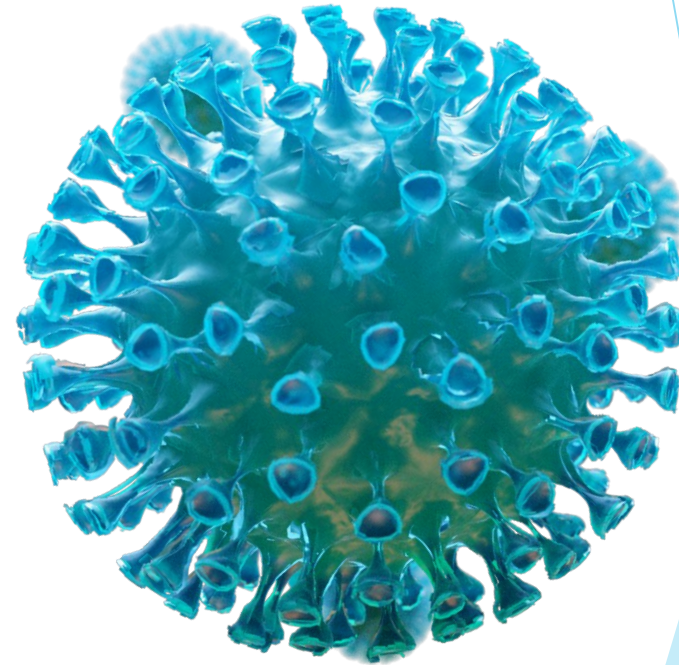
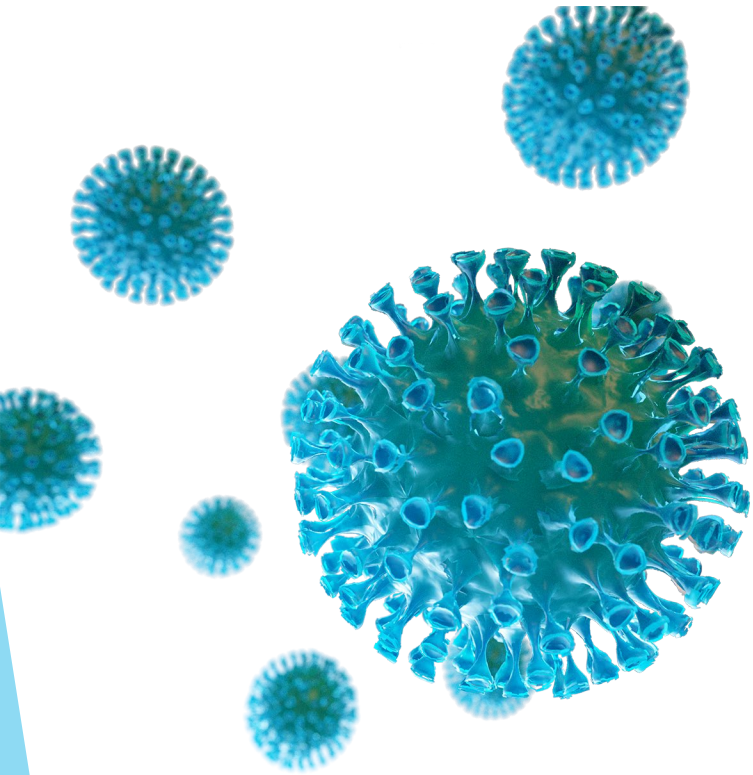


# COVID-19

Presented by Elliot Levine, M.D.



PREMIER *medical group*



# HISTORY

# Exposure:



- Notified by Contact Tracer
- Called By Person Directly
- Email / Text Notification

# Symptoms:

- No Symptoms
- Fever
- Chills, Sweats
- Myalgias
- Headache
- Sore Throat
- Fatigue
- Cough
- Shortness of Breath
- Diarrhea
- Loss of Sense of Taste
- Loss of Sense of Smell



FEVER >99.5



COUGH



SHORTNESS OF BREATH OR  
DIFFICULTY BREATHING



DIARRHEA



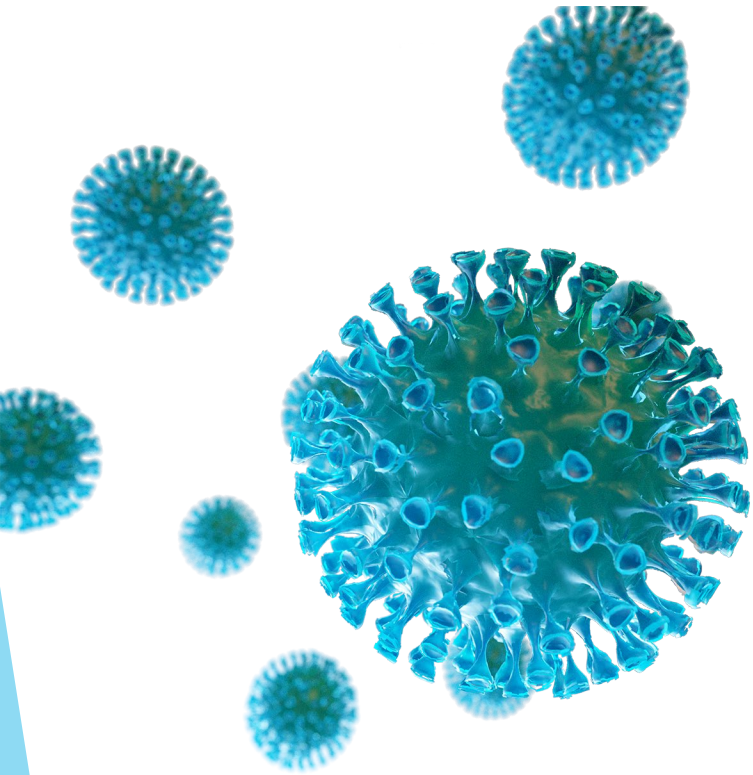
HEADACHE



CHILLS



NEW LOSS OF TASTE  
OR SMELL



**PHYSICAL**

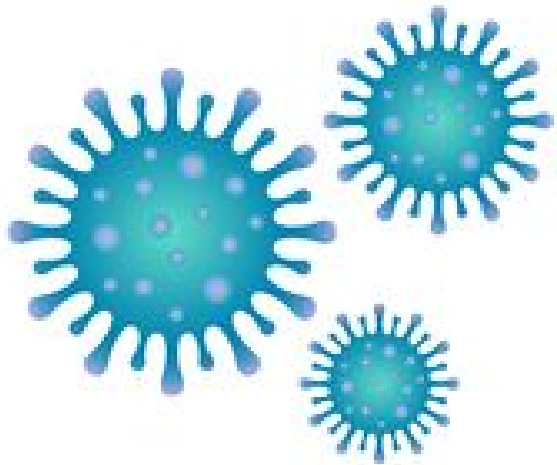


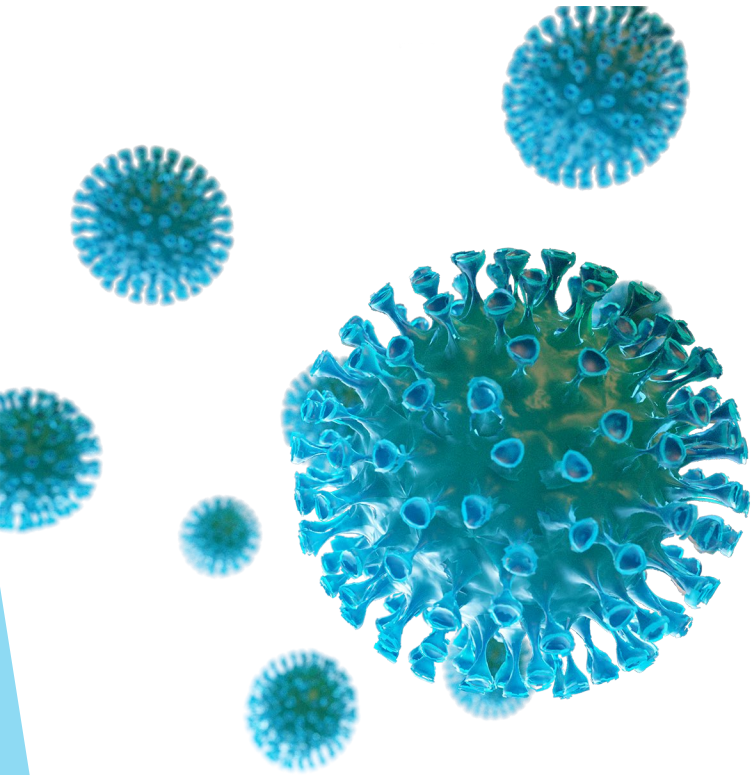
# STAY AWAY!



- Role of Telemedicine and Telephone Visits
- Monitor:
  - Temperature
  - Respiratory Rate & Pulmonary Mechanics
  - Pulse Oximetry

- No specific clinical features that can reliably distinguish between COVID-19 and other respiratory or gastrointestinal disorders.





# LABS





- Diagnostic Test First
  - Rapid Antigen Test
  - PCR Assay
  - Blood Antibody Test

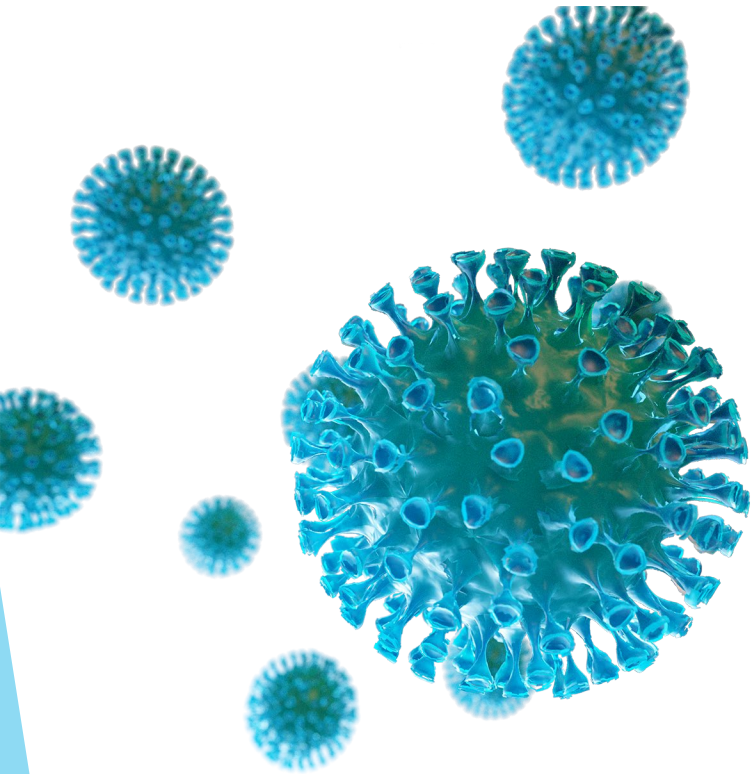


- If test is positive, no reason to retest after current illness.

# In Hospitalized Patients:

- Complete Blood Count
- Comprehensive Metabolic Profile
- C-reactive Protein
- Ferritin
- D-dimer
- Pulse Oximetry
- Other Viral Pathogens

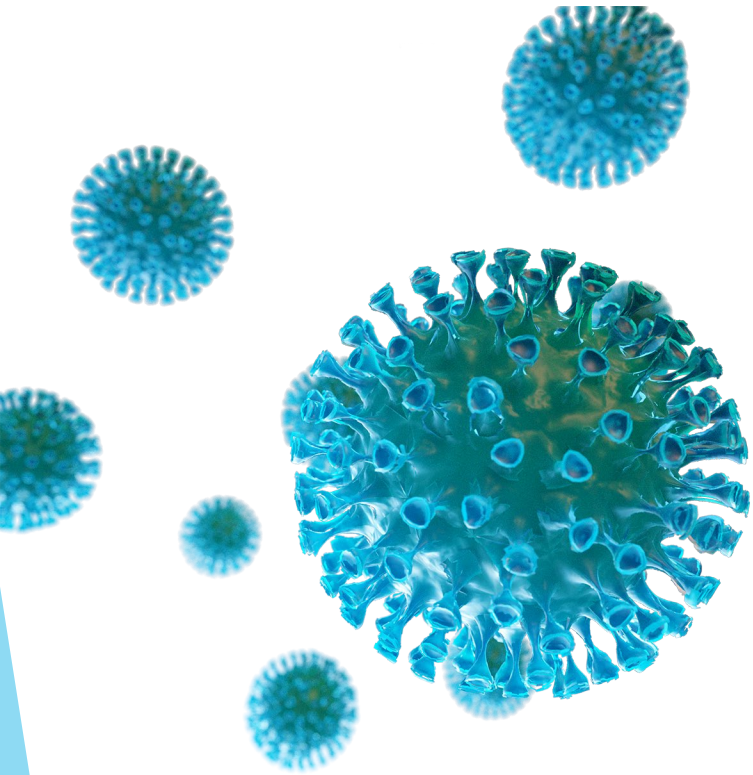




# OTHER STUDIES

- Electrocardiogram
- Chest X-ray
- Chest CT
  
- No Diagnostic Findings





# RISK FACTORS FOR MORE SEVERE DISEASE

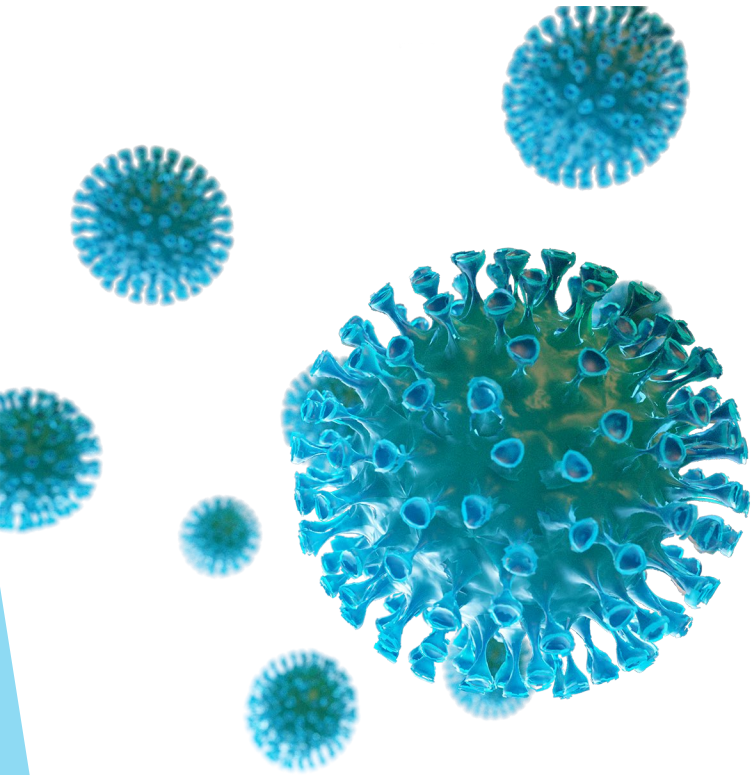


- Older Age (>65 years old)
- Obesity (BMI >30)
- Chronic Kidney Disease
- Type 2 Diabetes Mellitus
- Cardiovascular Disease, including Hypertension



- Chronic Obstructive Pulmonary Disease (COPD)
- People on Immunosuppressive Treatment
- Sickle Cell Disease
- Cancer
- Possibly Pregnancy

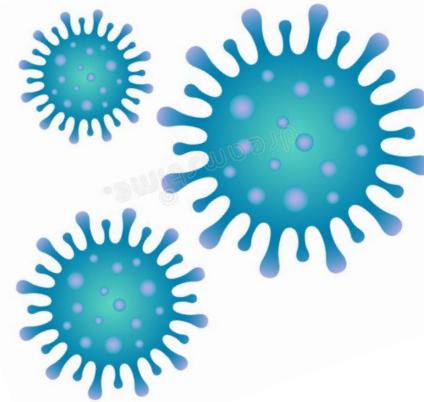


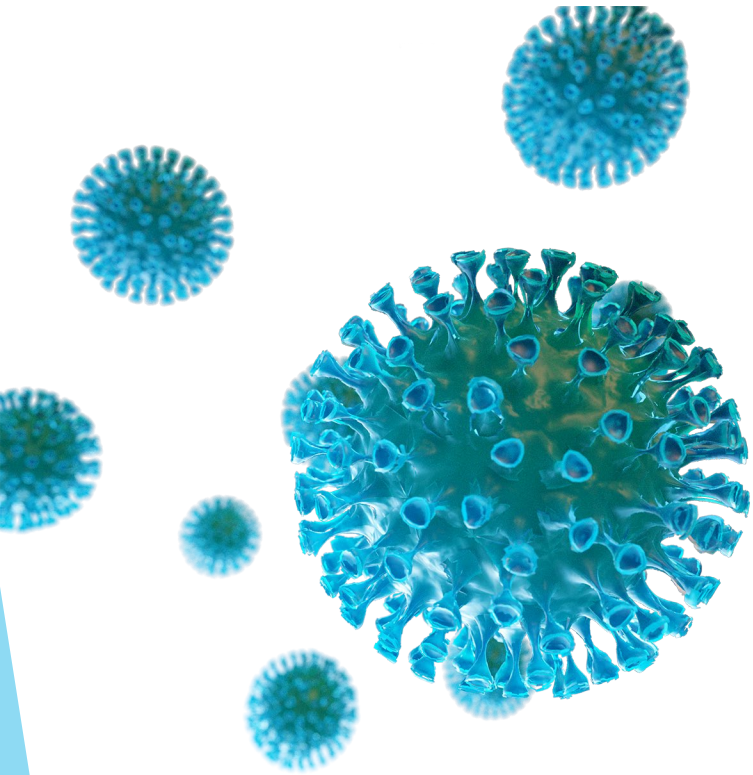


**NO LONGER  
IN VOGUE**



- Stopping Angiotensin II converting enzyme inhibitors or angiotensin receptor blockers used to treat hypertension and heart disease.
- Non-steroidal anti-inflammatory drugs vs. Tylenol
- Hydrochloroquine/Chloroquine with Azithromycin





# TREATMENTS

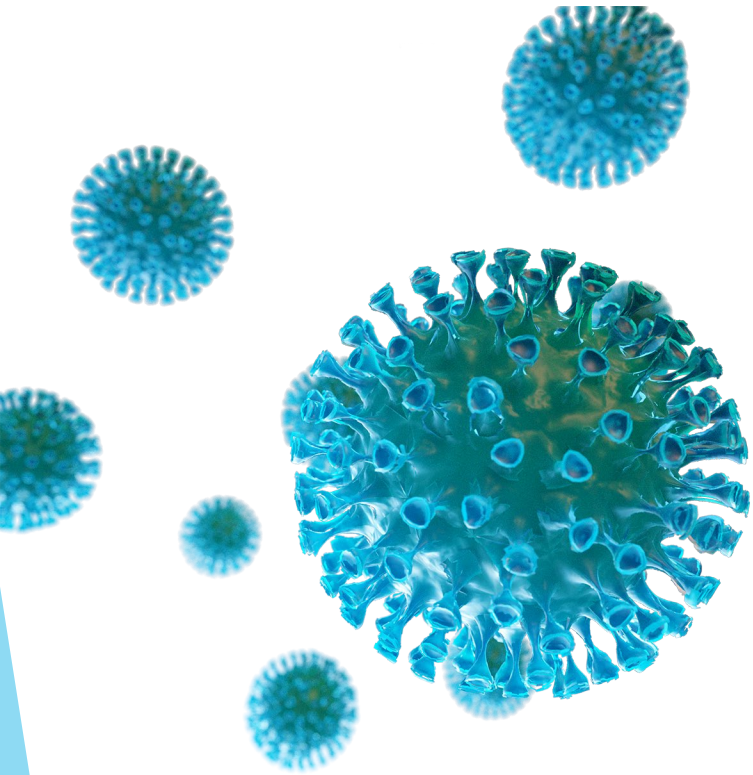


- Prevention!
- Prone Positioning
- Vitamin C, Vitamin D, Zinc
- Supportive Care
- Remdesivir
- Dexamethasone



- Anticoagulation
- Convalescent Plasma
- Monoclonal Antibodies
  - Bamlanivimab
  - Casirivimab / Imdevimab
  - Baricitinib
  - Tocilizumab





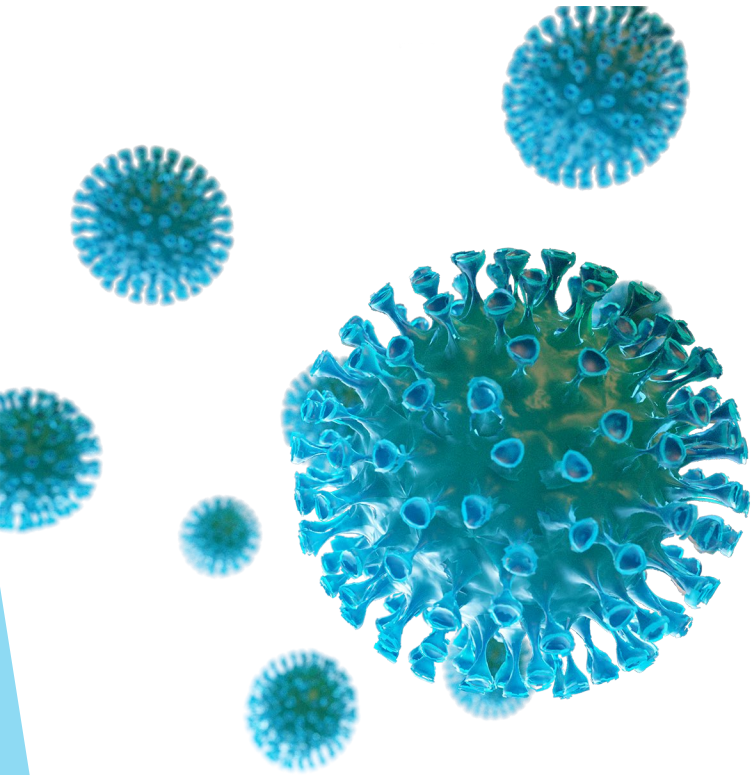
# POSSIBLE SEQUELAE

- Immediate:
  - Respiratory Failure
  - Thromboembolic Complications:
    - Pulmonary Embolism
    - Stroke
    - Limb Ischemia
  - Myocarditis
  - Acute Kidney Injury
  - Cytokine Storm



- Long Term:
  - Persistent Symptoms:
    - Fatigue
    - Cough
    - Shortness of Breath
    - Anosmia
    - Memory Issues
    - Anxiety / Depression





# OTHER PEARLS

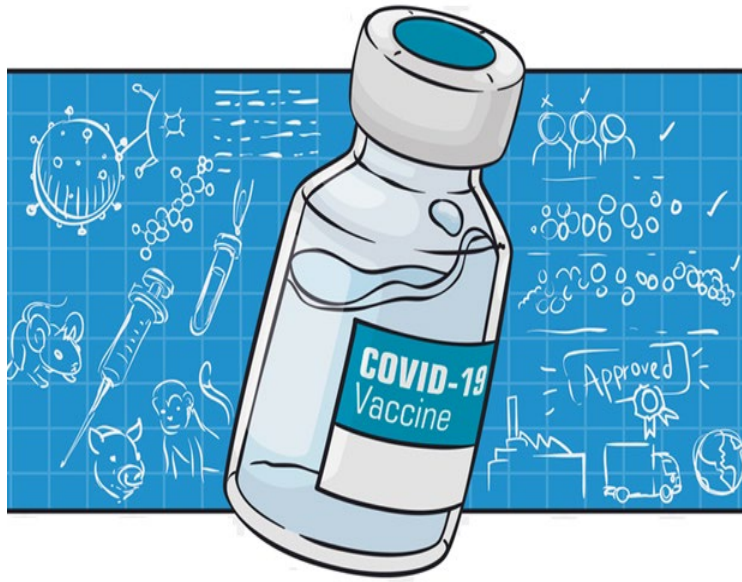




- Stay Safe!
  - Disease Prevention
- 20% of COVID patients need hospital admission.
- New treatment options have some promise, but currently not many regimens (other than clinical trials).



- Immunity after disease likely limited - perhaps 90 days.
- Hot Topic of Vaccines
- Rapidly Changing Science



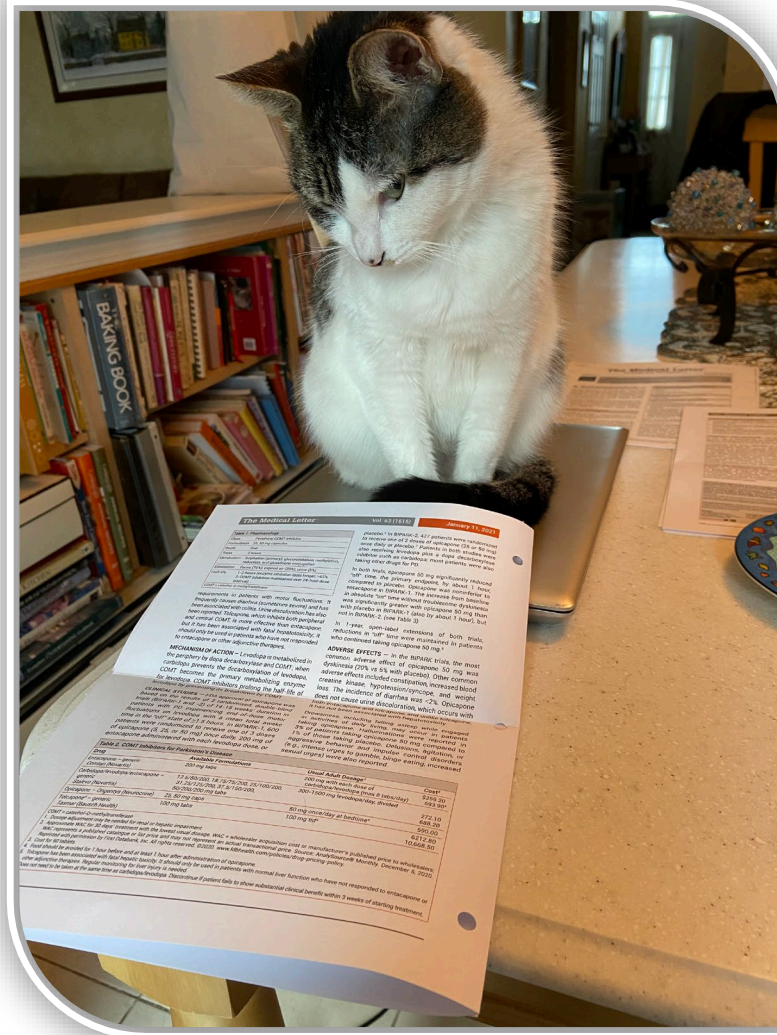
*Sources:*

- *New England Journal of Medicine*
- *Cleveland Clinic Journal of Medicine*
- *The Medical Letter*
- *Mayo Clinic*
- *Up To Date*
- *PubMed*
- *CDC*

*Special thanks to:*

- *Consultants*
- *Family*

... and very special thanks to Fang.



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**Table 1. Pharmacokinetics**

Parameter	Value
Half-life (mean ± SD)	1.5 ± 0.2 hr
Clearance (mean ± SD)	1.2 ± 0.2 L/hr
Volume of distribution (mean ± SD)	1.2 ± 0.2 L
Area under the curve (mean ± SD)	1.2 ± 0.2 hr·ng/mL

**Mechanism of Action**—The mechanism of action of the drug is not known. It is thought to act as a diuretic by increasing the excretion of sodium and water. It is also thought to act as a vasodilator by relaxing the smooth muscle of the blood vessels.

**Adverse Effects**—The most common adverse effects of the drug are dizziness, headache, and nausea. Other common adverse effects include hypotension, tachycardia, and weight gain. The incidence of these effects is higher in patients who are taking the drug for a longer period of time.

**Contraindications**—The drug is contraindicated in patients who are allergic to the drug or who have a history of severe allergic reactions. It is also contraindicated in patients who are taking other diuretics or vasodilators.

**Drug Interactions**—The drug may interact with other diuretics, vasodilators, and antihypertensive agents. It may also interact with other drugs that affect the renal system.

**Table 2. Clinical Trial Results**

Parameter	Value
Mean blood pressure (mmHg)	120/80
Heart rate (b/min)	70
Weight gain (kg)	2.0
Dizziness (patients)	10
Headache (patients)	15
Nausea (patients)	12

**References**

1. Smith J, et al. (2010) The efficacy of the drug in the treatment of hypertension. *Journal of Hypertension*, 28(12), 2345-2355.
2. Jones K, et al. (2009) The safety of the drug in the treatment of hypertension. *Journal of Hypertension*, 27(10), 2100-2110.
3. Brown L, et al. (2008) The pharmacokinetics of the drug in healthy volunteers. *Journal of Clinical Pharmacology*, 48(1), 100-110.