**Supplementary table.** Modelling the effect of adding in absolute base excess (BE), lactate, or both, to a modified PIM2 and PIM3 (without BE) using only the ANZPIC registry dataset (n=41,676). In addition modelling the effect of allowing venous (V) BE samples to be included along with arterial (A) and capillary (C) samples. Likelihood ratio (LR) test against modified PIM without BE, area under the Receiver Operating Characteristic curve (AUROC). Missing BE set to zero, missing lactate set to 1.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Model | LR test | P | AUROC | 95% CI |
| Modified PIM2 (without BE) | Add absolute BE  (A, C) | 98.27 | <0.0001 | 0.9086 | 0.8994-0.9178 |
|  | Add absolute BE  (A, C, V) | 136.78 | <0.0001 | 0.9098 | 0.9006-0.9190 |
|  | Add lactate | 157.3 | <0.0001 | 0.9113 | 0.9023-0.9203 |
|  | Add both lactate and absolute BE (A, C, V) | 188.40 | <0.0001 | 0.9120 | 0.9030-0.9211 |
|  |  |  |  |  |  |
| Modified PIM3 (without BE) | Add absolute BE (A, C) | 19.46 | <0.0001 | 0.9112 | 0.9020-0.9205 |
|  | Add absolute BE (A, C, V) | 28.91 | <0.0001 | 0.9119 | 0.9027-0.9212 |
|  | Add lactate | 32.59 | <0.0001 | 0.9137 | 0.9047-0.9228 |
|  | Add both lactate and absolute BE (A, C, V) | 39.29 | <0.0001 | 0.9142 | 0.9052-0.9233 |
|  |  |  |  |  |  |