

**Supplementary Table 1. Patient vignettes (10)**

<p><b>Patient A: 12-year-old girl with bronchiectasis: pSOFA 3</b></p> <ul style="list-style-type: none"><li>• History of bronchiectasis and recurrent LRTIs, otherwise well, normal functional capacity.</li><li>• Four siblings.</li><li>• BMI 19 (25<sup>th</sup> centile).</li><li>• Pediatric SOFA 3 (SpO<sub>2</sub>:FiO<sub>2</sub> = 190).</li><li>• Requiring support for ventilation.</li></ul>
<p><b>Patient B: 38-year-old woman with obesity, diabetes: SOFA 3</b></p> <ul style="list-style-type: none"><li>• BMI 50, non-smoker.</li><li>• Type 2 diabetes for 10 years, managed on insulin. Evidence of early diabetic kidney dysfunction (eGFR 80).</li><li>• Independent with ADLs.</li><li>• SOFA 3 (PaO<sub>2</sub>/FiO<sub>2</sub> = 245, creatinine = 115).</li></ul>
<p><b>Patient C: 39-year-old man with recent thyrotoxic cardiomyopathy: SOFA 8</b></p> <ul style="list-style-type: none"><li>• BMI 21, non-smoker.</li><li>• Thyroidectomy for toxic multinodular goiter 10/52 ago. Concurrent mild thyrotoxic cardiomyopathy. TSH now in normal range, on thyroxine.</li><li>• LVEF 45% but only reporting mild fatigue.</li><li>• Presents hypoxic and decreased consciousness: SOFA 8 (PaO<sub>2</sub>/FiO<sub>2</sub> = 80, hypotensive requiring vasopressors, platelets 95, GCS 10).</li><li>• Elevated D-dimer 1.1, lymphopenia 0.7.</li></ul>
<p><b>Patient D: 58-year-old woman undergoing chemotherapy: SOFA 2</b></p> <ul style="list-style-type: none"><li>• District nurse, undergoing treatment for breast cancer, stage 3. Mastectomy, 1 node positive. Currently on cycle of doxorubicin and paclitaxel.</li><li>• BMI 31, stopped smoking 20 years ago. History of mild allergic asthma.</li><li>• Mildly tachycardic 120.</li><li>• SOFA 2 (PaO<sub>2</sub>/FiO<sub>2</sub> = 280).</li></ul>
<p><b>Patient E: 59-year-old man with early dementia: SOFA 2</b></p> <ul style="list-style-type: none"><li>• Recently diagnosed with (early onset) Alzheimer's disease, current symptoms only mild memory loss and behavioral change.</li><li>• BMI 28, reports occasional recreational drug use, not a regular smoker. Controlled hypertension (thiazide).</li><li>• History of allergic asthma (animal hair). Reports being physically active.</li><li>• SOFA 2 (PaO<sub>2</sub>/FiO<sub>2</sub> = 240).</li></ul>
<p><b>Patient F: 64-year-old man with obesity, AAA, moderate COPD: SOFA 4</b></p> <ul style="list-style-type: none"><li>• Retired schoolteacher, BMI 41, ex-smoker (40-year pack history, stopped 5 years ago).</li><li>• Possible history of alcohol dependence.</li><li>• Hypertension (controlled on candesartan), known abdominal aortic aneurysm 3cm. mild COPD FEV1=60%.</li><li>• SOFA = 4 (PaO<sub>2</sub>/FiO<sub>2</sub> =180, bilirubin 22).</li></ul>
<p><b>Patient G: 68-year-old woman with severe COPD: SOFA 6</b></p> <ul style="list-style-type: none"><li>• Retired, BMI 29, ex-smoker, stopped 5 years ago, 40 pack year history.</li><li>• COPD: FEV1 of 45% predicted. Unable to climb 2 flights of stairs.</li><li>• Prior TBI with mild cognitive impairment, doesn't tolerate non-invasive ventilation well.</li><li>• SOFA 6 (PaO<sub>2</sub>/FiO<sub>2</sub> = 95, mildly hypotensive; MABP = 65, mild decrease in platelets 145).</li></ul>

**Patient H: 71-year-old man, usually well but critically ill: SOFA 13**

- 71-year-old *kaumātua* (respected tribal elder), Māori ethnicity.
- Non-smoker, BMI 32, no known medical conditions and reported as usually fit and well.
- Presents critically ill with ARDS and multi-organ failure (respiratory, cardiovascular collapse, GCS 4).
- SOFA 13 (PaO<sub>2</sub>/FiO<sub>2</sub> 110, ventilated, GCS 4, requiring 10ug/kg/min dopamine, platelets 74, creatinine 112).
- D-dimer 12.2.

**Patient I: 76-year-old woman, MS but in remission: SOFA 3**

- Retired professor, non-smoker, BMI 28.
- History of bowel cancer, successfully treated with resection; diagnosed with MS 10 years ago, currently in remission, no medications.
- Walks and swims daily.
- SOFA 2 (PaO<sub>2</sub>/FiO<sub>2</sub> = 250).
- Borderline d-Dimer 0.98, Trop I = 22.

**Patient J: 79-year-old man, multiple medical conditions: SOFA 9**

- Retired farmer, ex-smoker (quit 10 years ago, 25 pack year history), BMI 33.
- CKD stage 3; mildly anemic (Hb 110). Long-standing poorly controlled hypertension (on ACE-I); in atrial fibrillation, rate-controlled with beta blocker, COPD FEV1 = 75%. Functional capacity limited.
- SOFA 9 (PaO<sub>2</sub>/FiO<sub>2</sub> = 165, platelets 145, MAP 67mm Hg, GCS 12, creatinine 318).
- Bloods show high D-dimer, procalcitonin 0.2.