**Appendix**

**FIGURE 1.** Flow of patients outlining those excluded from per-protocol analysis.

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**Table 1**. Patient demographics.

|  |  |  |
| --- | --- | --- |
|  | Per Protocol Data (%) | Pre-Exclusion (%) |
| Males | 158 (77.8) | 239 (78.6) |
| Age (at time of trauma, Average) | 49.2 | 49.3 |
| Right-Sided pneumothorax | 95 (46.8) | 92 (30.3) |
| Bilateral pneumothoraces | 33 (16.3) | 49 (16.1) |
| Chest Tube Inserted | N/A | 97 (31.9) |
| ISS Score (Average) | 20.7 | 21.6 |
| Survival to Discharge | 189 (93.1) | 275 (90.4) |
| ICU LOS (Days, Average) | 3.7 | 4.7 |
| Hospital LOS (Days, Average) | 11.2 | 11.9 |

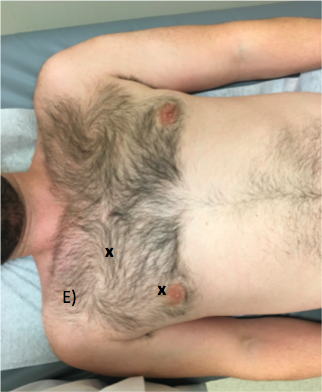
**Table 2.** pneumothoraces per zone.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Zone | Number of pneumothoraces isolated to a single zones (% of total) | Percentage occurring in isolated zone only (i.e. if you find a zone x pneumothorax, this % will be isolated) | Number of pneumothorax | Percentage of total (n=203) |
| 1 | 3 (1.5) | 4.3 | 69 | 34.0 |
| 2 | 3 (1.5) | 3.8 | 80 | 39.4 |
| 3 | 8 (3.9) | 4.6 | 174 | 85.7 |
| 4 | 4 (2.0) | 2.4 | 164 | 80.8 |
| 5 | 0 | 0 | 123 | 60.6 |
| 6 | 0 | 0 | 117 | 57.6 |
| 7 | 12 (5.9) | 9.8 | 122 | 60.1 |

**Table 3.** Sensitivity of zones accessible to an US probe.

|  |  |
| --- | --- |
| Zones (individual and combination) | Sensitivity % (CI) |
| 2 | 39.4 (32.6-46.5) |
| 3 | 85.7 (80.1-90.2) |
| 4 | 80.8 (74.7-86.0) |
| 6 | 57.6 (50.5-64.5) |
| 2+3 | 88.2 (82.9-92.3) |
| 2+4 | 84.2 (78.5-89.0) |
| 2+6 | 67.0 (60.1-73.4) |
| 3+4 | 89.7 (84.6-93.5) |
| 3+6 | 87.7 (82.4-91.9) |
| 4+6 | 82.8 (76.9-87.7) |
| 2+3+4 | 91.6 (86.9-95.0) |
| 2+3+6 | 90.2 (85.2-93.9) |
| 2+4+6 | 90.2 (85.2-93.9) |
| 3+4+6 | 86.2 (80.7-90.6) |
| 2+3+4+6 | 91.6 (86.9-95.0) |

**Figure 2.** Comparison of the POCUS scanning protocols on the chest wall; Scanning zones 2,3,4 (A - blue dotted line); Volpicelli et al (B - exploration of the least gravitationally dependent areas progressing more laterally with no specific anatomical landmarks described), Blaivas et al (C- “four locations of each hemi thorax, anterior second intercostal space at the mid clavicular line, fourth intercostal space at the anterior axillary line, sixth intercostal space at the midaxillary line, and sixth intercostal space at the posterior axillary line”, \*fourth location not pictured), Hellard et al (D- Including single view protocol (red x) and four view protocol (single view - midclavicular line in the third intercostal space , four view - using the same single view and an additional three views with the probe moved inferiorly and laterally to obtain the additional three images)) BLUE protocol (E- Two hands (from roughly the patient’s size) are applied as follows: upper little finger just below clavicle , fingertips at middle line, and lower hand just below upper hand (thumbs excluded). The point coined “upper BLUE-point” is at the middle of the upper hand. The “lower BLUE-point” is at the middle of the lower palm. These four points roughly follow the anatomy of the lung, and avoid the heart as much as possible. The posterolateral alveolar and/or pleural syndrome (PLAPS)-point (not shown) is built from the horizontal line continuing the lower BLUE-point and the vertical line continuing the posterior axillary line.) (2-4).

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