Translocation of gut bacteria to the lungs has been suspected for decades to cause respiratory failure in shock, but past studies have failed to detect it using insensitive culture-based techniques.

Don’t know why sepsis happens
No current laboratory tests to find and treat sepsis earlier

Using novel, ultra-sensitive molecular techniques to determine if gut-long translocation occurs in critically ill patients. The three new techniques will reveal the following about bacteria:

- How much there is
- Where it comes from
- What it is doing

**Microbiome:** Determine the diversity and identity of bacterial DNA in the blood

**Quantification:** Determine the quantity of bacterial DNA in the blood

**Metabolomics:** Determine if gut bacteria-derived molecules translocate to the lungs