Tocilizumab for COVID-19

**Mechanism**
- Tocilizumab: Humanized monoclonal antibody that competitively inhibits IL-6

**Effects of IL-6 Excess**
- CRP
- Fibrinogen
- Coagulopathy
- Vascular permeability
- Antibody production

**Role in Therapy**
- **Adjunctive Therapy**
  - Only evaluated in addition to other therapies for severe COVID-19
  - Patients generally have evidence of cytokine storm

**Cytokine Storm**
- Elevations in the following biomarkers may correlate with cytokine storm
  - IL-6
  - CRP
  - Ferritin
  - D-dimer

**Dosing**
- **Weight-based**
  - 4-8 mg/kg (up to 800 mg total)
- **Fixed-dose**
  - 400 mg once, potential second dose at 8-12 hr (up to 800 mg total)
- **Vial Sizes**
  - 400 mg / 20 mL
  - 200 mg / 10 mL
  - 80 mg / 4 mL

**Adverse Reactions**
- Serious infection
- Infusion reactions (consider pre-treatment)
- Liver injury & hyperlipidemia
- GI perforation

**Monitoring**
- **Tuberculosis**
  - Screen using T-SPOT or Quant Gold
- **Hepatitis B**
  - Do NOT need routine prophylaxis
  - Consult infectious diseases if HbsAg + IQ additional immunosuppressive agents
  - Do NOT delay medication for screening results

**Drug-drug interactions**
- IL-6 blockade may enhance CYP 450 enzymes (including 3AA) function

**Secondary Infection**
- Monitor for fungal or bacterial secondary or co-infection

**Routine Labs**
- Daily complete blood count (anemia)
- Liver function test (toxicity)
- Consider proinflammatory markers (CRP, IL-6)

Source: Society of Infectious Diseases Pharmacists