SUPPLEMENTAL FIGURE 3: Assuming lungs do not oxygenate blood, the shunt fraction equation can be calculated as $\frac{Q_p}{Q_s} = \frac{(O_2\text{Sat}_A - O_2\text{Sat}_{CV})}{(O_2\text{Sat}_R - O_2\text{Sat}_D)}$. On the left, $Q_s = \frac{4}{(O_2\text{Sat}_A - O_2\text{Sat}_{CV})/(O_2\text{Sat}_R - O_2\text{Sat}_D)} = \frac{4}{(0.2/0.3)} = 6.1\text{L/min}$. Thus, VV-ECMO flow at 66% of cardiac output maintains arterial saturation >90%. On the right, $Q_s = \frac{4}{(O_2\text{Sat}_A - O_2\text{Sat}_{CV})/(O_2\text{Sat}_R - O_2\text{Sat}_D)} = \frac{4}{(0.2/0.4)} = 8\text{L/min}$. VV-ECMO flow at 50% of cardiac output results in arterial saturation of only 80%. Hence, high native cardiac output relative to VV-ECMO flow would result in low arterial oxygen saturation. It is assumed that recirculation is negligible.