| Study              | SSD group |                  |                  | Control group |                  |                  | SMD (95% CI) | Weight |
|-------------------|-----------|------------------|------------------|---------------|------------------|------------------|--------------|--------|
| Mahmoodpoor 2017  | 11.6      | 7.1              | 138              | 12.3          | 10.5             | 138              | -0.08 (-0.31, 0.16) | 10.92  |
| Deem 2016         | 6.5       | 12.7             | 34               | 4.5           | 4.3              | 36               | 0.21 (-0.26, 0.68)  | 5.46   |
| Jena 2016         | 21.5      | 17.6             | 25               | 17.2          | 11.5             | 25               | 0.29 (-0.27, 0.85)  | 4.30   |
| Damas 2015        | 11.71     | 11.87            | 170              | 10.87         | 9.79             | 182              | 0.08 (-0.13, 0.29)  | 11.75  |
| Lacherade 2010    | 10.9      | 10.6             | 169              | 10.8          | 14               | 164              | 0.01 (-0.21, 0.22)  | 11.58  |
| Zheng 2008        | 7.9       | 2.6              | 30               | 10.4          | 0.9              | 31               | -1.29 (-1.85, -0.74) | 4.36   |
| Bouza 2008        | 2         | 5.3              | 345              | 1.9           | 3.8              | 369              | 0.02 (-0.13, 0.17)  | 13.75  |
| Lorente 2007      | 10.5      | 15.91            | 140              | 11.1          | 15.19            | 140              | -0.04 (-0.27, 0.20) | 10.96  |
| Liu SH 2006       | 15        | 14               | 48               | 15            | 10               | 50               | 0.00 (-0.40, 0.40)  | 6.78   |
| Smulders 2002     | 5.8       | 4.4              | 75               | 7.1           | 5.4              | 75               | -0.26 (-0.58, 0.06) | 8.47   |
| Kollef 1999       | 1.5       | 3.3              | 160              | 1.9           | 5.1              | 183              | -0.09 (-0.30, 0.12) | 11.67  |
| Overall (I-squared = 62.4%, p = 0.003) | 0.07 (-0.20, 0.07) | 100.00 |

Outcome: Duration of mechanical ventilation
| Study          | SSD group |           |           | Control group |           |           | SMD (95% CI) | Weight |
|---------------|-----------|-----------|-----------|---------------|-----------|-----------|--------------|--------|
|               | Mean      | SD        | Total     | Mean          | SD        | Total     |              |        |
| Mahmoodpoor 2017 | 27.2      | 7         | 138       | 29.5          | 9.9       | 138       | -0.27 (-0.50, -0.03) | 14.21  |
| Damas 2015     | 34.9      | 32.6      | 170       | 33.3          | 26.4      | 182       | 0.06 (-0.15, 0.26)   | 18.28  |
| Bouza 2008     | 14        | 25.4      | 345       | 13.7          | 17.4      | 369       | 0.01 (-0.13, 0.16)   | 36.94  |
| Liu SH 2006    | 30        | 31        | 48        | 32            | 19        | 50        | -0.08 (-0.47, 0.32)  | 5.09   |
| Smulders 2002  | 26.8      | 23.3      | 75        | 28.3          | 28.2      | 75        | -0.06 (-0.38, 0.26)  | 7.80   |
| Kollef 1999    | 11        | 1.2       | 160       | 12.4          | 14.2      | 183       | -0.14 (-0.35, 0.08)  | 17.68  |
| Overall (I-squared = 10.6%, p = 0.348) |           |           |           |               |           |           | -0.06 (-0.14, 0.03)  | 100.00 |

Outcome: Hospital length of stay
| Study            | SSD group |                  |                  |                  |                  |                  |                  |                  | SMD (95% CI) | Weight |
|------------------|-----------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|------------|--------|
| Mahmoodpoor 2017| Mean 15   | SD 5             | Total 138        | Mean 18          | SD 10            | Total 138        | -0.38 (-0.62, -0.14) | 12.30          |            |
| Jena 2016        | Mean 29.8 | SD 20.1          | Total 25         | Mean 24.4        | SD 14.2          | Total 25         | 0.31 (-0.25, 0.87)  | 5.04           |            |
| Damas 2015       | Mean 16.2 | SD 13.52         | Total 170        | Mean 15.76       | SD 13.15         | Total 182        | 0.03 (-0.18, 0.24)  | 13.29          |            |
| Lacherade 2010   | Mean 15.9 | SD 14.4          | Total 169        | Mean 15.7        | SD 20.4          | Total 164        | 0.01 (-0.20, 0.23)  | 13.11          |            |
| Zheng 2008       | Mean 9.3  | SD 2.9           | Total 30         | Mean 12.3        | SD 5.7           | Total 31         | -0.66 (-1.18, -0.14) | 5.63           |            |
| Bouza 2008       | Mean 5.6  | SD 10.7          | Total 345        | Mean 6.5         | SD 14.2          | Total 369        | -0.07 (-0.22, 0.08) | 15.38          |            |
| Lorente 2007     | Mean 14.1 | SD 17.91         | Total 140        | Mean 15.5        | SD 19.93         | Total 140        | -0.07 (-0.31, 0.16) | 12.45          |            |
| Smulders 2002    | Mean 9.3  | SD 7.4           | Total 75         | Mean 12.3        | SD 3.6           | Total 75         | -0.52 (-0.84, -0.19) | 9.62           |            |
| Kollef 1999      | Mean 3.7  | SD 4.6           | Total 160        | Mean 3.2         | SD 4.5           | Total 183        | 0.11 (-0.10, 0.32)  | 13.19          |            |
| **Overall**      |           |                  |                  |                  |                  |                  | -0.12 (-0.26, 0.03)  | 100.00         |            |

Outcome: ICU length of stay