the training. For the control arm the data collection period was four months and the difference from baseline was calculated as the difference between the first one month and the following three months.

Within each combination of trial arms we had planned to conduct subgroup analyses of men, women, blunt multisystem trauma, penetrating trauma, shock (systolic blood pressure ≤ 90 mmHg), severe traumatic brain injury, and elderly (≥65 years). These subgroups were however too small to allow for meaningful analyses, and are therefore reported descriptively. We calculated both absolute and relative differences for each comparison, along with 75, 85, and 95% confidence intervals. We used an empirical bootstrap procedure with 1000 draws to estimate these confidence intervals.

# Estimated intracluster correlation coefficient

We used an empty generalised linear mixed model to estimate the intracluster correlation coefficient for all cause 30-day and in-hospital mortality.The intracluster correlation coefficients was 0.022 for 30-day mortality and 0.017 for in-hospital mortality.

# Results with 95% confidence intervals (CI)

## Additional Online Table 1. Outcomes in all patients during the entire study period, by treatment arm (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | ATLS, N = 44 | PTC, N = 130 | Standard care, N = 202 |
| --- | --- | --- | --- |
| **30 day mortality** |  |  |  |
| Yes | 2.5 (0, 15) | 7.3 (2.9, 13) | 13 (7.49, 17) |
| No | 98 (85, 100) | 93 (86, 96) | 87 (81, 91) |
| Missing | 4 (1, 9) | 20 (12, 29) | 29 (19, 40) |
| **24 hour mortality** |  |  |  |
| Yes |  |  | 0.5 (0, 1.6) |
| No |  |  | 99 (98, 99) |
| Missing | 4 (1, 9) | 13 (6, 20) | 7 (3, 12) |
| **In-hospital mortality** |  |  |  |
| Yes | 2.3 (0, 13.39) | 5.4 (2.1, 10) | 11 (6.67, 15) |
| No | 98 (86, 100) | 95 (90, 98) | 90 (85, 93) |
| Missing | 1 (0, 3) |  | 2 (0, 5) |
| **Self-ambulatory at discharge** |  |  |  |
| Yes | 97 (81, 100) | 97 (91, 99) | 98 (93.35, 99) |
| No | 2.8 (0, 17.91) | 3.4 (0.9, 8.11) | 2.3 (0.6, 6) |
| Missing | 8 (3, 13.73) | 11 (5, 17) | 26 (16, 35) |
| **Return to work** |  |  |  |
| Yes | 64 (40.57, 80) | 72 (62, 80) | 51 (42, 59) |
| No | 36 (18, 57) | 28 (18, 36) | 49 (39, 56) |
| Missing | 19 (11, 27) | 31 (21, 42) | 68 (53, 82) |
| **Pulmonary complication** |  |  |  |
| Yes |  | 0.9 (0, 3.5) |  |
| No |  | 99 (95, 100) |  |
| Missing | 11 (5, 18) | 21 (13, 30) | 35 (24, 46) |
| **Septic complication** |  |  |  |
| Yes |  | 3.7 (0.9, 8.3) | 1.2 (0, 3.7) |
| No |  | 96 (90, 98) | 99 (94, 99) |
| Missing | 11 (5, 18) | 22 (13, 31) | 34 (23, 45) |
| **Renal failure** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 10 (4, 16) | 21 (13, 30) | 33 (21.57, 43) |
| **Coagulopathy** |  |  |  |
| Yes | 3 (0, 16) |  |  |
| No | 97 (84, 100) |  |  |
| Missing | 11 (5, 18) | 22 (14, 32) | 33 (21.57, 43) |
| **Need for reexploration or resurgery** |  |  |  |
| Yes |  | 1.8 (0, 5.6) | 1.9 (0, 5.16) |
| No |  | 98 (93, 99) | 98 (94, 99) |
| Missing | 10 (5, 16.51) | 20 (12, 28) | 43 (31, 55) |
| **Failure of conservative management** |  |  |  |
| No | 94 (79, 100) | 98 (92, 99) | 99 (95, 99) |
| Yes | 6.5 (0, 20) | 1.9 (0, 6.09) | 1.3 (0, 4.1) |
| Missing | 13 (7, 20) | 23 (14, 32) | 46 (33, 58) |
| **EQ-5D mobility at discharge** |  |  |  |
| I have no problems in walking | 80 (58, 91) | 88 (77, 93) | 62 (54, 69) |
| I have some problems in walking | 10 (2.8, 27.13) | 7.9 (3.66, 15) | 18 (11, 23) |
| I am confined to bed | 10 (2.8, 25) | 4 (1.1, 9.95) | 20 (13, 26) |
| Missing | 14 (7.11, 22) | 29 (19, 39) | 45 (33, 57) |
| **EQ-5D self-care at discharge** |  |  |  |
| I have no problems with self-care | 63 (42, 78.24) | 83 (74, 88) | 52 (43, 59) |
| I have some problems bathing or dressing myself | 13 (3.1, 27.28) | 9.9 (4.95, 16) | 27 (19.37, 33) |
| I am unable to bathe or dress myself | 23 (8.05, 39) | 6.9 (3, 13) | 21 (14, 27) |
| Missing | 14 (7.11, 22) | 29 (19, 39) | 45 (33, 57) |
| **EQ-5D usual activities at discharge** |  |  |  |
| I have no problems in performing my usual activities | 57 (36.2, 74) | 81 (72, 87) | 48 (39, 54.34) |
| I have some problems in performing my usual activities | 23 (8.3, 40) | 11 (5.13, 17) | 36 (29, 43) |
| I am unable to perform my usual activities | 20 (6.75, 37) | 7.9 (3.7, 14.71) | 16 (9.88, 21) |
| Missing | 14 (7.11, 22) | 29 (19, 39) | 45 (33, 57) |
| **EQ-5D pain/discomfort at discharge** |  |  |  |
| I have no pain or discomfort | 43 (26, 61.31) | 52 (41, 60) | 27 (20, 33) |
| I have moderate pain or discomfort | 57 (36.59, 72) | 44 (34, 53.16) | 36 (28, 43) |
| I have extreme pain or discomfort |  | 4 (1, 9.38) | 36 (27.04, 43) |
| Missing | 14 (7.11, 22) | 29 (19, 39) | 45 (33, 57) |
| **EQ-5D anxiety/depression at discharge** |  |  |  |
| I am not anxious or depressed | 70 (50, 85) | 86 (77.13, 91) | 89 (83, 93) |
| I am moderately anxious or depressed | 30 (13, 47) | 13 (6.92, 19) | 9.6 (5.84, 15) |
| I am extremely anxious or depressed |  | 1 (0, 4.37) | 1.9 (0, 4.7) |
| Missing | 14 (7.11, 22) | 29 (19, 39) | 45 (33, 57) |
| **EQ-5D mobility at 30 day follow-up** |  |  |  |
| I have no problems in walking | 77 (55.4, 89) | 95 (88, 97) | 74 (65, 80) |
| I have some problems in walking | 19 (6.39, 38) | 3 (0.9, 8.4) | 16 (9.25, 22) |
| I am confined to bed | 3.8 (0, 23.3) | 2 (0, 6.18) | 9.8 (5.6, 16) |
| Missing | 18 (10, 26) | 29 (19, 39) | 69 (54, 83) |
| **EQ-5D self-care at 30 day follow-up** |  |  |  |
| I have no problems with self-care | 81 (58, 92.79) | 94 (85.78, 97) | 77 (68, 82) |
| I have some problems bathing or dressing myself | 12 (0, 29.99) | 2 (0, 7.22) | 13 (7.2, 19) |
| I am unable to bathe or dress myself | 7.7 (0, 24.36) | 4 (1, 9.3) | 9.8 (5.7, 16) |
| Missing | 18 (10, 26) | 29 (19, 39) | 69 (54, 83) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |  |
| I have no problems in performing my usual activities | 81 (60, 93) | 93 (85, 96) | 79 (70, 85) |
| I have some problems in performing my usual activities | 12 (3.4, 31.69) | 3 (0.9, 8.5) | 14 (8.4, 20) |
| I am unable to perform my usual activities | 7.7 (0, 24.36) | 4 (1, 9.3) | 7.5 (3.8, 14) |
| Missing | 18 (10, 26) | 29 (19, 39) | 69 (54, 83) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |  |
| I have no pain or discomfort | 77 (57, 91) | 82 (73, 88) | 78 (69, 84) |
| I have moderate pain or discomfort | 23 (7.7, 42) | 17 (9.3, 24) | 20 (13, 26) |
| I have extreme pain or discomfort |  | 1 (0, 4.3) | 1.5 (0, 5.1) |
| Missing | 18 (10, 26) | 29 (19, 39) | 69 (54, 83) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |  |
| I am not anxious or depressed | 88 (65, 96) | 92 (84, 95) | 95 (88, 97) |
| I am moderately anxious or depressed | 12 (3.4, 31.69) | 6.9 (2.9, 14) | 3.8 (1.5, 9) |
| I am extremely anxious or depressed |  | 1 (0, 4.3) | 0.8 (0, 4.3) |
| Missing | 18 (10, 26) | 29 (19, 39) | 69 (54, 83) |
| **Patient satisfaction** |  |  |  |
| Very satisfied | 74 (57, 86.02) | 85 (77, 90) | 69 (60, 74) |
| Somewhat satisfied | 21 (8.8, 34) | 9.9 (5, 16) | 16 (10, 20) |
| Somewhat dissatisfied | 2.6 (0, 13) | 1.7 (0, 5.15) | 9 (5.1, 14) |
| Very dissatisfied | 2.6 (0, 12.43) | 3.3 (0.8, 7.71) | 5.1 (2.3, 9.06) |
| Missing | 6 (2, 11) | 9 (3, 15) | 25 (15, 34) |
| **Number of hospitalizations for this injury** |  |  |  |
| Missing | 13 (7, 20) | 19 (11, 27) | 36 (25, 47) |
| **EQ-5D health state at discharge** | 60 (50, 60) | 80 (79, 79) | 50 (4, 50) |
| Missing | 15 (8, 23) | 35 (25, 47) | 58 (44, 72) |
| **EQ-5D health state at 30 day follow-up** | 88 (80, 100) | 100 (99, 99) | 80 (9, 90) |
| Missing | 18 (10, 26) | 32 (22, 44) | 75 (59, 90) |
| **Cost of treatment** | 5000 (0, 14000) | 2000 (1040.14, 2499) | 3000 (1000, 8000) |
| Missing | 35 (24, 48) | 39 (29, 51.46) | 113 (96, 130) |

## Additional Online Table 2. Outcomes in all patients before training, by treatment arm (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | ATLS, N = 16 | PTC, N = 57 | Standard care, N = 41 |
| --- | --- | --- | --- |
| **30 day mortality** |  |  |  |
| Yes |  | 10 (2.32, 20) | 2.6 (0, 14.5) |
| No |  | 90 (78.57, 96) | 97 (81, 100) |
| Missing | 2 (0, 5) | 8 (3, 14) | 3 (0, 7) |
| **24 hour mortality** |  |  |  |
| Yes |  |  | 2.4 (0, 11.05) |
| No |  |  | 98 (88, 100) |
| Missing | 2 (0, 5) | 5 (1, 9) |  |
| **In-hospital mortality** |  |  |  |
| Yes |  | 7 (1.9, 16) | 4.9 (0, 17) |
| No |  | 93 (81.7, 97) | 95 (81, 98) |
| Missing |  |  |  |
| **Self-ambulatory at discharge** |  |  |  |
| Yes | 92 (55.29, 100) | 96 (84, 98) | 95 (78.8, 100) |
| No | 8.3 (0, 42.23) | 4.1 (0, 13.82) | 5.1 (0, 17) |
| Missing | 4 (1, 8) | 8 (3, 13.13) | 2 (0, 5) |
| **Return to work** |  |  |  |
| Yes | 83 (0, 100) | 74 (58, 85) | 41 (23, 58) |
| No | 17 (0, 70.86) | 26 (12, 39) | 59 (37.73, 75) |
| Missing | 10 (4, 16) | 15 (8, 22) | 12 (6, 19) |
| **Pulmonary complication** |  |  |  |
| Yes |  | 2.2 (0, 11.73) |  |
| No |  | 98 (88, 100) |  |
| Missing | 6 (2, 11) | 11 (5, 18) | 2 (0, 5) |
| **Septic complication** |  |  |  |
| Yes |  | 4.4 (0, 14) | 2.5 (0, 16.45) |
| No |  | 96 (85.26, 100) | 98 (83, 100) |
| Missing | 6 (2, 11) | 12 (6, 19) | 1 (0, 3) |
| **Renal failure** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 5 (1, 10) | 11 (5, 18) | 1 (0, 3) |
| **Coagulopathy** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 6 (2, 11) | 12 (6, 19) | 1 (0, 3) |
| **Need for reexploration or resurgery** |  |  |  |
| Yes |  | 2.1 (0, 11.23) |  |
| No |  | 98 (86, 100) |  |
| Missing | 4 (1, 8) | 10 (4, 16) | 1 (0, 3) |
| **Failure of conservative management** |  |  |  |
| No |  | 98 (85, 100) |  |
| Yes |  | 2.2 (0, 14.13) |  |
| Missing | 10 (4, 16) | 11 (5, 17) | 2 (0, 5) |
| **EQ-5D mobility at discharge** |  |  |  |
| I have no problems in walking | 67 (30.53, 89) | 83 (66.74, 92) | 62 (44, 75) |
| I have some problems in walking | 8.3 (0, 36.88) | 12 (2.6, 24) | 18 (7.1, 31.39) |
| I am confined to bed | 25 (0, 56) | 4.9 (0, 16.18) | 21 (9.3, 35) |
| Missing | 4 (1, 8) | 16 (8, 24) | 2 (0, 5) |
| **EQ-5D self-care at discharge** |  |  |  |
| I have no problems with self-care | 58 (25, 87.2) | 80 (64, 90) | 59 (41, 73.74) |
| I have some problems bathing or dressing myself | 17 (0, 50) | 12 (2.97, 24) | 15 (4.97, 27.42) |
| I am unable to bathe or dress myself | 25 (0, 56) | 7.3 (2.2, 20) | 26 (13, 40) |
| Missing | 4 (1, 8) | 16 (8, 24) | 2 (0, 5) |
| **EQ-5D usual activities at discharge** |  |  |  |
| I have no problems in performing my usual activities | 50 (17, 75) | 76 (61, 87) | 54 (38, 69) |
| I have some problems in performing my usual activities | 25 (0, 54.17) | 15 (5.7, 28) | 28 (14, 42) |
| I am unable to perform my usual activities | 25 (0, 56) | 9.8 (2.7, 23) | 18 (7.1, 32) |
| Missing | 4 (1, 8) | 16 (8, 24) | 2 (0, 5) |
| **EQ-5D pain/discomfort at discharge** |  |  |  |
| I have no pain or discomfort | 33 (8.3, 63) | 34 (20, 50) | 33 (19, 48.33) |
| I have moderate pain or discomfort | 67 (30.09, 89) | 63 (44.05, 76) | 41 (24, 56) |
| I have extreme pain or discomfort |  | 2.4 (0, 13) | 26 (14, 40.01) |
| Missing | 4 (1, 8) | 16 (8, 24) | 2 (0, 5) |
| **EQ-5D anxiety/depression at discharge** |  |  |  |
| I am not anxious or depressed | 50 (17, 75) | 73 (57, 85) | 79 (62.02, 89) |
| I am moderately anxious or depressed | 50 (14, 75) | 24 (11, 38) | 18 (6.97, 32) |
| I am extremely anxious or depressed |  | 2.4 (0, 13) | 2.6 (0, 14) |
| Missing | 4 (1, 8) | 16 (8, 24) | 2 (0, 5) |
| **EQ-5D mobility at 30 day follow-up** |  |  |  |
| I have no problems in walking | 67 (0, 100) | 91 (77.53, 97) | 65 (46.25, 81) |
| I have some problems in walking | 17 (0, 70.43) | 7 (2.02, 19) | 13 (3.12, 27) |
| I am confined to bed | 17 (0, 70.86) | 2.3 (0, 13.05) | 23 (9.02, 39) |
| Missing | 10 (4, 16) | 14 (7, 21) | 10 (4, 17) |
| **EQ-5D self-care at 30 day follow-up** |  |  |  |
| I have no problems with self-care | 83 (0.05, 100) | 91 (79.35, 97) | 71 (53, 85) |
| I have some problems bathing or dressing myself | 17 (0, 70.43) | 4.7 (0, 16) | 6.5 (0, 31.44) |
| I am unable to bathe or dress myself |  | 4.7 (0, 15.32) | 23 (11, 40) |
| Missing | 10 (4, 16) | 14 (7, 21) | 10 (4, 17) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |  |
| I have no problems in performing my usual activities |  | 91 (79.35, 97) | 71 (52.15, 85) |
| I have some problems in performing my usual activities |  | 4.7 (0, 16) | 19 (6.7, 35) |
| I am unable to perform my usual activities |  | 4.7 (0, 15.32) | 9.7 (2.46, 25.76) |
| Missing | 10 (4, 16) | 14 (7, 21) | 10 (4, 17) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |  |
| I have no pain or discomfort | 67 (0, 100) | 77 (61.95, 88) | 74 (52.26, 85) |
| I have moderate pain or discomfort | 33 (0, 75) | 21 (8.6, 33) | 26 (12, 44.69) |
| I have extreme pain or discomfort |  | 2.3 (0, 12.93) |  |
| Missing | 10 (4, 16) | 14 (7, 21) | 10 (4, 17) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |  |
| I am not anxious or depressed |  | 86 (71.41, 94) | 97 (81, 100) |
| I am moderately anxious or depressed |  | 12 (2.9, 24.57) | 3.2 (0, 18.59) |
| I am extremely anxious or depressed |  | 2.3 (0, 12.93) |  |
| Missing | 10 (4, 16) | 14 (7, 21) | 10 (4, 17) |
| **Patient satisfaction** |  |  |  |
| Very satisfied | 64 (33.23, 87) | 73 (60, 83) | 67 (49, 79) |
| Somewhat satisfied | 36 (11, 63) | 16 (6.66, 27) | 23 (11, 35.02) |
| Somewhat dissatisfied |  | 3.9 (0, 13) | 7.7 (2.2, 21) |
| Very dissatisfied |  | 7.8 (2.1, 18.06) | 2.6 (0, 17) |
| Missing | 2 (0, 5) | 6 (2, 11) | 2 (0, 5) |
| **Number of hospitalizations for this injury** |  |  |  |
| Missing | 10 (4, 16) | 8 (3, 14) | 2 (0, 5) |
| **EQ-5D health state at discharge** | 60 (40, 81.8) | 80 (60, 80) | 50 (3, 80) |
| Missing | 5 (1, 10) | 16 (8, 24) | 10 (4, 17) |
| **EQ-5D health state at 30 day follow-up** | 100 (55, 100) | 100 (90, 100) | 10 (8, 100) |
| Missing | 10 (4, 16) | 15 (8.11, 23) | 14 (8, 22) |
| **Cost of treatment** | 7000 (0, 14000) | 2025 (600, 6000) | 14000 (500, 35000) |
| Missing | 14 (7, 22) | 18 (11, 26) | 23 (14.12, 33) |

## Additional Online Table 3. Outcomes in all patients after training, by treatment arm (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | ATLS, N = 28 | PTC, N = 73 | Standard care, N = 161 |
| --- | --- | --- | --- |
| **30 day mortality** |  |  |  |
| Yes | 3.8 (0, 20.98) | 4.9 (0, 13) | 16 (9.28, 21) |
| No | 96 (78, 100) | 95 (84, 98) | 84 (77, 89) |
| Missing | 2 (0, 5) | 12 (6, 19) | 26 (17, 36) |
| **24 hour mortality** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 2 (0, 5) | 8 (3, 14) | 7 (3, 12) |
| **In-hospital mortality** |  |  |  |
| Yes | 3.7 (0, 20.68) | 4.1 (0, 11) | 12 (6.43, 16) |
| No | 96 (79, 100) | 96 (87.42, 99) | 88 (81, 91) |
| Missing | 1 (0, 3) |  | 2 (0, 5) |
| **Self-ambulatory at discharge** |  |  |  |
| Yes |  | 97 (86, 99) | 99 (94, 100) |
| No |  | 2.9 (0, 9.08) | 1.5 (0, 5.59) |
| Missing | 4 (1, 8) | 3 (0, 7) | 24 (14, 32.64) |
| **Return to work** |  |  |  |
| Yes | 58 (33, 78) | 70 (55, 80) | 53 (43, 61.06) |
| No | 42 (21, 66.95) | 30 (18, 42.29) | 47 (36, 56) |
| Missing | 9 (4, 15) | 16 (9, 24) | 56 (43, 69.34) |
| **Pulmonary complication** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 5 (1, 9) | 10 (5, 17) | 33 (22, 43) |
| **Septic complication** |  |  |  |
| Yes |  | 3.2 (0, 11) | 0.8 (0, 4) |
| No |  | 97 (88, 100) | 99 (96, 99) |
| Missing | 5 (1, 9) | 10 (5, 17) | 33 (22, 43) |
| **Renal failure** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 5 (1, 9) | 10 (5, 17) | 32 (21, 42) |
| **Coagulopathy** |  |  |  |
| Yes | 4.3 (0, 22.71) |  |  |
| No | 96 (77, 100) |  |  |
| Missing | 5 (1, 9) | 10 (5, 17) | 32 (21, 42) |
| **Need for reexploration or resurgery** |  |  |  |
| Yes |  | 1.6 (0, 9.21) | 2.5 (0, 7) |
| No |  | 98 (90, 100) | 97 (92, 98) |
| Missing | 6 (2, 11) | 10 (5, 17) | 42 (30.18, 54) |
| **Failure of conservative management** |  |  |  |
| No | 92 (71, 100) | 98 (90, 100) | 98 (93, 99) |
| Yes | 8 (0, 24.44) | 1.6 (0, 7.99) | 1.7 (0, 5.8) |
| Missing | 3 (0, 6) | 12 (6, 19.14) | 44 (32, 56) |
| **EQ-5D mobility at discharge** |  |  |  |
| I have no problems in walking | 89 (60, 100) | 92 (80.1, 97) | 62 (52, 70) |
| I have some problems in walking | 11 (0, 33) | 5 (1.5, 13.83) | 19 (12, 27) |
| I am confined to bed |  | 3.3 (0, 11) | 19 (11, 26) |
| Missing | 10 (4, 17) | 13 (6, 21) | 43 (30.04, 54) |
| **EQ-5D self-care at discharge** |  |  |  |
| I have no problems with self-care | 67 (34.68, 87) | 85 (72, 92) | 50 (40, 58) |
| I have some problems bathing or dressing myself | 11 (0, 33.5) | 8.3 (2.56, 17.71) | 31 (22, 39) |
| I am unable to bathe or dress myself | 22 (4.52, 44) | 6.7 (1.76, 16) | 19 (11, 25) |
| Missing | 10 (4, 17) | 13 (6, 21) | 43 (30.04, 54) |
| **EQ-5D usual activities at discharge** |  |  |  |
| I have no problems in performing my usual activities | 61 (33, 82.01) | 85 (72, 92) | 47 (38, 56) |
| I have some problems in performing my usual activities | 22 (5.6, 50) | 8.3 (2.56, 17.71) | 38 (28, 45) |
| I am unable to perform my usual activities | 17 (0, 39.02) | 6.7 (1.76, 16) | 15 (8.29, 21) |
| Missing | 10 (4, 17) | 13 (6, 21) | 43 (30.04, 54) |
| **EQ-5D pain/discomfort at discharge** |  |  |  |
| I have no pain or discomfort | 50 (25, 71) | 65 (52, 76) | 25 (16.01, 32) |
| I have moderate pain or discomfort | 50 (22, 69) | 30 (18, 41) | 35 (27, 44) |
| I have extreme pain or discomfort |  | 5 (1.5, 14) | 40 (31, 48) |
| Missing | 10 (4, 17) | 13 (6, 21) | 43 (30.04, 54) |
| **EQ-5D anxiety/depression at discharge** |  |  |  |
| I am not anxious or depressed | 83 (57, 95.75) | 95 (84.84, 98) | 92 (85, 96) |
| I am moderately anxious or depressed | 17 (0, 41) | 5 (0.6, 13) | 6.8 (3.4, 13) |
| I am extremely anxious or depressed |  |  | 1.7 (0, 5.3) |
| Missing | 10 (4, 17) | 13 (6, 21) | 43 (30.04, 54) |
| **EQ-5D mobility at 30 day follow-up** |  |  |  |
| I have no problems in walking | 80 (53, 93.32) | 98 (90, 100) | 77 (67, 83.81) |
| I have some problems in walking | 20 (5.9, 44) |  | 17 (9.4, 24) |
| I am confined to bed |  | 1.7 (0, 8.79) | 5.9 (2.1, 12) |
| Missing | 8 (3, 14) | 15 (8, 23) | 59 (46, 72.14) |
| **EQ-5D self-care at 30 day follow-up** |  |  |  |
| I have no problems with self-care | 80 (56, 94) | 97 (88, 100) | 79 (68.15, 85) |
| I have some problems bathing or dressing myself | 10 (0, 31) |  | 15 (8.23, 23) |
| I am unable to bathe or dress myself | 10 (0, 31.74) | 3.4 (0, 12) | 5.9 (2.13, 12) |
| Missing | 8 (3, 14) | 15 (8, 23) | 59 (46, 72.14) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |  |
| I have no problems in performing my usual activities | 75 (50, 91) | 95 (83.7, 98) | 81 (70, 87) |
| I have some problems in performing my usual activities | 15 (4.2, 38) | 1.7 (0, 7.68) | 12 (6.3, 19) |
| I am unable to perform my usual activities | 10 (0, 31.74) | 3.4 (0, 12) | 6.9 (2.9, 13) |
| Missing | 8 (3, 14) | 15 (8, 23) | 59 (46, 72.14) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |  |
| I have no pain or discomfort | 80 (56.42, 94) | 86 (73, 93) | 79 (69, 85) |
| I have moderate pain or discomfort | 20 (5.3, 41.4) | 14 (5.3, 23.93) | 19 (11, 27) |
| I have extreme pain or discomfort |  |  | 2 (0, 8.07) |
| Missing | 8 (3, 14) | 15 (8, 23) | 59 (46, 72.14) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |  |
| I am not anxious or depressed | 85 (60.19, 95) | 97 (88.33, 100) | 95 (87, 97) |
| I am moderately anxious or depressed | 15 (4.2, 38) | 3.4 (0, 11) | 3.9 (1, 9.9) |
| I am extremely anxious or depressed |  |  | 1 (0, 4.95) |
| Missing | 8 (3, 14) | 15 (8, 23) | 59 (46, 72.14) |
| **Patient satisfaction** |  |  |  |
| Very satisfied | 79 (57, 93) | 94 (83, 97) | 70 (61, 76) |
| Somewhat satisfied | 13 (3.29, 32) | 5.7 (1.5, 13) | 14 (8.04, 19) |
| Somewhat dissatisfied | 4.2 (0, 20.59) |  | 9.4 (5.58, 16) |
| Very dissatisfied | 4.2 (0, 20.74) |  | 5.8 (2.2, 10) |
| Missing | 4 (1, 8) | 3 (0, 7) | 23 (13, 31) |
| **Number of hospitalizations for this injury** |  |  |  |
| Missing | 3 (0, 6) | 11 (5, 18) | 34 (23.34, 46) |
| **EQ-5D health state at discharge** | 65 (50, 80) | 90 (80, 90) | 50 (4, 50) |
| Missing | 10 (4, 17) | 19 (11, 28) | 48 (35, 61) |
| **EQ-5D health state at 30 day follow-up** | 83 (70, 100) |  | 83 (10, 100) |
| Missing | 8 (3, 14) | 17 (9, 25.63) | 61 (47, 74) |
| **Cost of treatment** | 5000 (0, 15000) | 1500 (250, 1600) | 2500 (1000, 8000) |
| Missing | 21 (12, 30) | 21 (12.87, 30) | 90 (74, 106) |

## Additional Online Table 4. Absolute change from baseline for all outcomes, comparing the period after training with the period before training, by treatment arms (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | ATLS, N = 28 | PTC, N = 73 | Standard care, N = 161 |
| --- | --- | --- | --- |
| **30 day mortality** |  |  |  |
| Yes | 3.8 (0, 20.98) | -5.1 (-16.57, 4.76) | 13.4 (3, 20) |
| No | -4 (-22, 0) | 5 (-6, 14) | -13 (-20, -3) |
| Missing | 0 (-4.9, 3) | 4 (-5, 12) | 23 (14, 34) |
| **24 hour mortality** |  |  |  |
| Yes |  |  | -2.4 (-12, 0) |
| No |  |  | 2 (0, 7) |
| Missing | 0 (-4.9, 3) | 3 (-4, 10) | 7 (3, 12) |
| **In-hospital mortality** |  |  |  |
| Yes | 3.7 (0, 20.68) | -2.9 (-12.79, 4.2) | 7.1 (-4, 13.3) |
| No | -4 (-21, 0) | 3 (-5, 11) | -7 (-14, 2) |
| Missing | 1 (0, 3) |  | 2 (0, 5) |
| **Self-ambulatory at discharge** |  |  |  |
| Yes | 8 (0, 37) | 1 (-6, 8) | 4 (-2, 14) |
| No | -8.3 (-44.67, 0) | -1.2 (-9.5, 4.8) | -3.6 (-14.56, 1.5) |
| Missing | 0 (-7, 4) | -5 (-13.26, 0) | 22 (12, 30) |
| **Return to work** |  |  |  |
| Yes | -25 (-56, 21) | -4 (-24, 12) | 12 (-10, 30) |
| No | 25 (-27.41, 55) | 4 (-15, 21) | -12 (-35, 7) |
| Missing | -1 (-11, 6) | 1 (-10.1, 11) | 44 (29, 58) |
| **Pulmonary complication** |  |  |  |
| Yes |  | -2.2 (-12, 0) |  |
| No |  | 2 (0, 7) |  |
| Missing | -1 (-9, 4) | -1 (-11, 7) | 31 (19, 41) |
| **Septic complication** |  |  |  |
| Yes |  | -1.2 (-10.31, 5.5) | -1.7 (-11.72, 1.6) |
| No |  | 1 (-6, 8.2) | 1 (-2, 7) |
| Missing | -1 (-9, 4) | -2 (-12, 6) | 32 (21, 42) |
| **Renal failure** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 0 (-7, 5) | -1 (-11, 7) | 31 (20, 41) |
| **Coagulopathy** |  |  |  |
| Yes | 4.3 (0, 22.71) |  |  |
| No | -4 (-23, 0) |  |  |
| Missing | -1 (-9, 4) | -2 (-12, 5) | 31 (20, 41) |
| **Need for reexploration or resurgery** |  |  |  |
| Yes |  | -0.5 (-8.44, 3.3) | 2.5 (0, 7) |
| No |  | 0 (-5.44, 4) | -3 (-8, -2) |
| Missing | 2 (-5, 7) | 0 (-9, 8) | 41 (29, 54) |
| **Failure of conservative management** |  |  |  |
| No | -8 (-29, 0) | 0 (-6.06, 4) | -2 (-7, -1) |
| Yes | 8 (0, 24.45) | -0.6 (-9.45, 3.2) | 1.7 (0, 5.8) |
| Missing | -7 (-16.47, -2) | 1 (-8, 10) | 42 (29, 54) |
| **EQ-5D mobility at discharge** |  |  |  |
| I have no problems in walking | 22 (-12, 56) | 9 (-5, 23) | 0 (-17, 19.83) |
| I have some problems in walking | 2.7 (-23.17, 20) | -7 (-19.12, 4.99) | 1 (-16.13, 14) |
| I am confined to bed | -25 (-60.74, -7.1) | -1.6 (-11.5, 5.8) | -2 (-22, 10) |
| Missing | 6 (-2, 12) | -3 (-14, 7) | 41 (29, 53) |
| **EQ-5D self-care at discharge** |  |  |  |
| I have no problems with self-care | 9 (-31.87, 47.44) | 5 (-11, 20) | -9 (-27, 8) |
| I have some problems bathing or dressing myself | -6 (-39.79, 15) | -3.7 (-16.9, 8.16) | 16 (0, 29.13) |
| I am unable to bathe or dress myself | -3 (-42.58, 26.36) | -0.6 (-11.51, 10) | -7 (-25.46, 6) |
| Missing | 6 (-2, 12) | -3 (-14, 7) | 41 (29, 53) |
| **EQ-5D usual activities at discharge** |  |  |  |
| I have no problems in performing my usual activities | 11 (-30.58, 46) | 9 (-9, 23.11) | -7 (-26, 11) |
| I have some problems in performing my usual activities | -3 (-37, 28.8) | -6.7 (-21.53, 4.5) | 10 (-7.49, 26) |
| I am unable to perform my usual activities | -8 (-43, 21) | -3.1 (-15.5, 7.7) | -3 (-20, 8.18) |
| Missing | 6 (-2, 12) | -3 (-14, 7) | 41 (29, 53) |
| **EQ-5D pain/discomfort at discharge** |  |  |  |
| I have no pain or discomfort | 17 (-23, 51) | 31 (9, 47) | -8 (-26.97, 6) |
| I have moderate pain or discomfort | -17 (-52, 20) | -33 (-52.63, -12) | -6 (-24, 13) |
| I have extreme pain or discomfort |  | 2.6 (-4.7, 9.7) | 14 (-6.34, 27) |
| Missing | 6 (-2, 12) | -3 (-14, 7) | 41 (29, 53) |
| **EQ-5D anxiety/depression at discharge** |  |  |  |
| I am not anxious or depressed | 33 (-5.81, 64) | 22 (7, 37) | 13 (0, 29) |
| I am moderately anxious or depressed | -33 (-67, 3) | -19 (-35.39, -5.8) | -11.2 (-27.48, 0.4) |
| I am extremely anxious or depressed |  | -2.4 (-17, 0) | -0.9 (-10.47, 2.5) |
| Missing | 6 (-2, 12) | -3 (-14, 7) | 41 (29, 53) |
| **EQ-5D mobility at 30 day follow-up** |  |  |  |
| I have no problems in walking | 13 (-29.15, 61) | 7 (-2, 17) | 12 (-9, 30) |
| I have some problems in walking | 3 (-50, 29) | -7 (-19.34, -2.1) | 4 (-14, 15) |
| I am confined to bed | -17 (-100, 0) | -0.6 (-8.96, 3.82) | -17.1 (-36.1, -3.84) |
| Missing | -2 (-12, 5) | 1 (-10, 11) | 49 (34, 63) |
| **EQ-5D self-care at 30 day follow-up** |  |  |  |
| I have no problems with self-care | -3 (-28.6, 53) | 6 (-4, 16) | 8 (-11, 26) |
| I have some problems bathing or dressing myself | -7 (-64.7, 16.07) | -4.7 (-17.2, 0) | 8.5 (-5, 18) |
| I am unable to bathe or dress myself | 10 (0, 31.59) | -1.3 (-10.45, 5.7) | -17.1 (-35.9, -4.9) |
| Missing | -2 (-12, 5) | 1 (-10, 11) | 49 (34, 63) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |  |
| I have no problems in performing my usual activities | -25 (-50, -9) | 4 (-8, 13) | 10 (-8.1, 28.5) |
| I have some problems in performing my usual activities | 15 (4.2, 38) | -3 (-14, 2.1) | -7 (-24.6, 6) |
| I am unable to perform my usual activities | 10 (0, 31.59) | -1.3 (-10.45, 5.7) | -2.8 (-17.58, 6.4) |
| Missing | -2 (-12, 5) | 1 (-10, 11) | 49 (34, 63) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |  |
| I have no pain or discomfort | 13 (-30, 62) | 9 (-8, 23) | 5 (-10, 23) |
| I have moderate pain or discomfort | -13 (-65, 28) | -7 (-23.4, 8) | -7 (-27, 7) |
| I have extreme pain or discomfort |  | -2.3 (-16, 0) | 2 (0, 8.07) |
| Missing | -2 (-12, 5) | 1 (-10, 11) | 49 (34, 63) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |  |
| I am not anxious or depressed | -15 (-39.72, -5) | 11 (0, 24) | -2 (-8, 8) |
| I am moderately anxious or depressed | 15 (4.2, 38) | -8.6 (-22, 1.02) | 0.7 (-13.46, 5.3) |
| I am extremely anxious or depressed |  | -2.3 (-16, 0) | 1 (0, 4.95) |
| Missing | -2 (-12, 5) | 1 (-10, 11) | 49 (34, 63) |
| **Patient satisfaction** |  |  |  |
| Very satisfied | 15 (-15, 45) | 21 (8, 32) | 3 (-14, 19) |
| Somewhat satisfied | -23 (-54, 4) | -10.3 (-22.87, 0) | -9 (-25.8, 3) |
| Somewhat dissatisfied | 4.2 (0, 20.59) | -3.9 (-13, 0) | 1.7 (-11.7, 9.2) |
| Very dissatisfied | 4.2 (0, 20.74) | -7.8 (-20, -2.28) | 3.2 (-8, 7.6) |
| Missing | 2 (-3, 6) | -3 (-10, 2) | 21 (11, 30) |
| **Number of hospitalizations for this injury** | 0 (-1, 0) |  |  |
| Missing | -7 (-16.47, -2) | 3 (-6, 12) | 32 (21, 44) |
| **EQ-5D health state at discharge** | 5 (-30, 30) | 10 (-10, 10) | 0 (-68.09, 55) |
| Missing | 5 (-3.48, 11) | 3 (-9, 14) | 38 (22, 52) |
| **EQ-5D health state at 30 day follow-up** | -17 (-33.16, 20) |  | 73 (-13, 92) |
| Missing | -2 (-12, 5) | 2 (-10, 12) | 47 (30, 61.57) |
| **Cost of treatment** | -2000 (-14000, 13000) | -525 (-4922.65, 1000) | -11500 (-49000, 2250) |
| Missing | 7 (-7, 17) | 3 (-10, 14) | 67 (45.64, 86) |

## Additional Online Table 5. Relative change from baseline for all outcomes, comparing the period after training with the period before training, by treatment arms (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | ATLS, N = 28 | PTC, N = 73 | Standard care, N = 161 |
| --- | --- | --- | --- |
| **30 day mortality** |  |  |  |
| Yes |  | 0.49 (0, 2.31) | 6.15 (2.62, 10.91) |
| No | 0.96 (0.78, 1) | 1.06 (0.95, 1.2) | 0.87 (0.8, 0.97) |
| Missing | 1 (0, 4) | 1.5 (0.56, 4) | 8.67 (2.89, 27.17) |
| **24 hour mortality** |  |  |  |
| Yes |  |  |  |
| No |  |  | 1.02 (1, 1.08) |
| Missing | 1 (0, 4) | 1.6 (0.5, 6) |  |
| **In-hospital mortality** |  |  |  |
| Yes |  | 0.59 (0, 2.89) | 2.45 (0.77, 6.19) |
| No | 0.96 (0.79, 1) | 1.03 (0.95, 1.15) | 0.93 (0.86, 1.03) |
| Missing |  |  |  |
| **Self-ambulatory at discharge** |  |  |  |
| Yes | 1.09 (1, 1.59) | 1.01 (0.95, 1.1) | 1.04 (0.98, 1.17) |
| No |  | 0.71 (0, 4) | 0.29 (0, 1.52) |
| Missing | 1 (0, 3.5) | 0.38 (0, 1.57) | 12 (3.73, 29) |
| **Return to work** |  |  |  |
| Yes | 0.7 (0.41, 1.42) | 0.95 (0.73, 1.2) | 1.29 (0.85, 2.24) |
| No | 2.47 (1.11, 7.14) | 1.15 (0.61, 2.48) | 0.8 (0.55, 1.2) |
| Missing | 0.9 (0.29, 2.25) | 1.07 (0.5, 2.25) | 4.67 (2.52, 9) |
| **Pulmonary complication** |  |  |  |
| Yes |  |  |  |
| No |  | 1.02 (1, 1.08) |  |
| Missing | 0.83 (0.14, 2.67) | 0.91 (0.36, 2.5) | 16.5 (5.11, 39) |
| **Septic complication** |  |  |  |
| Yes |  | 0.73 (0, 3.81) | 0.32 (0, 1.62) |
| No |  | 1.01 (0.94, 1.1) | 1.01 (0.98, 1.08) |
| Missing | 0.83 (0.14, 2.67) | 0.83 (0.33, 2) | 33 (12.33, 44.32) |
| **Renal failure** |  |  |  |
| Yes |  |  |  |
| No |  |  |  |
| Missing | 1 (0.11, 3) | 0.91 (0.36, 2.5) | 32 (11.5, 42) |
| **Coagulopathy** |  |  |  |
| Yes |  |  |  |
| No | 0.96 (0.77, 1) |  |  |
| Missing | 0.83 (0.14, 2.67) | 0.83 (0.33, 2.07) | 32 (11.5, 42) |
| **Need for reexploration or resurgery** |  |  |  |
| Yes |  | 0.76 (0, 4.47) |  |
| No |  | 1 (0.95, 1.04) | 0.97 (0.92, 0.98) |
| Missing | 1.5 (0.26, 6) | 1 (0.36, 2.5) | 42 (16.32, 55.43) |
| **Failure of conservative management** |  |  |  |
| No | 0.92 (0.71, 1) | 1 (0.94, 1.04) | 0.98 (0.93, 0.99) |
| Yes |  | 0.73 (0, 4.65) |  |
| Missing | 0.3 (0, 1.21) | 1.09 (0.47, 2.6) | 22 (6.82, 51) |
| **EQ-5D mobility at discharge** |  |  |  |
| I have no problems in walking | 1.33 (0.88, 2.47) | 1.11 (0.96, 1.33) | 1 (0.77, 1.42) |
| I have some problems in walking | 1.33 (0.27, 5.5) | 0.42 (0, 2.49) | 1.06 (0.48, 3.01) |
| I am confined to bed |  | 0.67 (0, 4.06) | 0.9 (0.42, 1.87) |
| Missing | 2.5 (0.62, 8) | 0.81 (0.37, 1.85) | 21.5 (7.3, 50) |
| **EQ-5D self-care at discharge** |  |  |  |
| I have no problems with self-care | 1.16 (0.63, 2.62) | 1.06 (0.88, 1.31) | 0.85 (0.62, 1.22) |
| I have some problems bathing or dressing myself | 0.65 (0, 3.36) | 0.69 (0.14, 2.77) | 2.07 (1, 6.19) |
| I am unable to bathe or dress myself | 0.88 (0.09, 3.72) | 0.92 (0.18, 4.6) | 0.73 (0.37, 1.38) |
| Missing | 2.5 (0.62, 8) | 0.81 (0.37, 1.85) | 21.5 (7.3, 50) |
| **EQ-5D usual activities at discharge** |  |  |  |
| I have no problems in performing my usual activities | 1.22 (0.58, 2.89) | 1.12 (0.93, 1.37) | 0.87 (0.63, 1.31) |
| I have some problems in performing my usual activities | 0.88 (0.17, 3.75) | 0.55 (0.11, 1.75) | 1.36 (0.86, 2.72) |
| I am unable to perform my usual activities | 0.68 (0, 3.3) | 0.68 (0.12, 3.59) | 0.83 (0.38, 2.01) |
| Missing | 2.5 (0.62, 8) | 0.81 (0.37, 1.85) | 21.5 (7.3, 50) |
| **EQ-5D pain/discomfort at discharge** |  |  |  |
| I have no pain or discomfort | 1.52 (0.6, 4.73) | 1.91 (1.2, 3.22) | 0.76 (0.45, 1.36) |
| I have moderate pain or discomfort | 0.75 (0.35, 1.49) | 0.48 (0.28, 0.77) | 0.85 (0.57, 1.54) |
| I have extreme pain or discomfort |  | 2.08 (0.65, 6.54) | 1.54 (0.87, 2.73) |
| Missing | 2.5 (0.62, 8) | 0.81 (0.37, 1.85) | 21.5 (7.3, 50) |
| **EQ-5D anxiety/depression at discharge** |  |  |  |
| I am not anxious or depressed | 1.66 (0.94, 3.8) | 1.3 (1.1, 1.65) | 1.16 (1.01, 1.51) |
| I am moderately anxious or depressed | 0.34 (0, 1.29) | 0.21 (0, 0.75) | 0.38 (0.13, 1.23) |
| I am extremely anxious or depressed |  |  | 0.65 (0.14, 2.38) |
| Missing | 2.5 (0.62, 8) | 0.81 (0.37, 1.85) | 21.5 (7.3, 50) |
| **EQ-5D mobility at 30 day follow-up** |  |  |  |
| I have no problems in walking | 1.19 (0.7, 3.16) | 1.08 (0.99, 1.22) | 1.18 (0.9, 1.62) |
| I have some problems in walking | 1.18 (0.42, 4) |  | 1.31 (0.5, 4.52) |
| I am confined to bed |  | 0.74 (0, 4.24) | 0.26 (0.07, 0.87) |
| Missing | 0.8 (0.23, 2) | 1.07 (0.5, 2.25) | 5.9 (3.16, 12.8) |
| **EQ-5D self-care at 30 day follow-up** |  |  |  |
| I have no problems with self-care | 0.96 (0.71, 2.58) | 1.07 (0.97, 1.21) | 1.11 (0.89, 1.47) |
| I have some problems bathing or dressing myself | 0.59 (0.12, 3.12) |  | 2.31 (0.72, 6.54) |
| I am unable to bathe or dress myself |  | 0.72 (0, 4) | 0.26 (0.08, 0.77) |
| Missing | 0.8 (0.23, 2) | 1.07 (0.5, 2.25) | 5.9 (3.16, 12.8) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |  |
| I have no problems in performing my usual activities | 0.75 (0.5, 0.91) | 1.04 (0.93, 1.18) | 1.14 (0.91, 1.53) |
| I have some problems in performing my usual activities |  | 0.36 (0, 3.19) | 0.63 (0.28, 1.97) |
| I am unable to perform my usual activities |  | 0.72 (0, 4) | 0.71 (0.17, 2.61) |
| Missing | 0.8 (0.23, 2) | 1.07 (0.5, 2.25) | 5.9 (3.16, 12.8) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |  |
| I have no pain or discomfort | 1.19 (0.71, 3.32) | 1.12 (0.92, 1.37) | 1.07 (0.89, 1.42) |
| I have moderate pain or discomfort | 0.61 (0.16, 2.41) | 0.67 (0.23, 1.91) | 0.73 (0.34, 1.53) |
| I have extreme pain or discomfort |  |  |  |
| Missing | 0.8 (0.23, 2) | 1.07 (0.5, 2.25) | 5.9 (3.16, 12.8) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |  |
| I am not anxious or depressed | 0.85 (0.6, 0.95) | 1.13 (1.02, 1.35) | 0.98 (0.92, 1.09) |
| I am moderately anxious or depressed |  | 0.28 (0, 1.71) | 1.22 (0.37, 3.33) |
| I am extremely anxious or depressed |  |  |  |
| Missing | 0.8 (0.23, 2) | 1.07 (0.5, 2.25) | 5.9 (3.16, 12.8) |
| **Patient satisfaction** |  |  |  |
| Very satisfied | 1.23 (0.84, 2.13) | 1.29 (1.09, 1.52) | 1.04 (0.83, 1.36) |
| Somewhat satisfied | 0.36 (0, 1.64) | 0.36 (0.07, 1.12) | 0.61 (0.29, 1.23) |
| Somewhat dissatisfied |  |  | 1.22 (0.38, 3.91) |
| Very dissatisfied |  |  | 2.23 (0.78, 4.78) |
| Missing | 2 (0.19, 7) | 0.5 (0, 2) | 11.5 (3.67, 28) |
| **Number of hospitalizations for this injury** |  |  |  |
| Missing | 0.3 (0, 1.21) | 1.38 (0.5, 3.64) | 17 (5.33, 41) |
| **EQ-5D health state at discharge** | 1.08 (0.67, 1.75) | 1.12 (0.89, 1.12) | 1 (0.08, 15) |
| Missing | 2 (0.5, 6) | 1.19 (0.6, 2.45) | 4.8 (2.38, 11) |
| **EQ-5D health state at 30 day follow-up** | 0.83 (0.67, 1.33) |  | 8.3 (0.74, 11.14) |
| Missing | 0.8 (0.23, 2) | 1.13 (0.53, 2.27) | 4.36 (2.43, 7.75) |
| **Cost of treatment** | 0.71 (0.14, 5) | 0.74 (0.2, 2.69) | 0.18 (0.04, 4) |
| Missing | 1.5 (0.66, 2.75) | 1.17 (0.6, 2.22) | 3.91 (2.37, 6.04) |

## Additional Online Table 6. Absolute and relative differences in outcomes after training, comparing standard care with ATLS (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | 12.2 (-8.05, 23.3) | 4.21 (1.36, 15.71) |
| No | -12 (-23, 6) | 0.88 (0.75, 1.1) |
| Missing | 24 (15.57, 39) | 13 (5.33, 40) |
| **24 hour mortality** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 5 (0, 13) | 3.5 (1.6, 14) |
| **In-hospital mortality** |  |  |
| Yes | 8.3 (-5.9, 18) | 3.24 (0.63, 13.64) |
| No | -8 (-18, 5) | 0.92 (0.82, 1.07) |
| Missing | 1 (-3.52, 5) | 2 (0.5, 5) |
| **Self-ambulatory at discharge** |  |  |
| Yes | -1 (-9, 2) | 0.99 (0.93, 1.03) |
| No | 1.5 (-2.2, 8.92) |  |
| Missing | 20 (-23, 35) | 6 (0.1, 33) |
| **Return to work** |  |  |
| Yes | -5 (-30, 29) | 0.91 (0.6, 1.64) |
| No | 5 (-30, 30) | 1.12 (0.44, 2.41) |
| Missing | 47 (30, 63) | 6.22 (4.55, 53) |
| **Pulmonary complication** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 28 (5, 49) | 6.6 (4.33, 43) |
| **Septic complication** |  |  |
| Yes | 0.8 (-4.5, 8.26) |  |
| No | -1 (-11, 2) | 0.99 (0.9, 1.03) |
| Missing | 28 (1, 50) | 6.6 (4.25, 43) |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 27 (4, 48) | 6.4 (4.11, 42) |
| **Coagulopathy** |  |  |
| Yes | -4.3 (-16, 0) |  |
| No | 4 (0, 16) | 1.04 (1, 1.19) |
| Missing | 27 (4, 48) | 6.4 (4.11, 42) |
| **Need for reexploration or resurgery** |  |  |
| Yes | 2.5 (0, 7.8) |  |
| No | -3 (-8, -2) | 0.97 (0.92, 0.98) |
| Missing | 36 (-3.47, 56) | 7 (4.22, 48) |
| **Failure of conservative management** |  |  |
| No | 6 (2, 26) | 1.07 (1.02, 1.36) |
| Yes | -6.3 (-26, -2.4) | 0.21 (0, 2.28) |
| Missing | 41 (30, 56) | 14.67 (8.42, 55) |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | -27 (-44, 31) | 0.7 (0.55, 1.52) |
| I have some problems in walking | 8 (-18.1, 23.91) | 1.73 (0.08, 12.79) |
| I am confined to bed | 19 (1.6, 30) |  |
| Missing | 33 (-23, 50) | 4.3 (2.38, 20.5) |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | -17 (-46.52, 43) | 0.75 (0.48, 1.93) |
| I have some problems bathing or dressing myself | 20 (-24.9, 36.87) | 2.82 (0.2, 20.26) |
| I am unable to bathe or dress myself | -3 (-26.15, 19.7) | 0.86 (0.07, 7.29) |
| Missing | 33 (-23, 50) | 4.3 (2.38, 20.5) |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | -14 (-49, 47) | 0.77 (0.45, 2.14) |
| I have some problems in performing my usual activities | 16 (-36.56, 39.71) | 1.73 (0.1, 12.04) |
| I am unable to perform my usual activities | -2 (-24.06, 14.32) | 0.88 (0, 5.17) |
| Missing | 33 (-23, 50) | 4.3 (2.38, 20.5) |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -25 (-52, 49) | 0.5 (0.25, 3.07) |
| I have moderate pain or discomfort | -15 (-49, -3) | 0.7 (0.26, 1.03) |
| I have extreme pain or discomfort | 40 (29.7, 55) |  |
| Missing | 33 (-23, 50) | 4.3 (2.38, 20.5) |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | 9 (2, 36) | 1.11 (1.03, 1.68) |
| I am moderately anxious or depressed | -10.2 (-39.9, -3.9) | 0.4 (0, 1.24) |
| I am extremely anxious or depressed | 1.7 (-1.5, 6.4) |  |
| Missing | 33 (-23, 50) | 4.3 (2.38, 20.5) |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | -3 (-28, 30) | 0.96 (0.71, 1.43) |
| I have some problems in walking | -3 (-29, 22) | 0.85 (0, 5.21) |
| I am confined to bed | 5.9 (0.97, 15) |  |
| Missing | 51 (34, 69) | 7.38 (5.4, 53) |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | -1 (-25, 27) | 0.99 (0.74, 1.39) |
| I have some problems bathing or dressing myself | 5 (-20, 22) | 1.5 (0.83, 4.17) |
| I am unable to bathe or dress myself | -4.1 (-29, 1.5) | 0.59 (0, 2.6) |
| Missing | 51 (34, 69) | 7.38 (5.4, 53) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | 6 (-21, 31) | 1.08 (0.79, 1.58) |
| I have some problems in performing my usual activities | -3 (-20.77, 16.16) | 0.8 (0, 11.66) |
| I am unable to perform my usual activities | -3.1 (-29, 5) | 0.69 (0, 3.76) |
| Missing | 51 (34, 69) | 7.38 (5.4, 53) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | -1 (-18, 17) | 0.99 (0.8, 1.24) |
| I have moderate pain or discomfort | -1 (-20, 13) | 0.95 (0.25, 2.7) |
| I have extreme pain or discomfort | 2 (-1, 8.8) |  |
| Missing | 51 (34, 69) | 7.38 (5.4, 53) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | 10 (3, 36) | 1.12 (1.03, 1.58) |
| I am moderately anxious or depressed | -11.1 (-35.8, -2.9) | 0.26 (0, 1.11) |
| I am extremely anxious or depressed | 1 (-0.9, 5.1) |  |
| Missing | 51 (34, 69) | 7.38 (5.4, 53) |
| **Patient satisfaction** |  |  |
| Very satisfied | -9 (-31, 30) | 0.89 (0.67, 1.46) |
| Somewhat satisfied | 1 (-15.8, 15.15) | 1.08 (0.09, 6.5) |
| Somewhat dissatisfied | 5.2 (-13, 15) | 2.24 (1, 4.12) |
| Very dissatisfied | 1.6 (-9.3, 9.53) | 1.38 (0.81, 3.95) |
| Missing | 19 (-21, 34.53) | 5.75 (0.11, 31.03) |
| **Number of hospitalizations for this injury** |  |  |
| Missing | 31 (21, 47) | 11.33 (6.8, 48) |
| **EQ-5D health state at discharge** | -15 (-84, 75.14) | 0.77 (0.06, 9.82) |
| Missing | 38 (24, 53) | 4.8 (3.23, 23) |
| **EQ-5D health state at 30 day follow-up** | 0 (-60, 50) | 1 (0.37, 2) |
| Missing | 53 (40, 73) | 7.62 (5.5, 53) |
| **Cost of treatment** | -2500 (-33500, 250) | 0.5 (0, 1.5) |
| Missing | 69 (-68, 98) | 4.29 (0.25, 9.3) |

## Additional Online Table 7. Absolute and relative differences in outcomes after training, comparing standard care with PTC (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | 11.1 (-5.3, 22.33) | 3.27 (0.61, 18.82) |
| No | -11 (-22.46, 4) | 0.88 (0.78, 1.05) |
| Missing | 14 (-24.07, 32) | 2.17 (0, 12) |
| **24 hour mortality** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | -1 (-16, 4) | 0.88 (0, 3.33) |
| **In-hospital mortality** |  |  |
| Yes | 7.9 (-3.66, 16) | 2.93 (0.74, 17.86) |
| No | -8 (-24, 2) | 0.92 (0.8, 1.03) |
| Missing | 2 (-1, 6) |  |
| **Self-ambulatory at discharge** |  |  |
| Yes | 2 (-1, 12) | 1.02 (1, 1.14) |
| No | -1.4 (-12, 0.7) |  |
| Missing | 21 (-1, 45) | 8 (1.25, 46) |
| **Return to work** |  |  |
| Yes | -17 (-41, -4) | 0.76 (0.42, 0.98) |
| No | 17 (1, 41) | 1.57 (1.05, 6.48) |
| Missing | 40 (-36, 64) | 3.5 (0.18, 12.99) |
| **Pulmonary complication** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 23 (-22, 40) | 3.3 (0.12, 14.65) |
| **Septic complication** |  |  |
| Yes | -2.4 (-8.7, 0) |  |
| No | 2 (0, 9) | 1.02 (1, 1.1) |
| Missing | 23 (-20, 41) | 3.3 (0.13, 15) |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 22 (-20, 39.08) | 3.2 (0.13, 14.5) |
| **Coagulopathy** |  |  |
| Yes | 0 (-17.31, 4.2) |  |
| No | 0 (-17, 0) | 1 (0.83, 1) |
| Missing | 22 (-20, 39.08) | 3.2 (0.13, 14.5) |
| **Need for reexploration or resurgery** |  |  |
| Yes | 0.9 (-5.32, 4.2) |  |
| No | -1 (-5, 4) | 0.99 (0.95, 1.04) |
| Missing | 32 (-21.3, 51.96) | 4.2 (0.17, 17.75) |
| **Failure of conservative management** |  |  |
| No | 0 (-22, 8) | 1 (0.77, 1.09) |
| Yes | 0.1 (-8.4, 22) | 1.06 (0.26, 17) |
| Missing | 32 (-35.17, 54) | 3.67 (0, 20.5) |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | -30 (-50, -1.99) | 0.67 (0.5, 1) |
| I have some problems in walking | 14 (0.84, 33) | 3.8 (2.06, 16.11) |
| I am confined to bed | 15.7 (-15.7, 28) |  |
| Missing | 30 (-10, 51) | 3.31 (0.35, 13.38) |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | -35 (-52, -23) | 0.59 (0.44, 0.73) |
| I have some problems bathing or dressing myself | 22.7 (0, 41) | 3.73 (1.21, 20.62) |
| I am unable to bathe or dress myself | 12.3 (-5.5, 44.8) | 2.84 (0.88, 20) |
| Missing | 30 (-10, 51) | 3.31 (0.35, 13.38) |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | -38 (-61, -23) | 0.55 (0.35, 0.69) |
| I have some problems in performing my usual activities | 29.7 (17, 46.5) | 4.58 (2.2, 26.47) |
| I am unable to perform my usual activities | 8.3 (-6, 33) | 2.24 (0.76, 18.12) |
| Missing | 30 (-10, 51) | 3.31 (0.35, 13.38) |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -40 (-62, -22) | 0.38 (0.21, 0.57) |
| I have moderate pain or discomfort | 5 (-16, 45) | 1.17 (0.69, 4.46) |
| I have extreme pain or discomfort | 35 (-36.75, 49) |  |
| Missing | 30 (-10, 51) | 3.31 (0.35, 13.38) |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | -3 (-40, 10) | 0.97 (0.59, 1.13) |
| I am moderately anxious or depressed | 1.8 (-11.4, 39.6) | 1.36 (0.43, 19.33) |
| I am extremely anxious or depressed | 1.7 (0, 6.4) |  |
| Missing | 30 (-10, 51) | 3.31 (0.35, 13.38) |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | -21 (-50, -14) | 0.79 (0.5, 0.86) |
| I have some problems in walking | 17 (5, 50) |  |
| I am confined to bed | 4.2 (-3.7, 12) |  |
| Missing | 44 (-43.29, 69) | 3.93 (0.16, 15.75) |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | -18 (-39, -10) | 0.81 (0.61, 0.9) |
| I have some problems bathing or dressing myself | 15 (7.4, 33) |  |
| I am unable to bathe or dress myself | 2.5 (-7, 25.9) | 1.74 (0.58, 11.76) |
| Missing | 44 (-43.29, 69) | 3.93 (0.16, 15.75) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | -14 (-46, 1) | 0.85 (0.52, 1.03) |
| I have some problems in performing my usual activities | 10.3 (-1, 41.2) | 7.06 (4.78, 23.89) |
| I am unable to perform my usual activities | 3.5 (-5.6, 24.9) | 2.03 (0.84, 11.76) |
| Missing | 44 (-43.29, 69) | 3.93 (0.16, 15.75) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | -7 (-28, 6) | 0.92 (0.72, 1.09) |
| I have moderate pain or discomfort | 5 (-10, 26.65) | 1.36 (0.61, 14.5) |
| I have extreme pain or discomfort | 2 (0, 8.8) |  |
| Missing | 44 (-43.29, 69) | 3.93 (0.16, 15.75) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | -2 (-42, 7) | 0.98 (0.57, 1.09) |
| I am moderately anxious or depressed | 0.5 (-11, 42.2) | 1.15 (0.31, 27.27) |
| I am extremely anxious or depressed | 1 (0, 5.1) |  |
| Missing | 44 (-43.29, 69) | 3.93 (0.16, 15.75) |
| **Patient satisfaction** |  |  |
| Very satisfied | -24 (-39, -17) | 0.74 (0.6, 0.84) |
| Somewhat satisfied | 8.3 (-1.09, 35.6) | 2.46 (1.09, 19.33) |
| Somewhat dissatisfied | 9.4 (4, 17) |  |
| Very dissatisfied | 5.8 (0, 13) |  |
| Missing | 20 (-1, 44) | 7.67 (1.25, 45) |
| **Number of hospitalizations for this injury** |  |  |
| Missing | 23 (-27, 42.97) | 3.09 (0, 15.5) |
| **EQ-5D health state at discharge** | -40 (-89, -25) | 0.56 (0.06, 0.83) |
| Missing | 29 (-32, 53) | 2.53 (0.18, 8.62) |
| **EQ-5D health state at 30 day follow-up** | -17 (-91, 5) | 0.83 (0.09, 1.1) |
| Missing | 44 (-47, 69.25) | 3.59 (0.14, 14.75) |
| **Cost of treatment** | 1000 (-5000, 27188.83) | 1.67 (0.4, 26.67) |
| Missing | 69 (-5, 98.46) | 4.29 (0.78, 10.67) |

## Additional Online Table 8. Absolute and relative differences in outcomes after training, comparing ATLS with PTC (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | -1.1 (-22, 11.22) | 0.78 (0, 4.44) |
| No | 1 (-12, 22) | 1.01 (0.88, 1.28) |
| Missing | -10 (-37, 9) | 0.17 (0, 3.17) |
| **24 hour mortality** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | -6 (-15, -4) | 0.25 (0, 0.88) |
| **In-hospital mortality** |  |  |
| Yes | -0.4 (-17, 9.31) | 0.9 (0, 3.94) |
| No | 0 (-11, 15) | 1 (0.89, 1.19) |
| Missing | 1 (-2, 6) |  |
| **Self-ambulatory at discharge** |  |  |
| Yes | 3 (0, 14) | 1.03 (1, 1.16) |
| No | -2.9 (-14, -1.4) |  |
| Missing | 1 (-28, 25) | 1.33 (0, 13) |
| **Return to work** |  |  |
| Yes | -12 (-40, 7) | 0.83 (0.42, 1.16) |
| No | 12 (-9, 40) | 1.4 (0.86, 4.93) |
| Missing | -7 (-59, 9) | 0.56 (0.05, 2.11) |
| **Pulmonary complication** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | -5 (-42, 5) | 0.5 (0, 2.2) |
| **Septic complication** |  |  |
| Yes | -3.2 (-8.2, -0.8) |  |
| No | 3 (0, 8) | 1.03 (1, 1.09) |
| Missing | -5 (-41, 5) | 0.5 (0, 2.2) |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | -5 (-39, 5) | 0.5 (0, 2.2) |
| **Coagulopathy** |  |  |
| Yes | 4.3 (0, 16) |  |
| No | -4 (-16, 0) | 0.96 (0.84, 1) |
| Missing | -5 (-39, 5) | 0.5 (0, 2.2) |
| **Need for reexploration or resurgery** |  |  |
| Yes | -1.6 (-7.7, 0) |  |
| No | 2 (0, 8) | 1.02 (1, 1.09) |
| Missing | -4 (-46, 5) | 0.6 (0, 2.4) |
| **Failure of conservative management** |  |  |
| No | -6 (-26, -1) | 0.94 (0.73, 0.99) |
| Yes | 6.4 (0.9, 26.4) | 5 (2.6, 27.14) |
| Missing | -9 (-52, 9) | 0.25 (0, 3) |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | -3 (-37.88, 35.16) | 0.97 (0.61, 1.59) |
| I have some problems in walking | 6 (-14, 25.04) | 2.2 (0.45, 14.67) |
| I am confined to bed | -3.3 (-26, 3.6) |  |
| Missing | -3 (-51, 9) | 0.77 (0.11, 2.25) |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | -18 (-57, 21) | 0.79 (0.41, 1.49) |
| I have some problems bathing or dressing myself | 2.7 (-30, 29.35) | 1.33 (0, 8) |
| I am unable to bathe or dress myself | 15.3 (4, 42.8) | 3.28 (1.16, 20) |
| Missing | -3 (-51, 9) | 0.77 (0.11, 2.25) |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | -24 (-63, 10.64) | 0.72 (0.28, 1.39) |
| I have some problems in performing my usual activities | 13.7 (-21.15, 56) | 2.65 (0.74, 23.16) |
| I am unable to perform my usual activities | 10.3 (-1, 50.3) | 2.54 (1.09, 18.33) |
| Missing | -3 (-51, 9) | 0.77 (0.11, 2.25) |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -15 (-53, 33.45) | 0.77 (0.3, 2.35) |
| I have moderate pain or discomfort | 20 (3, 49) | 1.67 (1.12, 4.46) |
| I have extreme pain or discomfort | -5 (-49, 5.8) |  |
| Missing | -3 (-51, 9) | 0.77 (0.11, 2.25) |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | -12 (-43, -4) | 0.87 (0.55, 0.96) |
| I am moderately anxious or depressed | 12 (1.7, 42.8) | 3.4 (1.17, 22.31) |
| I am extremely anxious or depressed | 0 (-6.8, 0) |  |
| Missing | -3 (-51, 9) | 0.77 (0.11, 2.25) |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | -18 (-55, -4) | 0.82 (0.45, 0.98) |
| I have some problems in walking | 20 (11.9, 55) |  |
| I am confined to bed | -1.7 (-12, 1.7) |  |
| Missing | -7 (-65, 8) | 0.53 (0.05, 2.14) |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | -17 (-38, -8) | 0.82 (0.61, 0.94) |
| I have some problems bathing or dressing myself | 10 (-6, 30) |  |
| I am unable to bathe or dress myself | 6.6 (2.4, 24.3) | 2.94 (1.65, 13.89) |
| Missing | -7 (-65, 8) | 0.53 (0.05, 2.14) |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | -20 (-46, -12) | 0.79 (0.53, 0.88) |
| I have some problems in performing my usual activities | 13.3 (5, 38) | 8.82 (9.31, 21.11) |
| I am unable to perform my usual activities | 6.6 (1.8, 24) | 2.94 (1.7, 13.89) |
| Missing | -7 (-65, 8) | 0.53 (0.05, 2.14) |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | -6 (-29, 7) | 0.93 (0.69, 1.11) |
| I have moderate pain or discomfort | 6 (-8, 28) | 1.43 (0.67, 12) |
| I have extreme pain or discomfort | 0 (-6.6, 0) |  |
| Missing | -7 (-65, 8) | 0.53 (0.05, 2.14) |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | -12 (-34, -3) | 0.88 (0.65, 0.98) |
| I am moderately anxious or depressed | 11.6 (-0.06, 34.4) | 4.41 (0.87, 23.75) |
| I am extremely anxious or depressed | 0 (-4.8, 0) |  |
| Missing | -7 (-65, 8) | 0.53 (0.05, 2.14) |
| **Patient satisfaction** |  |  |
| Very satisfied | -15 (-35, 8) | 0.84 (0.65, 1.16) |
| Somewhat satisfied | 7.3 (-2.4, 26.7) | 2.28 (0.93, 12.14) |
| Somewhat dissatisfied | 4.2 (-7.79, 15.31) |  |
| Very dissatisfied | 4.2 (-3, 17) |  |
| Missing | 1 (-27.21, 24) | 1.33 (0, 13) |
| **Number of hospitalizations for this injury** |  |  |
| Missing | -8 (-44, 8) | 0.27 (0, 2.75) |
| **EQ-5D health state at discharge** | -25 (-85, 15) | 0.72 (0.06, 1.39) |
| Missing | -9 (-55, 10) | 0.53 (0.08, 1.92) |
| **EQ-5D health state at 30 day follow-up** | -17 (-91, 0) | 0.83 (0.09, 1) |
| Missing | -9 (-67, 9) | 0.47 (0.04, 2.25) |
| **Cost of treatment** | 3500 (0, 33000) | 3.33 (1, 55.56) |
| Missing | 0 (-95.49, 70) | 1 (0.11, 4.45) |

## Additional Online Table 9. Absolute and relative differences in changes from baseline for all outcomes, comparing standard care with ATLS (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | 9.6 (-25.64, 31.44) |  |
| No | -9 (-31, 26) |  |
| Missing | 23 (-9.51, 43) |  |
| **24 hour mortality** |  |  |
| Yes | -2.4 (-9.8, 0) |  |
| No | 2 (-3, 10) |  |
| Missing | 7 (-1, 18) |  |
| **In-hospital mortality** |  |  |
| Yes | 3.4 (-16.6, 21.53) |  |
| No | -3 (-22, 16) |  |
| Missing | 1 (-3.52, 5) | 2 (0.5, 5) |
| **Self-ambulatory at discharge** |  |  |
| Yes | -4 (-38, 4) |  |
| No | 4.7 (-3.7, 38) |  |
| Missing | 22 (-31, 39.93) |  |
| **Return to work** |  |  |
| Yes | 37 (18, 86) |  |
| No | -37 (-86, -19) |  |
| Missing | 45 (-39, 71) |  |
| **Pulmonary complication** |  |  |
| Yes | 0 (-12, 0) |  |
| No | 0 (-10, 2) |  |
| Missing | 32 (-33, 51.17) |  |
| **Septic complication** |  |  |
| Yes | -1.7 (-12.85, 5.17) |  |
| No | 1 (-8, 10) |  |
| Missing | 33 (-36, 53.18) |  |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 31 (-34, 50.16) |  |
| **Coagulopathy** |  |  |
| Yes | -4.3 (-16, 0) |  |
| No | 4 (0, 16) |  |
| Missing | 32 (-34, 51.29) |  |
| **Need for reexploration or resurgery** |  |  |
| Yes | 2.5 (-3.8, 10.29) |  |
| No | -3 (-11, 1) |  |
| Missing | 39 (-43, 63.27) | 20.5 (7.8, 58) |
| **Failure of conservative management** |  |  |
| No | 6 (0, 26) |  |
| Yes | -6.3 (-26, -1.5) |  |
| Missing | 49 (33, 66) |  |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | -22 (-78, -6) |  |
| I have some problems in walking | -1.7 (-26.99, 20.5) |  |
| I am confined to bed | 23 (7.18, 63) |  |
| Missing | 35 (-51.8, 60.45) |  |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | -18 (-56, 6) |  |
| I have some problems bathing or dressing myself | 22 (-5, 59) |  |
| I am unable to bathe or dress myself | -4 (-42.7, 17.31) |  |
| Missing | 35 (-51.8, 60.45) |  |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | -18 (-64, 15) |  |
| I have some problems in performing my usual activities | 13 (-21.42, 46.56) |  |
| I am unable to perform my usual activities | 5 (-12.9, 45) |  |
| Missing | 35 (-51.8, 60.45) |  |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -25 (-66.11, 51) |  |
| I have moderate pain or discomfort | 11 (-43, 52.7) |  |
| I have extreme pain or discomfort | 14 (-8, 37.6) |  |
| Missing | 35 (-51.8, 60.45) |  |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | -20 (-73, -4) | 0.39 (-30, 1.56) |
| I am moderately anxious or depressed | 21.8 (6, 68) | 0.34 (-264, 1.29) |
| I am extremely anxious or depressed | -0.9 (-9.42, 5.6) |  |
| Missing | 35 (-51.8, 60.45) |  |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | -1 (-42, 28) |  |
| I have some problems in walking | 1 (-33, 27) |  |
| I am confined to bed | -0.1 (-29.57, 36.4) |  |
| Missing | 51 (-40, 74) |  |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | 11 (-6, 59) |  |
| I have some problems bathing or dressing myself | 15.5 (-8.77, 58.1) |  |
| I am unable to bathe or dress myself | -27.1 (-60.9, -19.65) |  |
| Missing | 51 (-40, 74) |  |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | 35 (14, 76) |  |
| I have some problems in performing my usual activities | -22 (-64, -9.9) |  |
| I am unable to perform my usual activities | -12.8 (-38.4, -6.2) |  |
| Missing | 51 (-40, 74) |  |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | -8 (-74.56, 15) |  |
| I have moderate pain or discomfort | 6 (-18, 58.86) |  |
| I have extreme pain or discomfort | 2 (-6.57, 11.06) |  |
| Missing | 51 (-40, 74) |  |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | 13 (-14, 45) |  |
| I am moderately anxious or depressed | -14.3 (-39.4, 1.3) |  |
| I am extremely anxious or depressed | 1 (-5.8, 9.6) |  |
| Missing | 51 (-40, 74) |  |
| **Patient satisfaction** |  |  |
| Very satisfied | -12 (-45.57, 27) |  |
| Somewhat satisfied | 14 (3.16, 53.3) | 0.39 (-27.05, 2.55) |
| Somewhat dissatisfied | -2.5 (-17.13, 10.9) |  |
| Very dissatisfied | -1 (-21.48, 17.3) |  |
| Missing | 19 (-29, 36) |  |
| **Number of hospitalizations for this injury** | 0 (-1, -1) |  |
| Missing | 39 (29, 57) |  |
| **EQ-5D health state at discharge** | -5 (-68.92, 60) |  |
| Missing | 33 (-38, 62.24) |  |
| **EQ-5D health state at 30 day follow-up** | 90 (86, 116) |  |
| Missing | 49 (-35, 77) |  |
| **Cost of treatment** | -9500 (-74630.2, 10549.64) |  |
| Missing | 60 (-66, 95) | 9.57 (0.05, 94) |

## Additional Online Table 10. Absolute and relative differences in changes from baseline for all outcomes, comparing standard care with PTC (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | 18.5 (14.1, 44.3) |  |
| No | -18 (-44, -14) |  |
| Missing | 19 (-14.83, 37) |  |
| **24 hour mortality** |  |  |
| Yes | -2.4 (-9.8, 0) |  |
| No | 2 (0, 10) |  |
| Missing | 4 (-10, 12) |  |
| **In-hospital mortality** |  |  |
| Yes | 10 (3.8, 25.8) |  |
| No | -10 (-26, -5) |  |
| Missing | 2 (-1, 6) |  |
| **Self-ambulatory at discharge** |  |  |
| Yes | 3 (-10, 40.7) |  |
| No | -2.4 (-40.06, 10.2) |  |
| Missing | 27 (15.73, 49) |  |
| **Return to work** |  |  |
| Yes | 16 (-61, 54) |  |
| No | -16 (-56, 57.88) |  |
| Missing | 43 (-6, 69.51) |  |
| **Pulmonary complication** |  |  |
| Yes | 2.2 (0, 10) |  |
| No | -2 (-10, 0) |  |
| Missing | 32 (-3, 52) |  |
| **Septic complication** |  |  |
| Yes | -0.5 (-7.44, 7.44) |  |
| No | 0 (-9, 5) |  |
| Missing | 34 (-2, 55) |  |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 32 (-2, 51) |  |
| **Coagulopathy** |  |  |
| Yes | 0 (-17.31, 4.2) |  |
| No | 0 (-17, 0) |  |
| Missing | 33 (-2, 52) |  |
| **Need for reexploration or resurgery** |  |  |
| Yes | 3 (-0.1, 10.7) |  |
| No | -3 (-11, -1) |  |
| Missing | 41 (-1, 64) |  |
| **Failure of conservative management** |  |  |
| No | -2 (-27, 4) |  |
| Yes | 2.3 (-4.1, 27.3) |  |
| Missing | 41 (-42, 64) |  |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | -9 (-45, 37.2) |  |
| I have some problems in walking | 8 (-10.76, 43.6) |  |
| I am confined to bed | -0.4 (-71.7, 22) |  |
| Missing | 44 (33, 74) |  |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | -14 (-67.77, 24) |  |
| I have some problems bathing or dressing myself | 19.7 (-9.7, 62.13) |  |
| I am unable to bathe or dress myself | -6.4 (-47, 21) |  |
| Missing | 44 (33, 74) |  |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | -16 (-72.97, 22) |  |
| I have some problems in performing my usual activities | 16.7 (-15, 65.46) |  |
| I am unable to perform my usual activities | 0.1 (-34, 32.74) |  |
| Missing | 44 (33, 74) |  |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -39 (-78.7, -13) |  |
| I have moderate pain or discomfort | 27 (0, 61) |  |
| I have extreme pain or discomfort | 11.4 (-3.77, 36.29) |  |
| Missing | 44 (33, 74) |  |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | -9 (-45.55, 37.45) | 0.59 (0, 9.18) |
| I am moderately anxious or depressed | 7.8 (-42.26, 43.34) | 0.59 (0.03, 12.41) |
| I am extremely anxious or depressed | 1.5 (-2, 13.5) |  |
| Missing | 44 (33, 74) |  |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | 5 (-35, 49) |  |
| I have some problems in walking | 11 (-16, 83) |  |
| I am confined to bed | -16.5 (-82.9, 0) |  |
| Missing | 48 (-7, 76.59) |  |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | 2 (-65.02, 32) |  |
| I have some problems bathing or dressing myself | 13.2 (-14.34, 87.99) |  |
| I am unable to bathe or dress myself | -15.8 (-44.79, 21.8) |  |
| Missing | 48 (-7, 76.59) |  |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | 6 (-70, 32) |  |
| I have some problems in performing my usual activities | -4 (-21.6, 47.5) |  |
| I am unable to perform my usual activities | -1.5 (-17, 36.26) |  |
| Missing | 48 (-7, 76.59) |  |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | -4 (-61.12, 34.64) |  |
| I have moderate pain or discomfort | 0 (-48, 45) |  |
| I have extreme pain or discomfort | 4.3 (2.1, 12.9) |  |
| Missing | 48 (-7, 76.59) |  |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | -13 (-60, 8) |  |
| I am moderately anxious or depressed | 9.3 (-11.4, 60.2) |  |
| I am extremely anxious or depressed | 3.3 (2, 12.9) |  |
| Missing | 48 (-7, 76.59) |  |
| **Patient satisfaction** |  |  |
| Very satisfied | -18 (-66, 6) |  |
| Somewhat satisfied | 1.3 (-41.15, 30.03) |  |
| Somewhat dissatisfied | 5.6 (-3.77, 19.4) |  |
| Very dissatisfied | 11 (4.3, 25) |  |
| Missing | 24 (15, 48) |  |
| **Number of hospitalizations for this injury** | 0 (-1, -1) |  |
| Missing | 29 (-33.53, 52) |  |
| **EQ-5D health state at discharge** | -10 (-90, 39) |  |
| Missing | 35 (-3, 59) |  |
| **EQ-5D health state at 30 day follow-up** | 73 (15, 114) |  |
| Missing | 45 (-8, 73.22) |  |
| **Cost of treatment** | -10975 (-81672.96, 7582.31) |  |
| Missing | 64 (-2, 103) |  |

## Additional Online Table 11. Absolute and relative differences in changes from baseline for all outcomes, comparing ATLS with PTC (95% CI)

Empty cells indicate that there were no observations to calculate the statistic.

| Outcome | Absolute difference | Relative difference |
| --- | --- | --- |
| **30 day mortality** |  |  |
| Yes | 8.9 (-12.57, 32.12) |  |
| No | -9 (-32.63, 12) |  |
| Missing | -4 (-37, 7) |  |
| **24 hour mortality** |  |  |
| Yes | 0 (-12, 0) |  |
| No | 0 (-11, 0) |  |
| Missing | -3 (-15, 3) |  |
| **In-hospital mortality** |  |  |
| Yes | 6.6 (-4.2, 24.9) |  |
| No | -7 (-25, 2) |  |
| Missing | 1 (-2, 6) |  |
| **Self-ambulatory at discharge** |  |  |
| Yes | 7 (0, 41) |  |
| No | -7.1 (-41.1, -0.7) |  |
| Missing | 5 (-25, 33) |  |
| **Return to work** |  |  |
| Yes | -21 (-89, 10) |  |
| No | 21 (-12, 89) |  |
| Missing | -2 (-66, 41) |  |
| **Pulmonary complication** |  |  |
| Yes | 2.2 (0, 10) |  |
| No | -2 (-10, 0) |  |
| Missing | 0 (-47, 36) |  |
| **Septic complication** |  |  |
| Yes | 1.2 (-3.75, 13.86) |  |
| No | -1 (-14, 3) |  |
| Missing | 1 (-44.28, 39) |  |
| **Renal failure** |  |  |
| Yes |  |  |
| No |  |  |
| Missing | 1 (-41.9, 37) |  |
| **Coagulopathy** |  |  |
| Yes | 4.3 (0, 16) |  |
| No | -4 (-16, 0) |  |
| Missing | 1 (-42.61, 38) |  |
| **Need for reexploration or resurgery** |  |  |
| Yes | 0.5 (-6.1, 5.2) |  |
| No | 0 (-5, 6) |  |
| Missing | 2 (-46, 49) |  |
| **Failure of conservative management** |  |  |
| No | -8 (-28, -2) |  |
| Yes | 8.6 (2.1, 28.5) |  |
| Missing | -8 (-67, 9) |  |
| **EQ-5D mobility at discharge** |  |  |
| I have no problems in walking | 13 (-12, 72) |  |
| I have some problems in walking | 9.7 (-7.7, 45) |  |
| I am confined to bed | -23.4 (-57.5, -1.76) |  |
| Missing | 9 (-39, 51) |  |
| **EQ-5D self-care at discharge** |  |  |
| I have no problems with self-care | 4 (-32.19, 58.2) |  |
| I have some problems bathing or dressing myself | -2.3 (-50.44, 25.2) |  |
| I am unable to bathe or dress myself | -2.4 (-38, 33) |  |
| Missing | 9 (-39, 51) |  |
| **EQ-5D usual activities at discharge** |  |  |
| I have no problems in performing my usual activities | 2 (-36, 56.83) |  |
| I have some problems in performing my usual activities | 3.7 (-34.93, 48) |  |
| I am unable to perform my usual activities | -4.9 (-51.52, 21) |  |
| Missing | 9 (-39, 51) |  |
| **EQ-5D pain/discomfort at discharge** |  |  |
| I have no pain or discomfort | -14 (-65.85, 40) |  |
| I have moderate pain or discomfort | 16 (-23, 70) |  |
| I have extreme pain or discomfort | -2.6 (-30, 6.85) |  |
| Missing | 9 (-39, 51) |  |
| **EQ-5D anxiety/depression at discharge** |  |  |
| I am not anxious or depressed | 11 (-15, 70) | 1.5 (0.5, 35) |
| I am moderately anxious or depressed | -14 (-67.3, 8.2) | 1.74 (0.56, 28.5) |
| I am extremely anxious or depressed | 2.4 (0, 11.4) |  |
| Missing | 9 (-39, 51) |  |
| **EQ-5D mobility at 30 day follow-up** |  |  |
| I have no problems in walking | 6 (-34, 57) | 1.86 (0.3, 44) |
| I have some problems in walking | 10 (-16, 87.6) |  |
| I am confined to bed | -16.4 (-101.8, 2.94) |  |
| Missing | -3 (-72, 40) |  |
| **EQ-5D self-care at 30 day follow-up** |  |  |
| I have no problems with self-care | -9 (-93, 16) |  |
| I have some problems bathing or dressing myself | -2.3 (-39.42, 30.96) |  |
| I am unable to bathe or dress myself | 11.3 (-7.7, 62.3) |  |
| Missing | -3 (-72, 40) |  |
| **EQ-5D usual activities at 30 day follow-up** |  |  |
| I have no problems in performing my usual activities | -29 (-66, 7) |  |
| I have some problems in performing my usual activities | 18 (-1.3, 44.9) |  |
| I am unable to perform my usual activities | 11.3 (1.1, 34.5) |  |
| Missing | -3 (-72, 40) |  |
| **EQ-5D pain/discomfort at 30 day follow-up** |  |  |
| I have no pain or discomfort | 4 (-39.62, 56.63) |  |
| I have moderate pain or discomfort | -6 (-62.71, 31) |  |
| I have extreme pain or discomfort | 2.3 (0, 12) |  |
| Missing | -3 (-72, 40) |  |
| **EQ-5D anxiety/depression at 30 day follow-up** |  |  |
| I am not anxious or depressed | -26 (-49, -17.47) |  |
| I am moderately anxious or depressed | 23.6 (12.2, 46) |  |
| I am extremely anxious or depressed | 2.3 (0, 11) |  |
| Missing | -3 (-72, 40) |  |
| **Patient satisfaction** |  |  |
| Very satisfied | -6 (-47.26, 25) |  |
| Somewhat satisfied | -12.7 (-57.2, 2.75) |  |
| Somewhat dissatisfied | 8.1 (0.9, 30) |  |
| Very dissatisfied | 12 (4.2, 26) |  |
| Missing | 5 (-22, 30) |  |
| **Number of hospitalizations for this injury** | 0 (-1, -0.5) |  |
| Missing | -10 (-55, 11) |  |
| **EQ-5D health state at discharge** | -5 (-78.91, 41.66) |  |
| Missing | 2 (-44.02, 42) |  |
| **EQ-5D health state at 30 day follow-up** | -17 (-109, 20) |  |
| Missing | -4 (-71, 18) |  |
| **Cost of treatment** | -1475 (-33639.83, 29927.2) |  |
| Missing | 4 (-75, 76) |  |