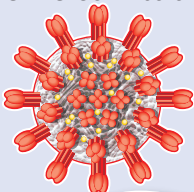


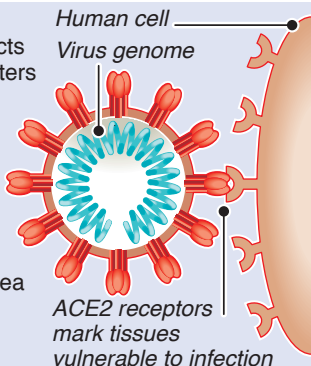
Understanding the viral battleground

Clinicians have traced the brutal rampage wrought by the coronavirus through the body, from the lungs – ground zero – to the heart and blood vessels, kidneys, gut, and brain

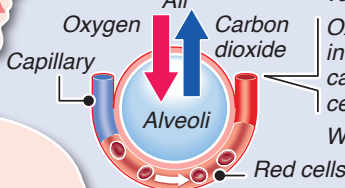
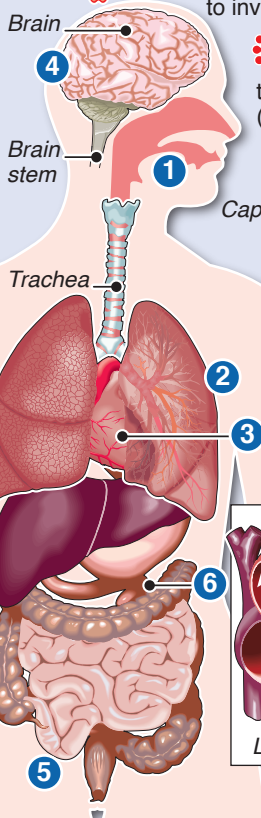
SARS-Cov-2 coronavirus



INFECTION: Virus infects nose and throat and enters cells rich in surface receptor called ACE2 (angiotensin-converting enzyme 2). Virus hijacks cell, making multiple copies of itself to invade more cells

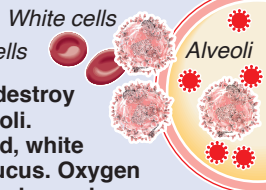


LUNGS: Virus travels down trachea to attack tiny air sacs (alveoli) in lungs



ACE2 receptors mark tissues vulnerable to infection

Oxygen crosses alveoli into capillaries and is carried by red blood cells around body



White blood cells destroy virus-infected alveoli. Alveoli fill with fluid, white blood cells and mucus. Oxygen uptake is diminished, causing coughing, fever, and laboured breathing



HEART: Virus may directly attack lining of heart and blood vessels – both rich in ACE2 receptors – and damage ventricles. **Risk of thrombosis – blood clots that can cause organ failure**



BRAIN: Swelling (encephalitis), seizures or strokes. Infection depresses brain stem reflex that senses oxygen starvation, contributing to respiratory failure



GUT: Virus infects and replicates in lining of lower gastrointestinal tract, where ACE2 receptors are abundant



KIDNEYS: Reduced blood flow can cause acute kidney injury, increasing risk of death

