SUPPLEMENTAL DIGITAL CONTENT TABLE 1. Correlations of biomarkers with mean MAP and cumulative vasopressor dose during the first 48 hours of ICU stay

<table>
<thead>
<tr>
<th>Variables</th>
<th>MAP</th>
<th>Vasopressors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spearman’s rho</td>
<td>P value</td>
</tr>
<tr>
<td>PCT 0-6h</td>
<td>-0.272</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PCT 24h</td>
<td>-0.234</td>
<td>0.002</td>
</tr>
<tr>
<td>Presepsin 0-6h</td>
<td>-0.236</td>
<td>0.001</td>
</tr>
<tr>
<td>Presepsin 24h</td>
<td>-0.232</td>
<td>0.002</td>
</tr>
<tr>
<td>Lactate 0-6h</td>
<td>-0.199</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Lactate 24h</td>
<td>-0.342</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

MAP, mean arterial pressure; PCT, procalcitonin
## SUPPLEMENTAL DIGITAL CONTENT TABLE 2A. Linear regression model for predicting mean 48 hour mean MAP with admission PCT

<table>
<thead>
<tr>
<th></th>
<th>Single variable</th>
<th></th>
<th>All variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (95% CI)</td>
<td>P-value</td>
<td>B (95% CI)</td>
<td>P-value</td>
</tr>
<tr>
<td>Age (years)</td>
<td>-0.17 (-0.28 – -0.06)</td>
<td>0.004</td>
<td>-0.12 (-0.25 – -0.00)</td>
<td>0.058</td>
</tr>
<tr>
<td>Gender (male)</td>
<td>-4.3 (-8.3 – -0.3)</td>
<td>0.036</td>
<td>-3.9 (-7.9 – -0.2)</td>
<td>0.062</td>
</tr>
<tr>
<td>Shockable (yes)</td>
<td>-0.83 (-3.9 – 2.2)</td>
<td>0.592</td>
<td>-4.3 (-7.8 – -0.8)</td>
<td>0.016</td>
</tr>
<tr>
<td>ROSC delay (minutes)</td>
<td>-0.12 (-0.25 – 0.01)</td>
<td>0.070</td>
<td>0.07 (-0.11 – 0.24)</td>
<td>0.452</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>-4.8 (-7.8 – -1.8)</td>
<td>0.002</td>
<td>-3.3 (-7.3 – -0.7)</td>
<td>0.107</td>
</tr>
<tr>
<td>APACHE (points)</td>
<td>-0.38 (-0.54 – -0.22)</td>
<td>&lt;0.001</td>
<td>-0.30 (-0.52 – -0.07)</td>
<td>0.010</td>
</tr>
<tr>
<td>Lactate at 0-6 hours (mmol/L)</td>
<td>-0.79 (-1.3 – -0.32)</td>
<td>0.001</td>
<td>-0.33 (-0.92 – -0.25)</td>
<td>0.259</td>
</tr>
<tr>
<td>PCT at 0-6 hours (µg/L)</td>
<td>-0.28 (-0.49 – -0.06)</td>
<td>0.012</td>
<td>-0.24 (-0.45 – -0.03)</td>
<td>0.026</td>
</tr>
</tbody>
</table>

MAP, mean arterial pressure; PCT, procalcitonin; ROSC, return of spontaneous circulation.
SUPPLEMENTAL DIGITAL CONTENT TABLE 2B. Linear regression model for predicting mean 48 hour MAP with admission presepsin.

<table>
<thead>
<tr>
<th></th>
<th>Single variable</th>
<th></th>
<th></th>
<th>All variables</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (95% CI)</td>
<td>P-value</td>
<td>B (95% CI)</td>
<td>P-value</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>-0.17 (-0.28 - -0.06)</td>
<td>0.004</td>
<td>-0.12 (-0.25 - 0.01)</td>
<td>0.071</td>
<td></td>
</tr>
<tr>
<td>Gender (male)</td>
<td>-4.3 (-8.3 - -0.3)</td>
<td>0.036</td>
<td>-3.0 (-7.3 - 1.3)</td>
<td>0.174</td>
<td></td>
</tr>
<tr>
<td>Shockable (yes)</td>
<td>-0.83 (-3.9 - 2.2)</td>
<td>0.592</td>
<td>-5.0 (-8.8 - -1.2)</td>
<td>0.010</td>
<td></td>
</tr>
<tr>
<td>ROSC delay (minutes)</td>
<td>-0.12 (-0.25 - 0.01)</td>
<td>0.070</td>
<td>0.08 (-0.09 - 0.26)</td>
<td>0.352</td>
<td></td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>-4.8 (-7.8 - -1.8)</td>
<td>0.002</td>
<td>-3.8 (-7.8 - 0.25)</td>
<td>0.066</td>
<td></td>
</tr>
<tr>
<td>APACHE (points)</td>
<td>-0.38 (-0.54 - -0.22)</td>
<td>&lt;0.001</td>
<td>-0.31 (-0.54 - -0.08)</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td>Lactate at 0-6 hours (mmol/L)</td>
<td>-0.79 (-1.3 - -0.32)</td>
<td>0.001</td>
<td>-0.32 (-0.94 - 0.29)</td>
<td>0.298</td>
<td></td>
</tr>
<tr>
<td>Presepsin at 0-6 hours (per 100 ng/L)</td>
<td>-0.23 (-0.49 - 0.02)</td>
<td>0.067</td>
<td>-0.16 (-0.45 - 0.13)</td>
<td>0.278</td>
<td></td>
</tr>
</tbody>
</table>

MAP, mean arterial pressure; PCT, procalcitonin; ROSC, return of spontaneous circulation.
SUPPLEMENTAL DIGITAL CONTENT TABLE 3A. Multivariate logistic regression model for predicting poor 12-month outcome with procalcitonin measured at different time-points.

### Variables (admission)

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.043 (1.014-1.072)</td>
<td>0.003</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>4.428 (2.079-9.430)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.050 (1.012-1.091)</td>
<td>0.010</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.264 (1.038-4.937)</td>
<td>0.040</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.078 (1.025-1.134)</td>
<td>0.004</td>
</tr>
<tr>
<td>PCT 0-6 hours (per µg/L)</td>
<td>1.107 (0.862-1.421)</td>
<td>0.427</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.78; negative predictive value: 0.78 (full model for poor outcome)

### Variables (24 hours)

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.037 (1.009-1.066)</td>
<td>0.010</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>2.943 (1.403-6.173)</td>
<td>0.004</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.048 (1.010-1.086)</td>
<td>0.012</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.049 (0.956-4.391)</td>
<td>0.065</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.072 (1.019-1.127)</td>
<td>0.007</td>
</tr>
<tr>
<td>PCT at 24 hours (per µg/L)</td>
<td>1.032 (0.974-1.093)</td>
<td>0.282</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.74; negative predictive value: 0.79 (full model for poor outcome)
### Variables (48 hours)

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.031 (1.003-1.006)</td>
<td>0.027</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>3.688 (1.710-7.954)</td>
<td>0.001</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.045 (1.008-1.083)</td>
<td>0.016</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.540 (1.164-5.538)</td>
<td>0.019</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.071 (1.016-1.128)</td>
<td>0.010</td>
</tr>
<tr>
<td>PCT at 48 hours (per µg/L)</td>
<td>0.998 (0.918-1.084)</td>
<td>0.956</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.71; negative predictive value: 0.80 (full model for poor outcome)

### Variables (96 hours)

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.025 (0.991-1.060)</td>
<td>0.146</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>3.589 (1.420-9.073)</td>
<td>0.007</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.018 (0.978-1.061)</td>
<td>0.381</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>1.738 (0.697-4.563)</td>
<td>0.228</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.068 (1.005-1.135)</td>
<td>0.034</td>
</tr>
<tr>
<td>PCT at 96 hours (per µg/L)</td>
<td>1.267 (1.035-1.551)</td>
<td>0.022</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.58; negative predictive value: 0.88 (full model for poor outcome)

ROSC, return of spontaneous circulation; APACHE, Acute Physiology and Chronic Health Evaluation; PCT, procalcitonin.
SUPPLEMENTAL DIGITAL CONTENT TABLE 3B. Multivariate logistic regression model for predicting poor 12-month outcome with presepsin measured at different time-points.

<table>
<thead>
<tr>
<th>Variables (admission)</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.042 (1.014-1.071)</td>
<td>0.003</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>3.874 (1.801-8.334)</td>
<td>0.001</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.053 (1.015-1.93)</td>
<td>0.006</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.186 (1.017-4.700)</td>
<td>0.045</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.077 (1.024-1.133)</td>
<td>0.004</td>
</tr>
<tr>
<td>Presepsin 0-6 hours (per 100 ng/L)</td>
<td>1.035 (0.978-1.096)</td>
<td>0.236</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.81; negative predictive value: 0.77 (full model for poor outcome)

<table>
<thead>
<tr>
<th>Variables (24 hours)</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.035 (1.007-1.064)</td>
<td>0.014</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>3.129 (1.515-6.464)</td>
<td>0.002</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.049 (1.012-1.087)</td>
<td>0.009</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.171 (1.020-4.621)</td>
<td>0.044</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.082 (1.030-1.137)</td>
<td>0.002</td>
</tr>
<tr>
<td>Presepsin at 24 hours (per 100 ng/L)</td>
<td>1.004 (0.962-1.048)</td>
<td>0.865</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.74; negative predictive value: 0.78 (full model for poor outcome)
### Variables (48 hours)

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.031 (1.003-1.060)</td>
<td>0.030</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>3.361 (1.565-7.218)</td>
<td>0.002</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.046 (1.009-1.083)</td>
<td>0.014</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.518 (1.157-5.483)</td>
<td>0.020</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.064 (1.011-1.119)</td>
<td>0.018</td>
</tr>
<tr>
<td>Presepsin at 48 hours (per 100 ng/L)</td>
<td>1.023 (0.963-1.087)</td>
<td>0.464</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.71; negative predictive value: 0.79 (full model for poor outcome)

### Variables (96 hours)

<table>
<thead>
<tr>
<th>Variables</th>
<th>OR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (per year)</td>
<td>1.027 (0.994-1.061)</td>
<td>0.109</td>
</tr>
<tr>
<td>Shockable (no)</td>
<td>4.149 (1.696-10.15)</td>
<td>0.002</td>
</tr>
<tr>
<td>ROSC delay (per minute)</td>
<td>1.019 (0.980-1.059)</td>
<td>0.344</td>
</tr>
<tr>
<td>Use of adrenaline (yes)</td>
<td>2.249 (0.904-5.592)</td>
<td>0.081</td>
</tr>
<tr>
<td>APACHE (per point)</td>
<td>1.077 (1.016-1.142)</td>
<td>0.013</td>
</tr>
<tr>
<td>Presepsin at 96 hours (per 100 ng/L)</td>
<td>1.023 (0.979-1.070)</td>
<td>0.311</td>
</tr>
</tbody>
</table>

Positive predictive value: 0.61; negative predictive value: 0.90 (full model for poor outcome)

ROSC, return of spontaneous circulation; APACHE, Acute Physiology and Chronic Health Evaluation.