

ADDITIONAL FILE 1 - SCORING SYSTEM EQUATIONS

Customized risk for 6-month mortality: $1/(1+e^{-\text{logit}})$

- APACHE II logit: $-5.183 + \text{APACHE II score} * 0.193$
- SAPS II logit: $-4.967 + \text{SAPS II score} * 0.092$
- SOFA logit: $-2.341 + \text{SOFA day 1 score} * 0.209$
- Adjusted SOFA logit: $-3.008 + \text{SOFA respiration points} * 0.031 + \text{SOFA coagulation points} * 0.486 + \text{SOFA liver points} * -0.038 + \text{SOFA cardiovascular points} * 0.044 + \text{SOFA renal points} * 0.361 + (1.633, \text{ if GCS 3-6}) + \text{age points (see below)}$
 - $<40 \rightarrow 0.0$
 - $40-49 \rightarrow 0.705$
 - $50-59 \rightarrow 0.711$
 - $60-69 \rightarrow 1.153$
 - $70-79 \rightarrow 1.454$
 - $\geq 80 \rightarrow 1.944$
- Reference logit: $-2.530 + (1.701, \text{ if GCS 3-6}) + \text{age points (see below)}$
 - $<40 \rightarrow 0.0$
 - $40-49 \rightarrow 0.677$
 - $50-59 \rightarrow 0.740$
 - $60-69 \rightarrow 1.231$
 - $70-79 \rightarrow 1.425$
 - $\geq 80 \rightarrow 1.936$

Customized risk for in-hospital mortality: $1/(1+e^{-\text{logit}})$

- APACHE II logit: $-6.662 + \text{APACHE II score} * 0.216$
- SAPS II logit: $-6.765 + \text{SAPS II score} * 0.109$
- SOFA logit: $-3.459 + \text{SOFA day 1 score} * 0.258$
- Adjusted SOFA logit: $-3.740 + \text{SOFA respiration points} * 0.046 + \text{SOFA coagulation points} * 0.310 + \text{SOFA liver points} * -0.154 + \text{SOFA cardiovascular points} * 0.136 + \text{SOFA renal points} * 0.392 + (2.267, \text{ if GCS 3-6}) + \text{age points (see below)}$
 - $<40 \rightarrow 0.0$
 - $40-49 \rightarrow 0.423$
 - $50-59 \rightarrow 0.304$
 - $60-69 \rightarrow 0.204$
 - $70-79 \rightarrow 0.165$
 - $\geq 80 \rightarrow 0.404$
- Reference logit: $-3.135 + (2.380, \text{ if GCS 3-6}) + \text{age points (see below)}$
 - $<40 \rightarrow 0.0$

- 40-49 → 0.299
- 50-59 → 0.262
- 60-69 → 0.271
- 70-79 → 0.103
- ≥ 80 → 0.318