Cytokine Storm
- Overwhelming inflammatory immune response to an illness or trigger with release of:
  - Interferon (IFN), interleukins (IL), tumor-necrosis factor (TNF), chemokines
  - Results in cell and tissue damage

COVID-19
- Pathogenesis of lung injury & multiple organ dysfunction syndrome remain uncertain
- Cytokine storm is on proposed theory of pathogenesis in severe COVID-19 illness
  - ↑ IL-6 has been associated with disease severity

Acute Respiratory Distress Syndrome (ARDS)
- IL-6 plays a key role in pathogenesis in several known viral etiologies
  - eg, Influenza & SARS-CoV
- Mechanisms other than cytokine storm may contribute to COVID-19 ARDS
  - Median levels of IL-6 in COVID-19 ARDS are ↑ but reported ≤ than median levels seen in typical ARDS

Therapies
- Clinical trials are evaluating IL-6 pathway targeted treatments such as:
  - Tocilizumab (IL-6 receptor inhibitor)
  - Sarilumab (IL-6 receptor antagonist)
  - Siltuximab (monoclonal antibody with high affinity for IL-6 receptor)

Further study is needed to evaluate the role of cytokine storm in the pathogenesis and severity of COVID-19 disease.