DISCLOSURES

None
AGENDA

• The numbers
• The virus
• The disease
• Treatment
• Vaccines
COVID-19 AROUND THE WORLD

Coronavirus Cases: 224,277,617

Deaths: 4,624,433

View by country
COVID-19 IN THE US

United States

Coronavirus Cases: 41,573,405

Deaths: 674,690
THE VIRUS

• Beta-coronavirus

• Thought to originate from bats

• Enveloped single-stranded RNA virus

• Entry is via ACE-2 (angiotensin converting enzyme – 2) receptor

• Binds the spike protein
VARIANTS OF CONCERN
VARIANTS OF INTEREST
THE DISEASE
ACUTE INFECTION

• Clinical Presentation
  – Fever, cough, dyspnea, nasal congestion, sore throat, anosmia, dysgeusia, headache, myalgia, nausea/vomiting, diarrhea

• Lab testing
  – Viral tests (+)
  – Antibody (+) later
POST-ACUTE HYPERINFLAMMATORY ILLNESS

• Clinical Presentation
  – Cardiovascular, GI, dermatological, pulmonary, neurological, muscular symptoms

• Lab testing
  – Viral tests (+/-)
  – Antibody (+)

Characterized by a dysregulated host response
LATE SEQUELAE

• Clinical Presentation
  - Cardiovascular, pulmonary, CNS, psychological manifestations

• Lab testing
  - Viral tests (?)
  - Antibody (?)

Pathophysiologial pathways are *proposed but unproven*
TREATMENT

• Symptomatic
• Supportive
• Surveillance
TREATING COVID-19

NIH TREATMENT GUIDELINE: OUTPATIENT
TREATING COVID-19

NIH TREATMENT GUIDELINE: INPATIENT
AS OF JULY 31, 2021

- Antivirals
- Cell and Gene therapies
- Immunomodulators
- Neutralizing antibodies
- Other
- Combinations
VACCINES
CORONAVIRUS VACCINATION: THE US
CORONAVIRUS VACCINATION: THE WORLD
COVID-19 VACCINE EFFICACY AND EFFECTIVENESS – THE ELEPHANT (NOT) IN THE ROOM

Olliaro, P et al April 2021
Three Doses of an mRNA Covid-19 Vaccine in Solid-Organ Transplant Recipients

WHY WE ARE TALKING ABOUT BOOSTERS
IN SUMMARY

• The numbers – rising again
• The virus – menacing variants emerging
• The disease – we’ve learned a lot but still have many unanswered questions
• Treatment – growing toolbox
• Vaccines – continue to offer hope