

## Supplemental Material 1

**Fig. S1. Patient flow diagram**

Among the 652 patients with severe infection in the SPICE-ICU study, 563 adults had available PaO<sub>2</sub> data at treatment initiation for severe infection and were not diagnosed with ARDS at infection development; therefore, they were eligible for this study. No patient with hyperoxia and 12 patients without hyperoxia were excluded from inverse probability weighting analyses due to missing covariates for propensity score calculation. SPICE-ICU, Sepsis Prognostication in Intensive Care Unit and Emergency Room; PaO<sub>2</sub>, arterial partial pressure of oxygen; ICU, intensive care unit; and ARDS, acute respiratory distress syndrome.

