LEADING MEDICINE: A TOWN HALL CONVERSATION WITH DR. MARC BOOM

Town Hall Conversation XXVI

How to be Summer Sun Smart

Farah Shah MD, FAAD

President and C.E.O.,

Houston Dermatology Associates, P.A.

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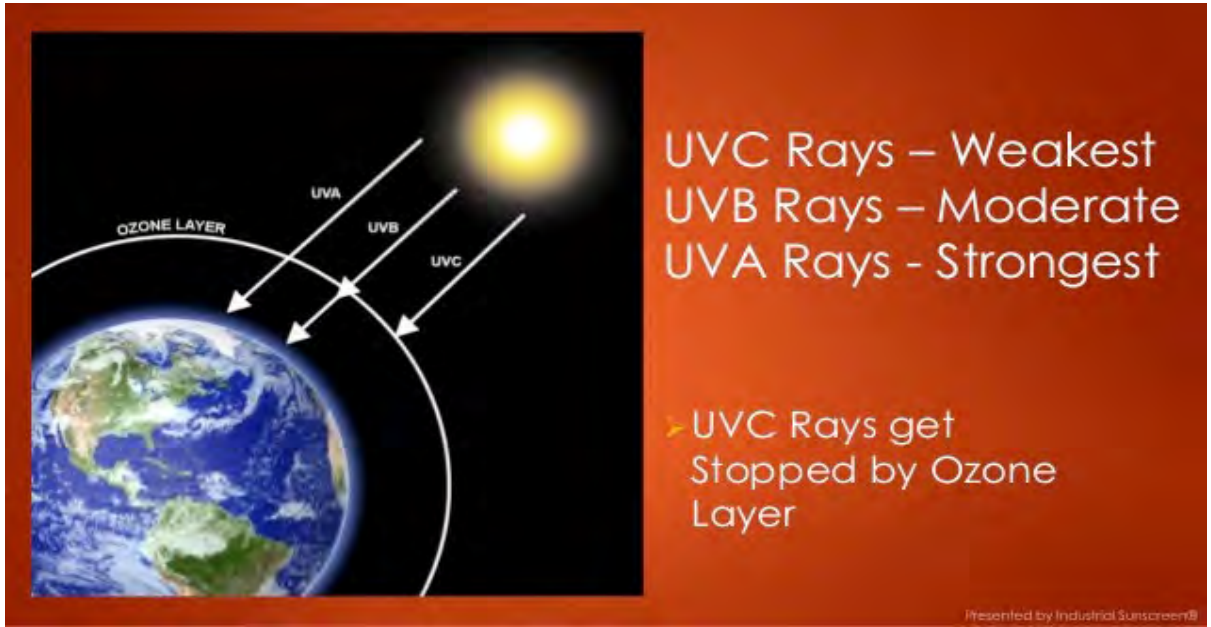
What's the fuss about?

Emits Ultraviolet Radiation (UVR)

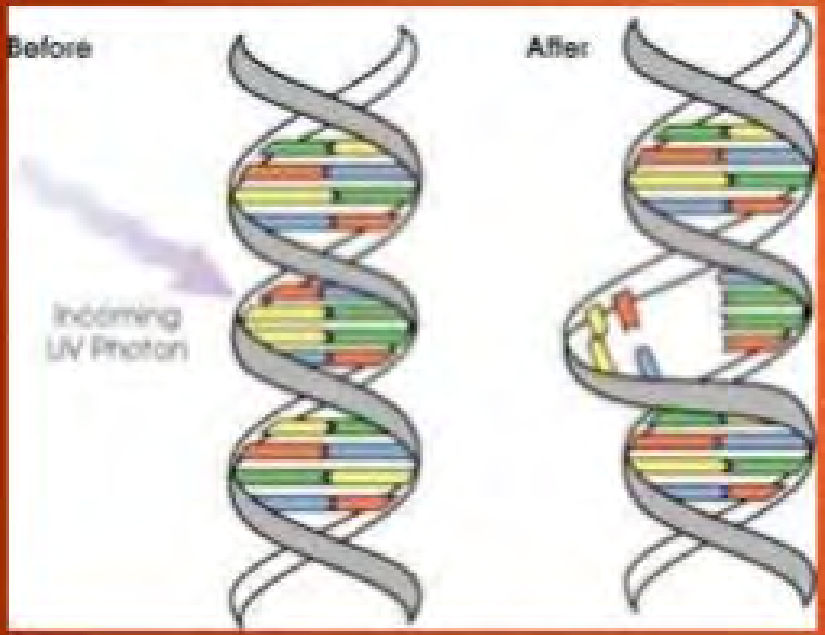
Ultraviolet (UV) radiation from the sun is classified as a human carcinogen by the U.S. Department of HHS and WHO

List of most dangerous cancer-causing agents in humans

Decreasing ozone layer means our protective filter is reduced

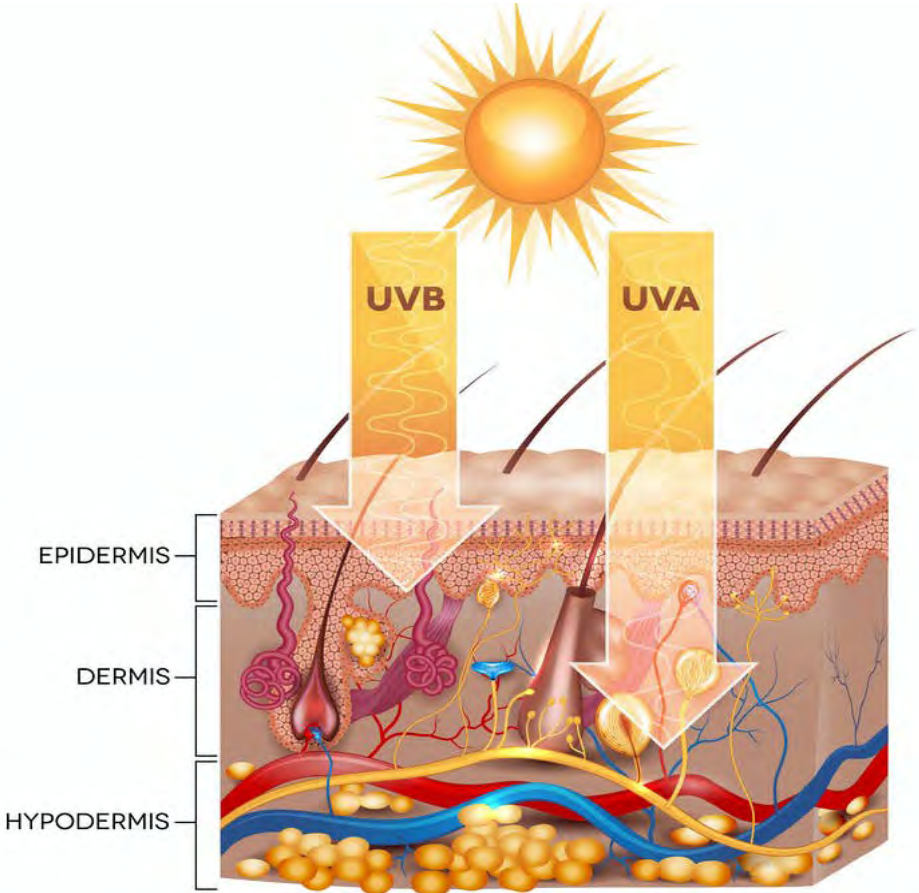


UV Rays Cause Skin Cancer



- UV rays continually damage and alter the structure of our skin cells DNA.
- Skin cells continually fix and repair damaged DNA
- The continuous repair and skin cell corrections actually lead to a cell dying or becoming cancerous
- "…UV kills cells because of the accumulation of DNA damage."
  - Chair of Biology Westminster College

UVB and UVA



UVB – superficial layer….SUNBURN

Worse spring-fall; 10am-4pm

UVA – penetrate deeper!

- Genetic damage to cells on the layer of skin where most skin cancers occur. The skin tries to prevent further damage by darkening, resulting in a tan.
- Premature aging

NOT blocked by ozone; penetrates glass

EVER PRESENT! All year, all daylight hours

Why is it dangerous?

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- **Skin cancer**

  Most common cancer in the US

  1 in 5 Americans; 1 in 3 Caucasians

  Melanoma – second most common cancer under 30

  1 person dies every hour from melanoma

  Incidence rising faster than any other cancer in the US

  One blistering sunburn doubles your risk of melanoma!!

- **Immune suppression**

- **Cataract, Macular degeneration, Ocular melanoma**

How Can I Be Safe and Still Enjoy My Summer?

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Sunscreen basics

- Apply 30 mins before sun exposure
- Reapply after two hours or immediately after swimming/sweating
- Use more than you think you need
- Use EVEN WHEN CLOUDY

Sunscreen alone is not enough

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Clothing

- Loose fitting
- Tightly woven fabrics
- UPF Factor 30 or above
- White t-shirt only has SPF of 4

Hats

- Wide brim to protect ears and neck
- Avoid straw hats

Sunglasses

- Large lens
- Wrap around style

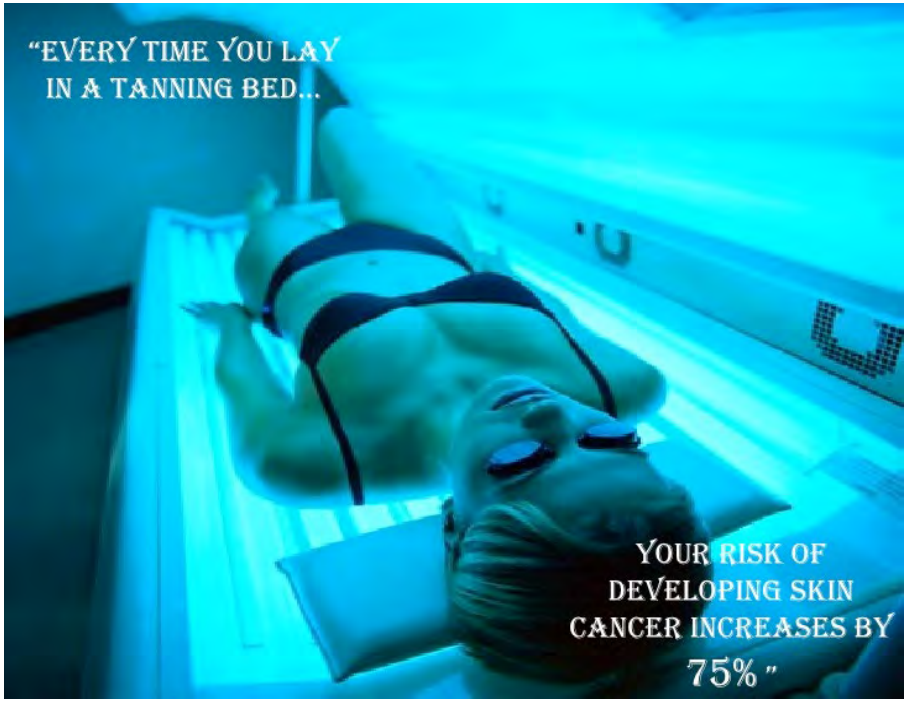
Lip protection

- SPF Lip Balm

UV Window Tint

Beware

- Reflected rays
  - Sand, water, snow, concrete
- AVOID TANNING BEDS
  - Emits 15x the amount of UV radiation as the sun



Sun Safe Kids

Shield and wrap from the sun for the first 6 months rather than using sunscreen

At 6 months introduce broad spectrum mineral sunscreen (zinc oxide/titanium dioxide)

* less likely to cause skin irritation

Studies show they learn sun protection from parents and teachers

* model smart sun choices

But don’t I need Vitamin D?

- Sun exposure can not assure adequate vitamin D production
- Acquire from diet and supplements
- Do not rely on a carcinogen

Thank you!!

Farah Shah MD, FAAD
President and C.E.O.,
Houston Dermatology Associates, P.A.

Coping with Allergies

David P. Huston, M.D.

June 17, 2022

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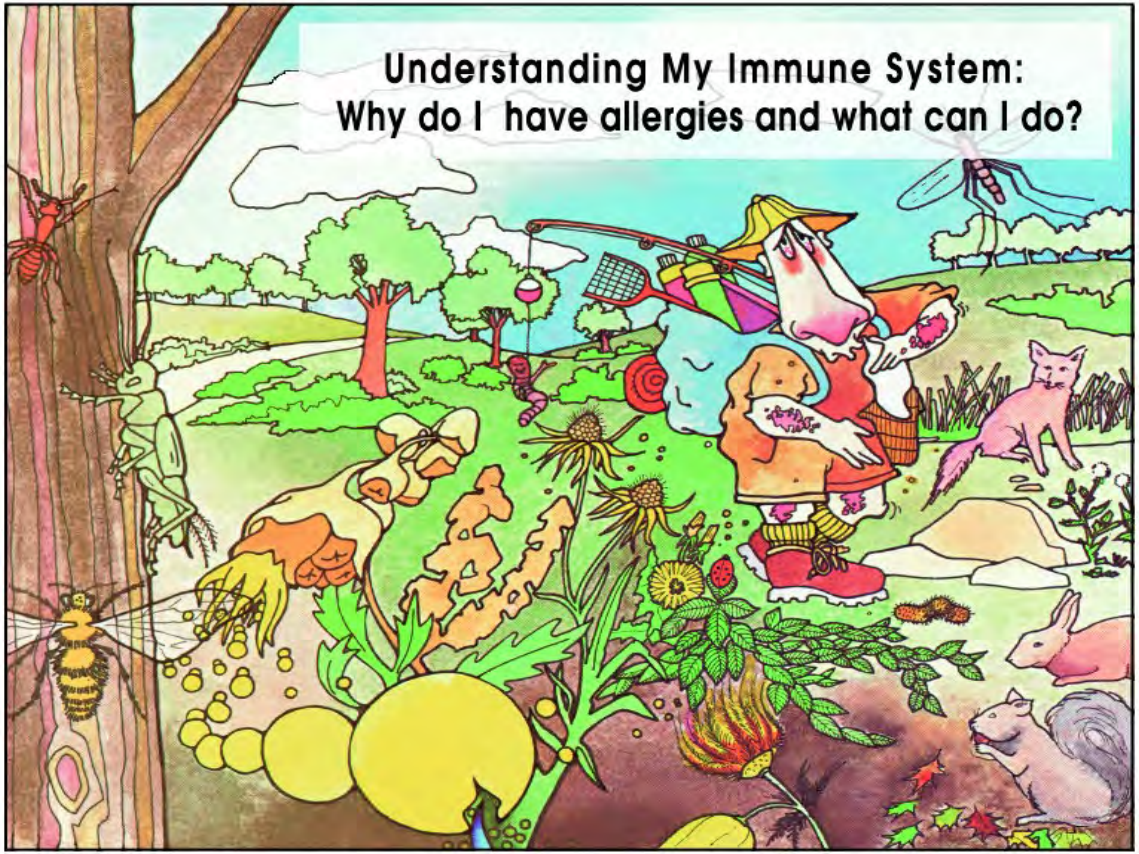
It’s a Jungle Out There

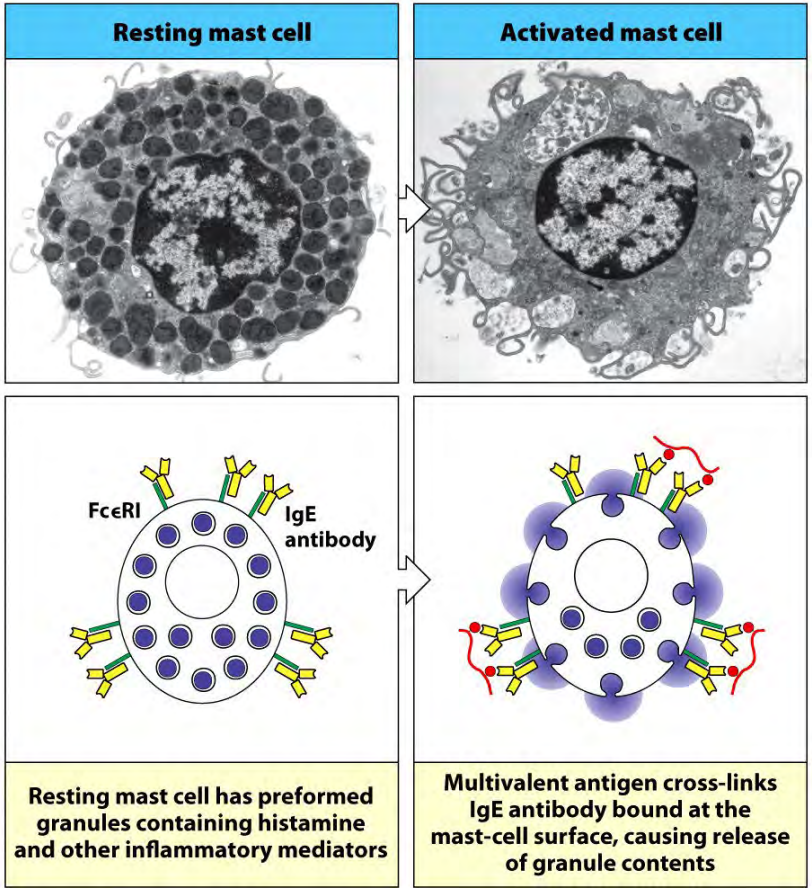


Allergy: General Statistics

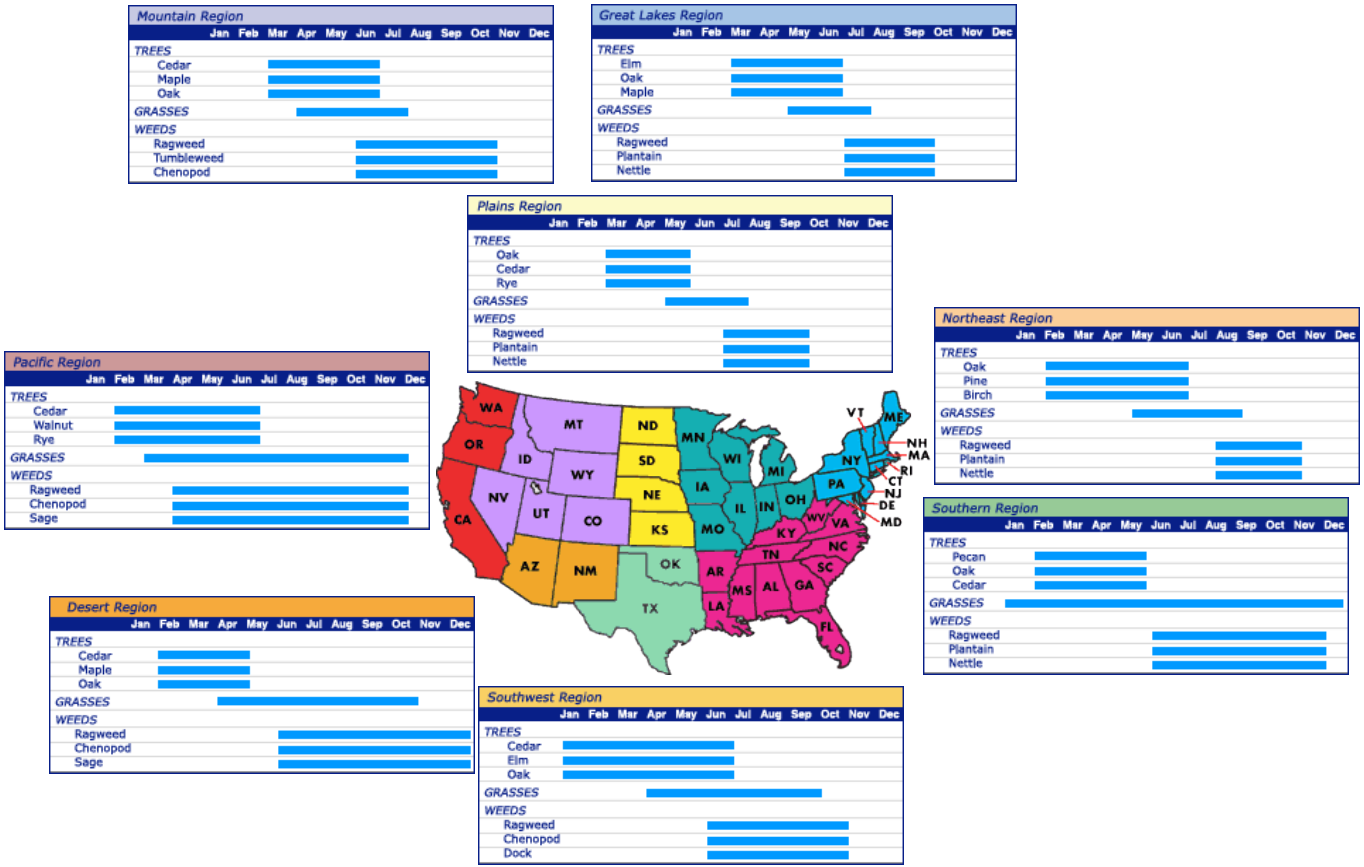
According to the latest information available from the Centers for Disease Control and Prevention (CDC), and the National Institute of Allergy and Infectious Diseases (NIAID):

- More than half (54.6%) of all U.S. citizens test positive to one or more allergens
- Over 50% of homes had at least six detectable allergens present
- Allergic diseases affect as many as 40 to 50 million Americans

Mechanism of Immediate Allergic Reactions/Anaphylaxis



Seasonal Aeroallergens



Perrenial Aeroallergens

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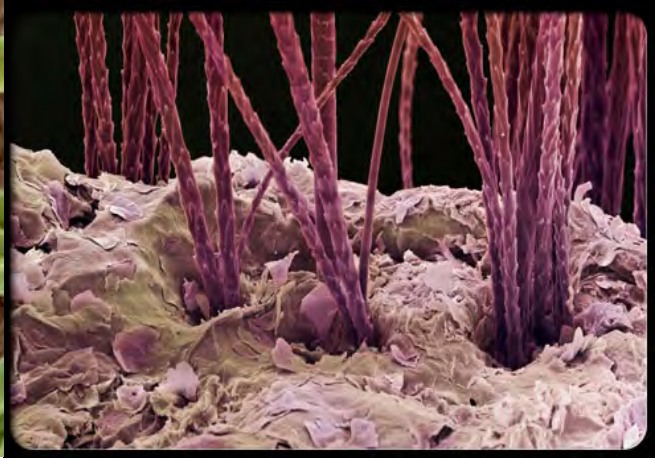
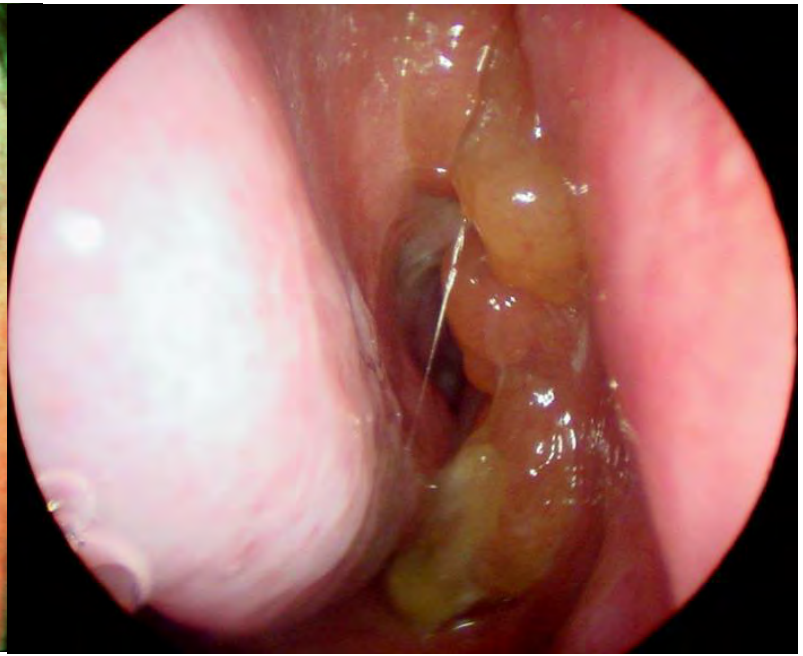


Allergic Rhinitis & Conjunctivitis



Allergic Asthma

Aeroallergen Treatment

- Allergen Avoidance or Mitigation
- Anti-Histamines (Oral/Nasal/Eye Drops)
- Nasal/Inhaled Corticosteroids
- Allergen Immunotherapy
- Biologics (Rhinosinusitis/Nasal Polyps/Asthma)

COVID-19 or Allergies?

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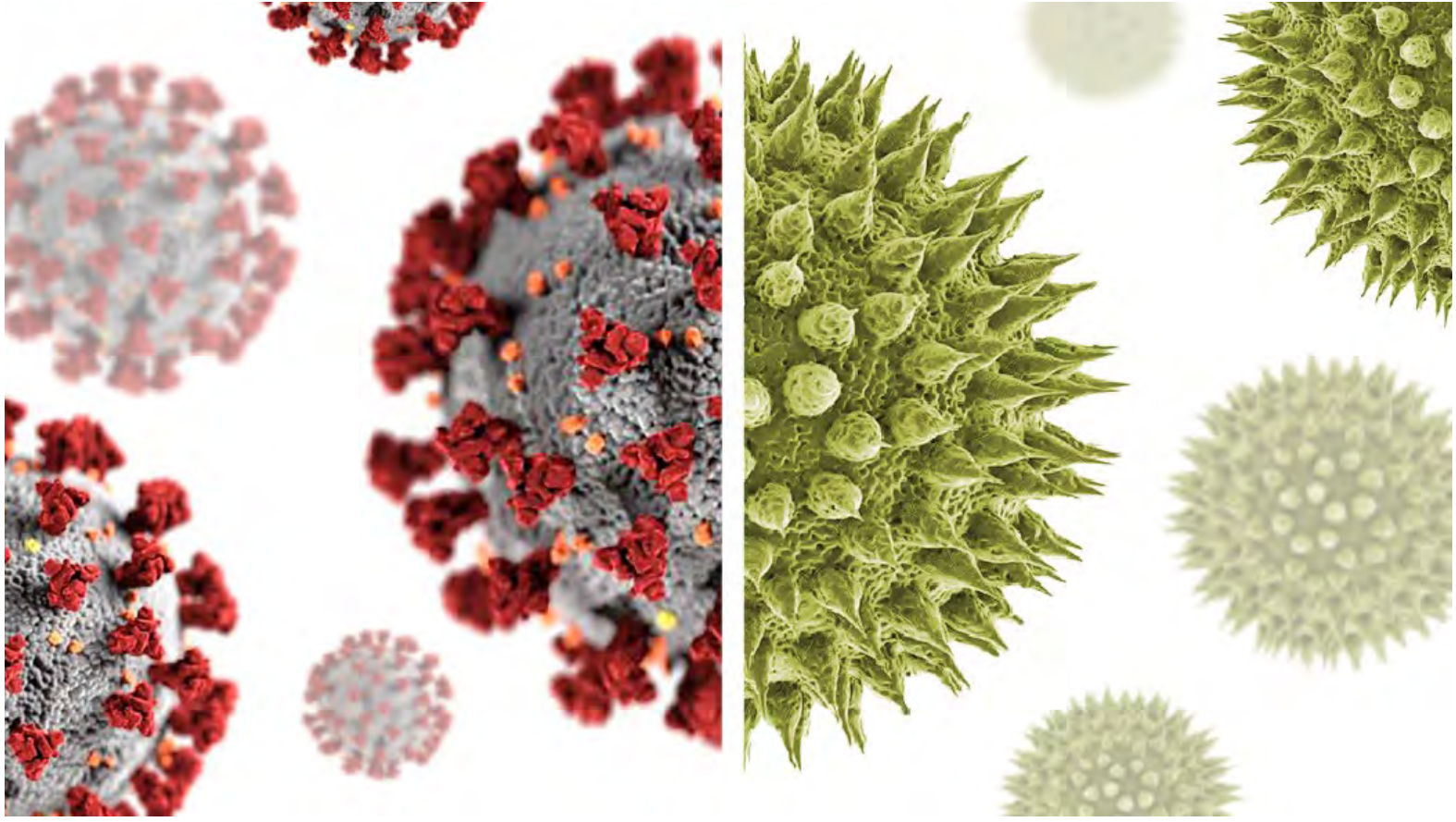

COVID-19 or Allergies?

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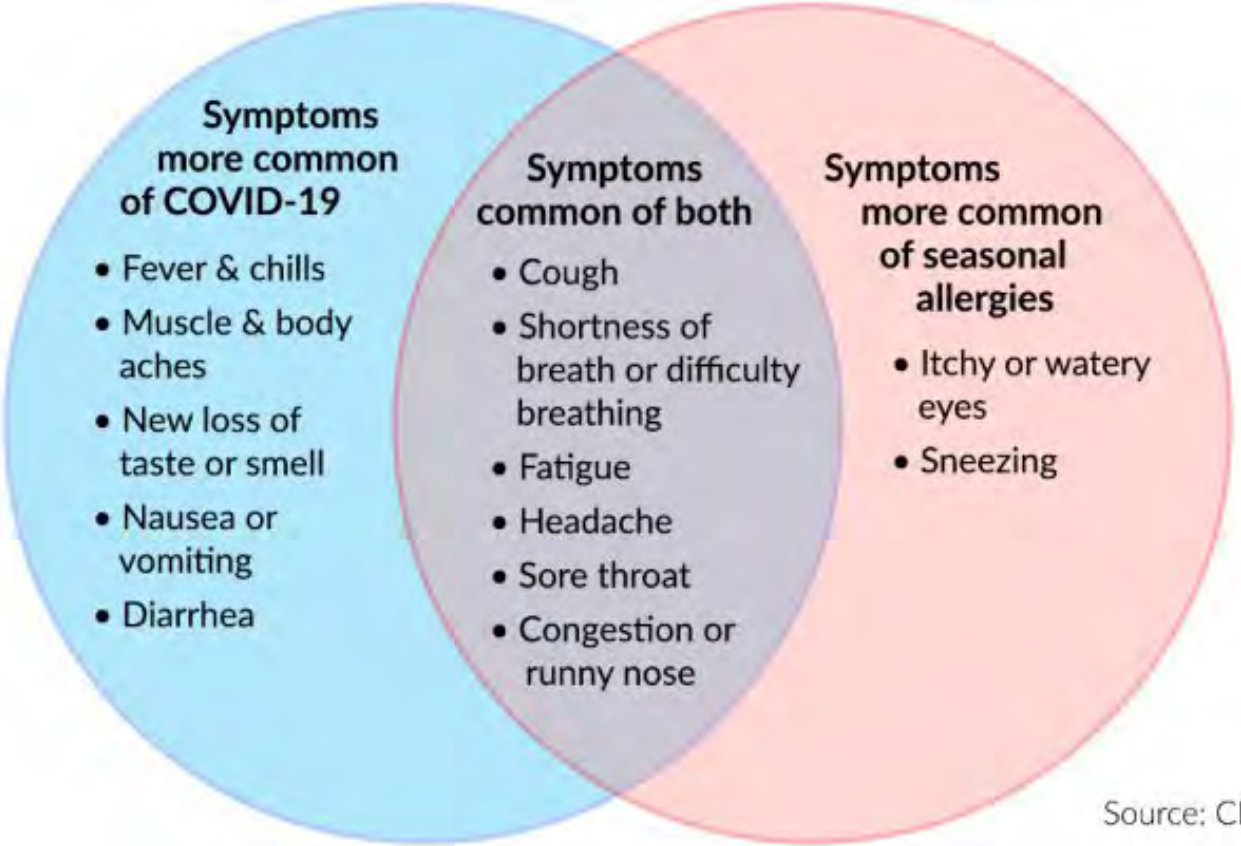

Source: CDC

Triggers of Anaphylaxis: Insect Stings and Bites

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- Bees
- Vespids
- Fire ants and other ants
- Scorpions
- Deer and horse flies
- Mosquitoes

Honey Bee Sting

Fire Ant Sterile Pustule

Anaphylaxis: Respond quickly!

- Administer epinephrine
- Activate EMS – 911
- Call emergency contacts

Stinging Insect Treatment

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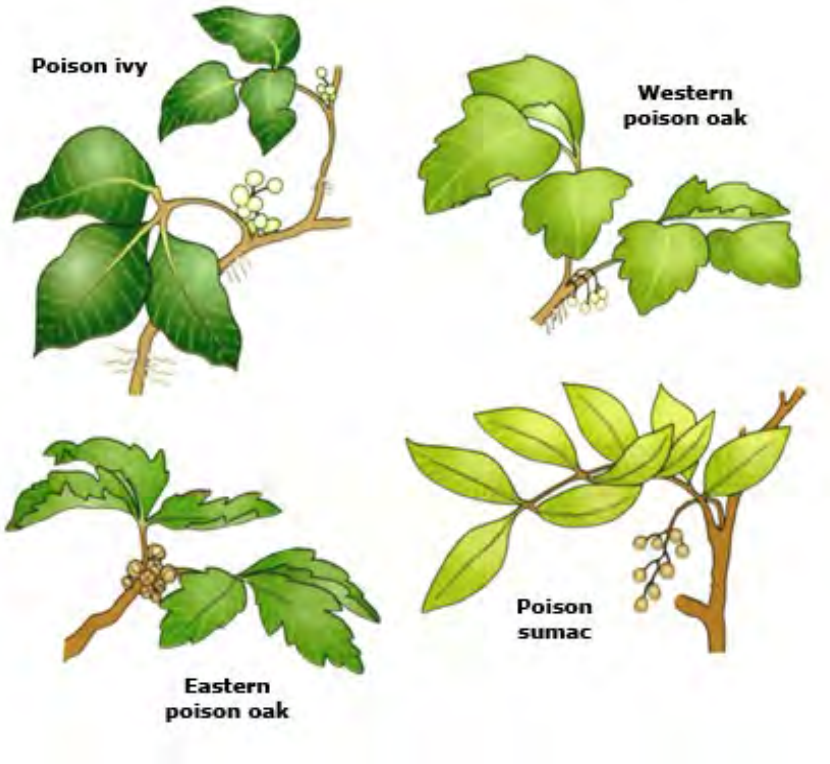
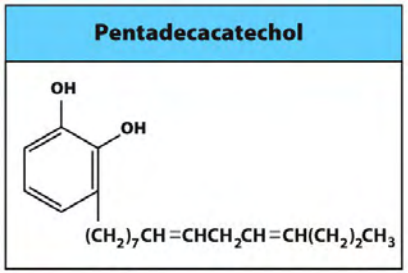
- Identify Insect/Remove Stinger
- Anti-Histamines (Oral)
- Topical Corticosteroids
- Epinephrine (IM) – Anaphylaxis
- Venom Immunotherapy – Anaphylaxis

Identification of poison ivy, oak and sumac





Treatment

- Wash with Soap
- Oral Corticosteroids
- Oral Anti-Histamines
- Do Not Open Blisters

Jellyfish & Man of War Stings

Treatment

- Remove tenacles (Do not rub)
- Rinse with sea water (NO fresh water)
- ? Vinegar
- ? Meat Tenderizer
- Topical Corticosteroids
- Oral Anti-Histamines
- Calamine Lotion

Kiss of the Asp

Flannel Moth Caterpillar

Treatment: Tape Stripping, Topical Analgesic, Calamine Lotion, Oral Anti-Histamine

It’s a Jungle Out There

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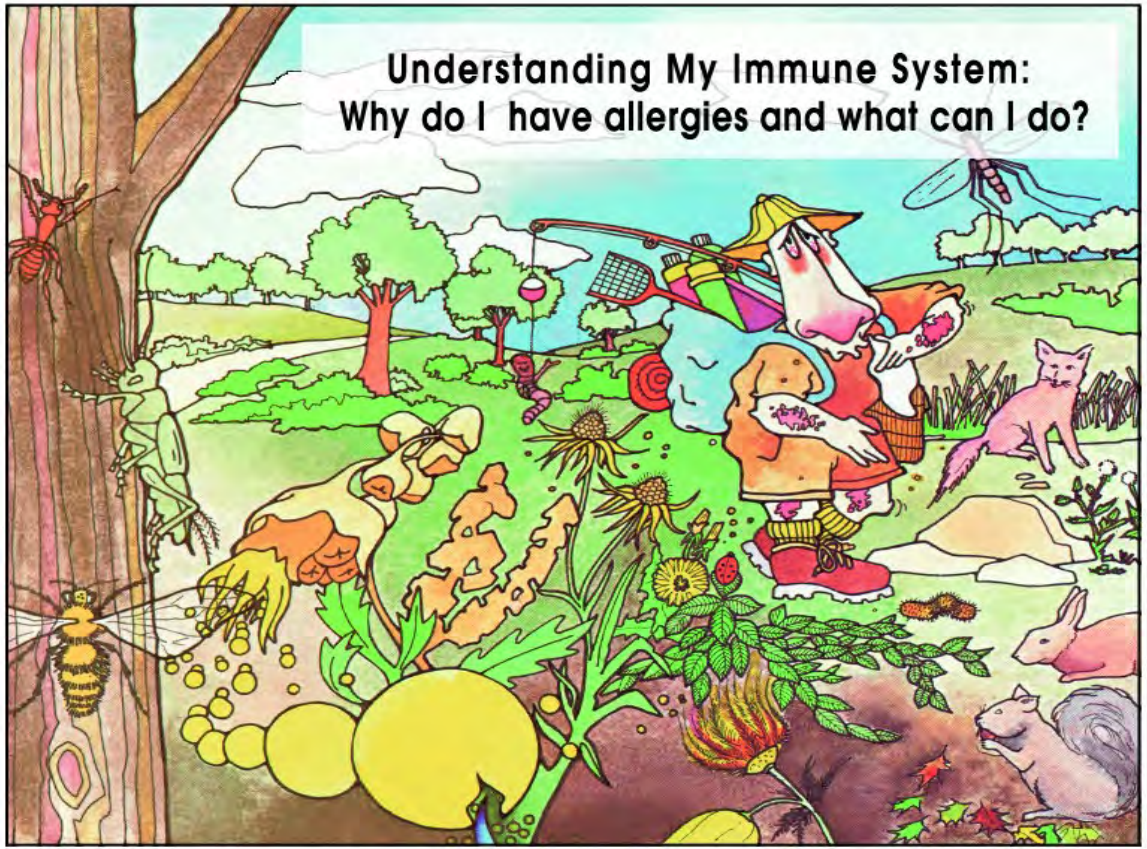

Summertime Safety

Neil Gandhi, MD, MBA

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Agenda

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- Local Concerns
  - Heat related illness
  - Mosquito safety
- Travel Safety
  - High altitude exposure
  - What to keep in your medicine cabinet?

Heat Stroke

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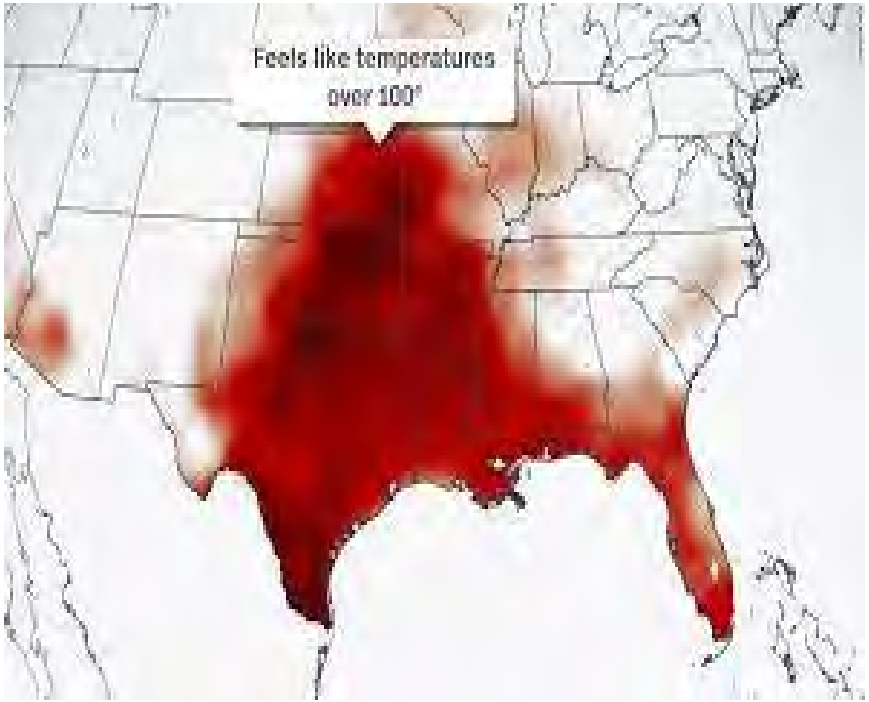

Heat Related Illness

Physiology

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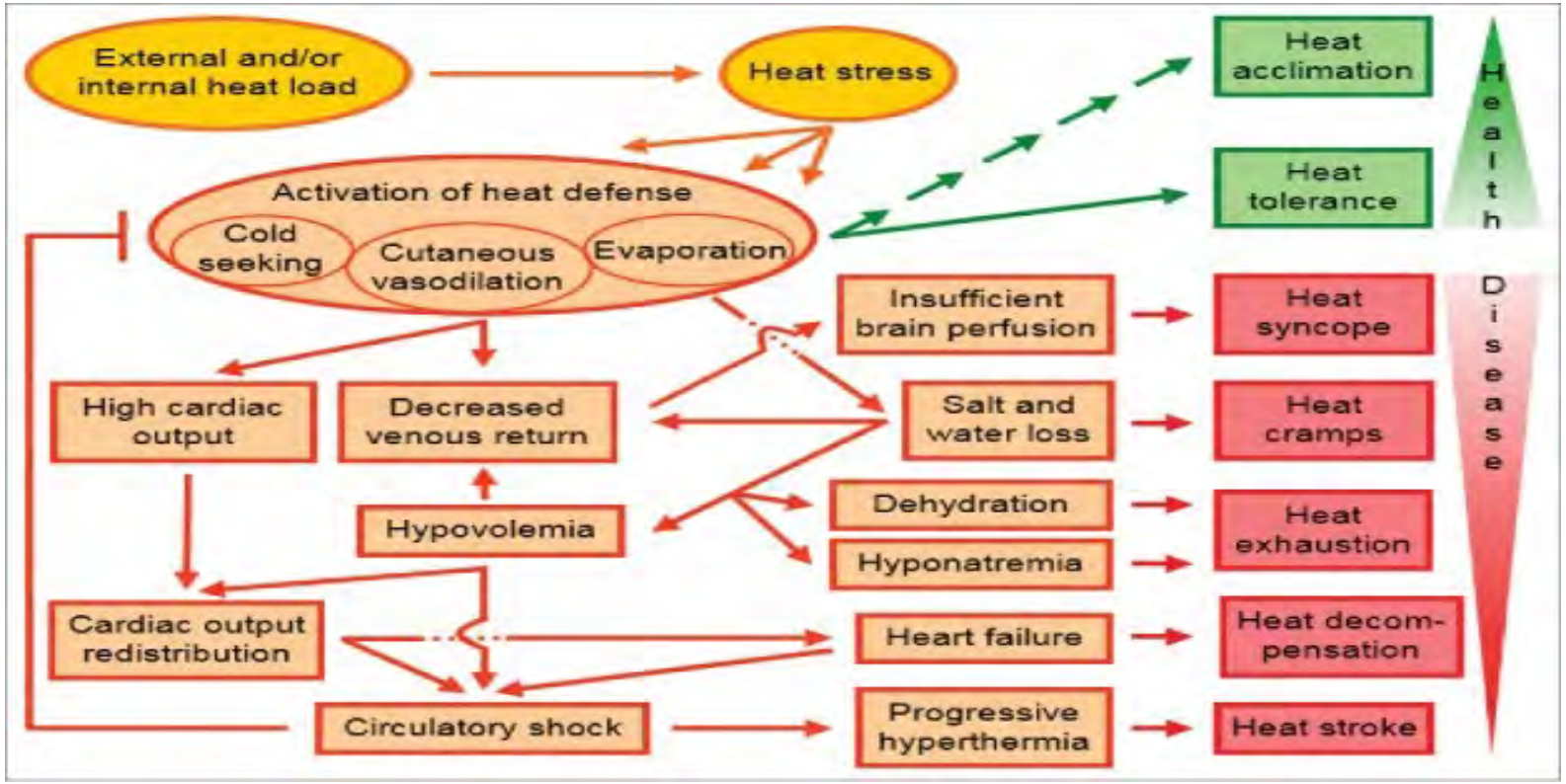

Heat Related Illness

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- Heat stroke is a condition caused by your body overheating, because of prolonged exposure to and/or physical exertion in high temperatures
- 2 main causes: exposure and/or strenuous activity
- Summer months
- Core body temperature rises to above 104^{o}F
- Can damage brain, heart, kidneys, muscle

Heat Related Illness

- Symptoms: altered mental status, alteration in sweating, nausea and vomiting, flushed skin, rapid breathing, increased heart rate, and headaches
- Pediatrics (under the age of 4) and elderly at highest risk
- Treatment
  - Severe symptoms need to be taken to the ED
  - Minor symptoms may be amenable to early home therapy
    - Water, sports drinks, Pedialyte, colder environment, cold shower

Mosquitos

- Over 85 species in Texas
- Insect repellent vs insecticide

Mosquitos

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- Why are we concerned about bites?
  - Nuisance
  - Skin irritation (infection in pediatric patients)
  - West Nile
  - Encephalitis
- International considerations
  - Malaria
  - Dengue
  - Chikingunya
  - Yellow Fever
  - Zika (pregnancy)

West Nile Virus

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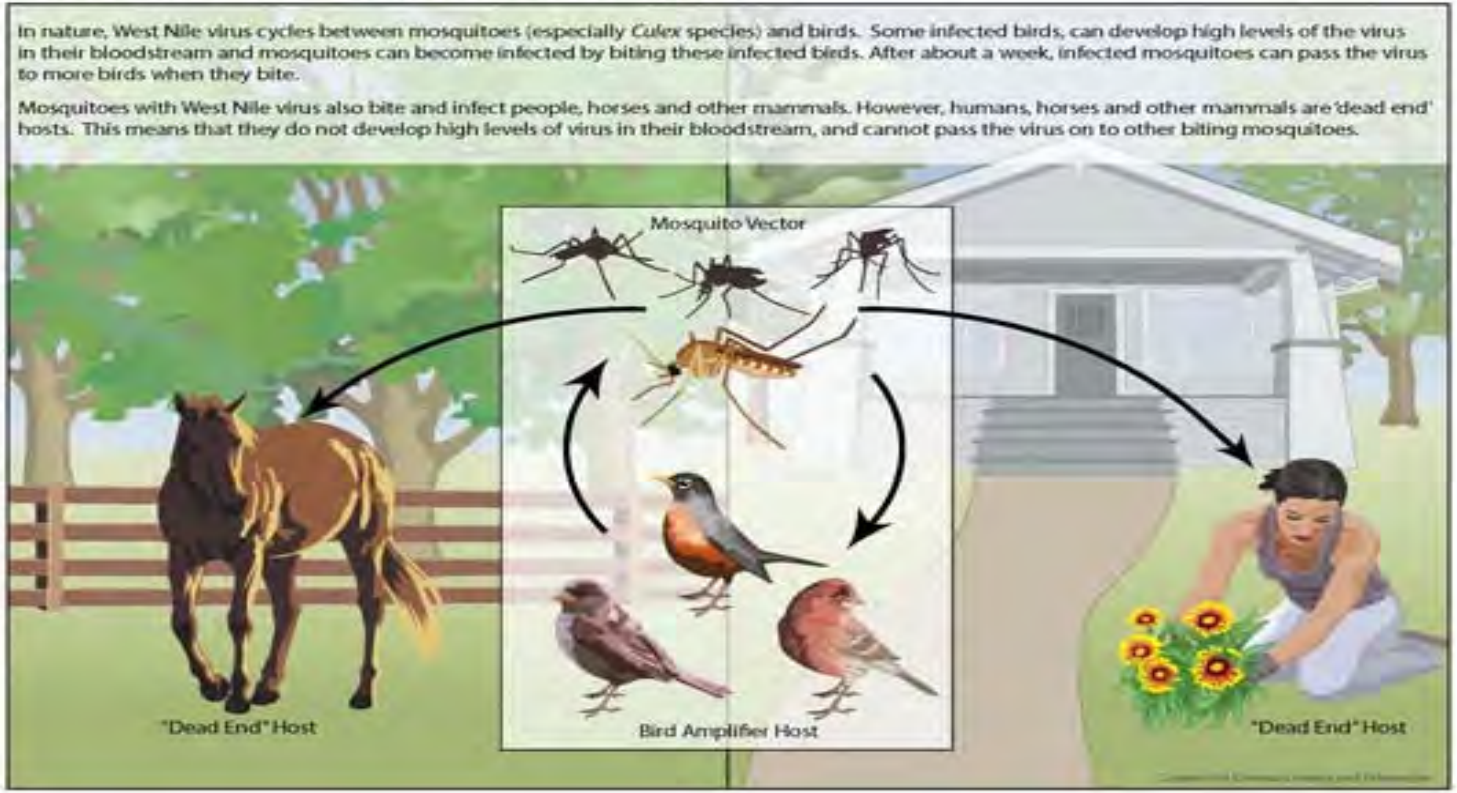
West Nile Virus Transmission Cycle



Mosquitos

- Repellents
  - DEET
    - Percentage strength
    - Concerns with pediatrics
    - Concerns with pregnant patients (no association with birth defects or miscarriage)
    - Best studied, 40y of research
- DEET alternatives
  - Long sleeve clothing
  - (p)icaridin
  - Oil of lemon eucalyptus
    - PLANT-BASED alternative
    - Good efficacy for shorter duration
    - Lavender (53%), cinnamon (larvae)

High Altitude Illness

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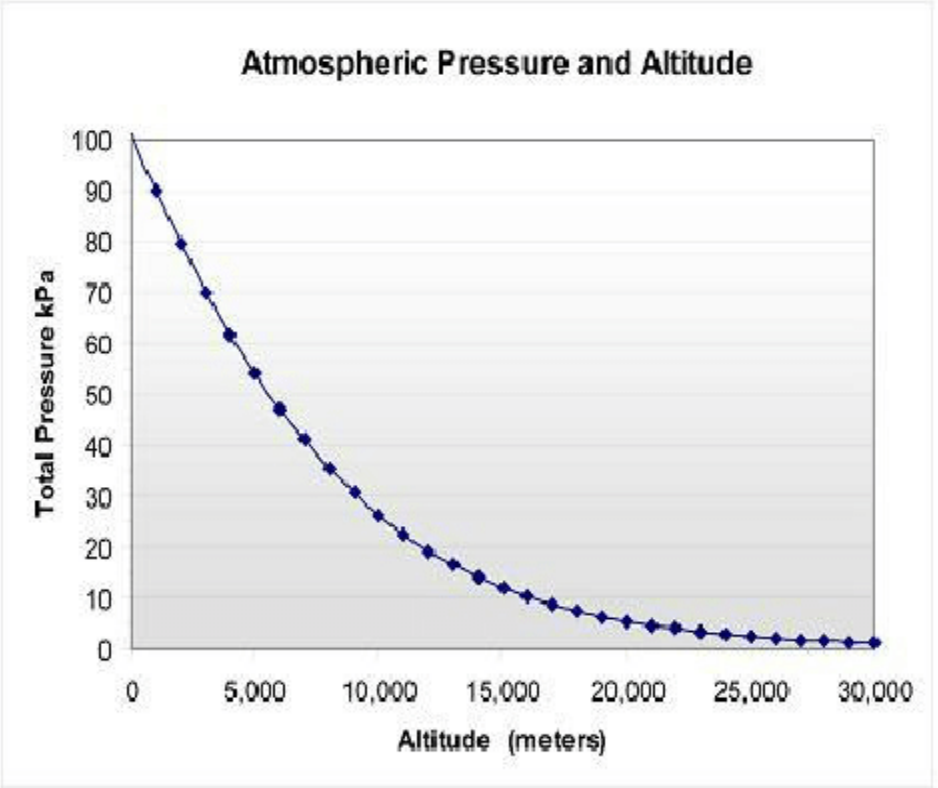
Altitude Illness

- Aspen: 8000 feet
- Vail: 8150 feet
- Breckenridge: 9600 feet
- Mt. Everest: 29,000 feet



Altitude Illness

Categories

- Acute Mountain Sickness: headache, fatigue, loss of appetite, nausea, vomiting. Typical resolution within 48 hours.
- HAPE: shortness of breath, cough, weakness, unable to walk
  - Treatment: descent and oxygen
- HACE: drowsiness, confusion, ataxia, AMS
  - Treatment: immediate descent

Altitude Illness

- Pre-existing medical conditions: CHF, MI, SSD
- Sleep apnea: recommend acetazolamide
- Altitude reduced oxygen content: high altitude periodic breathing (rapid shallow breaths, sleep disturbances)
- Hypoxic ventilatory response (HVR): impaired with alcohol and sleep medicines
  - https://academic.oup.com/sleep/article/41/10/zsy153/5067507

Altitude Illness

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- Acclimatization (Prevention)
  - Ascend gradually to 8000 feet, then no more than 1600 feet per day
  - Avoid alcohol (studies show caffeine is ok)
  - Reduce exercise for initial 48 hours
  - Drink water
  - Diamox: 125mg PO BID, 1d prior to ascent, for 3d total

First Aid Kits – Checklist

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- Commercially available
- Gauze, tweezers, scissors
- Acetaminophen (Tylenol)
- Ibuprofen (Motrin, Advil)
- Diphenhydramine (Benadryl)

Home Medications

- Acetaminophen
  - 650mg for pain
  - 1000mg for fever
  - 15mg/kg for pediatrics
  - No more than 4 doses/d
- Ibuprofen
  - 600-800mg for pain
  - 10mg/kg for peds
  - Do not give <1yo
  - Side effects profile
- Benadryl
  - 12.5-25 mg for allergic reaction

Home Medications (con't.)

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- Aspirin
- Hydrogen peroxide
- Calcium carbonate (Tums)
- Bismuth subsalicylate (Pepto Bismol)
- Hydrocortisone cream (1%)

References

- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4843928/
- https://wwwnc.cdc.gov/travel/yellowbook/2020/noninfectious-health-risks/high-altitude-travel-and-altitude-illness
- https://pubmed.ncbi.nlm.nih.gov/17498390/#:~:text=Abstract,products%20was%20investigated%20in%20vitro

References (con’t.)

- https://malariajournal.biomedcentral.com/articles/10.1186/1475-2875-10-S1-S11
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086113/

Staff Recognition: Humanitas

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Houston Methodist

humanitas

hu-man-i-tas \hyü•mān•ə•təs\noun\ from the latin 1: human kindness, HUMANENESS

2021 Award Recipient

This certificate is awarded in recognition of your "human kindness" and exemplary service in 2021 in support of patients and their families during the COVID-19 pandemic. You have exceeded your job duties during one of the most challenging times in our history. You make Houston Methodist a better place for all who enter our doors.

Marc L. Boom, MD
President and CEO, Houston Methodist

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Roberta Schwartz, PhD
Executive Vice President and Chief Innovation Officer, Houston Methodist

humanitas

hu-man-i-tas \hyü-mān-ə-təs\noun\ from the latin 1: human kindness, HUMANENESS

Houston Methodist Humanitas Awards Celebration
Tuesday, June 14, 2022

Message of Congratulations and Appreciation from Evan H. Katz
Chairman of the Board, Jerold B. Katz Foundation

Care is a language. Genuine care is a warm meal, a quiet smile that is shared between co-workers, a simple compliment. It is a welcome that we create so people know that someone has thought about them, so people know that they are cared about, and that they are in a safe, nurturing environment. Basically, that they matter. A gesture of care does not need to be elaborate. Care is not fancy. It could be a friend asking, "How are you?" at the exact moment when it is most needed.

It has been our sincerest honor to help create and fund the Houston Methodist Humanitas Awards. Humanitas is the Latin word meaning "human kindness." This gift is an expression of what is near and dear to our hearts at the Jerold B. Katz Foundation. Because no matter what you do at Houston Methodist, you are demonstrating care. Every job in our hospital is crucial to the experience of our patients and families.

This Covid nightmare has played out for all of us over these last 2-plus years — and we have all counted on you. You have been our tireless champions, quietly caring for us, practicing Houston Methodist I-CARE values, and helping to make our hospital experience as peaceful as possible.

Just know: you are noble and selfless, skilled, and strong-willed. You have given your hearts and souls to that something greater — the health of our community.

Care is a language. It is gentle and lasting. You have helped change the lives of people with your acts of kindness and generosity of spirit.

Your award honors your contribution to Houston Methodist. You are the heart and soul of our institution.

God bless you.

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Staff Recognition: Humanitas

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Town Hall Conversation XXVI
Monkeypox Update

Ashley L. Drews, MD FACP
HM System Epidemiologist

June 17, 2022

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Monkeypox – What is it?

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- Infection caused by a virus in the same genus as the variola (the virus that causes smallpox) that causes a rash similar to smallpox
- It was first isolated from a colony of sick monkeys in the late 1950s hence the name monkeypox but is believed to have infected humans in sub-Saharan Africa for thousands of years
- Two distinct strains exist in Africa with different geographic distribution, virulence and mortality

How do you get monkeypox?

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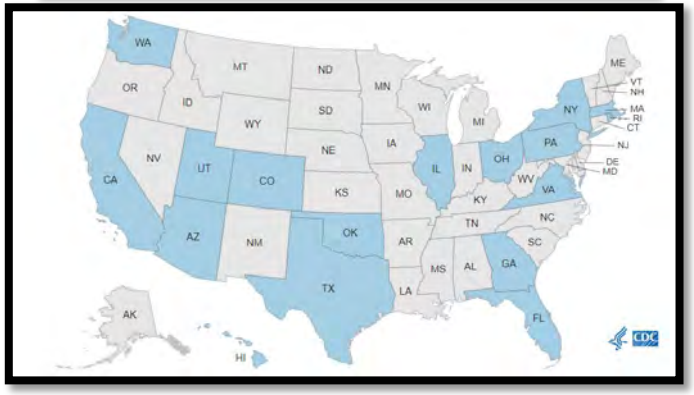
- Animal-to-human transmission
  - Typically acquired by contact with infected animal's body fluids or a bite
- Human-to-human transmission
  - Close contact with infectious skin lesions or lesion material
  - Possibly during sexual contact during current outbreak
  - Respiratory droplets
  - ?Aerosol

Where in the world is monkeypox?

- Historically most cases have occurred in Central and West Africa
- First seen in Western Hemisphere in U.S. in 2003 associated with pet prairie dogs
- Sporadic cases in travelers from Africa
- May 2022 multiple cases of monkeypox reported in Europe in Spain, Portugal, United Kingdom
- First case in 2022 in the U.S. reported May 18, 2022 in man in Massachusetts who had traveled from Canada



Content source: Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of High-Consequence Pathogens and Pathology (DHCPP)

What disease does monkeypox cause?

- Nonspecific viral prodrome typically 6-13 days after exposure (can range from 5-21 days after exposure)
  - Fever
  - Chills
  - Myalgias
  - Headache
  - Exhaustion
  - Lymphadenopathy
  - Rash

Content source: Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of High-Consequence Pathogens and Pathology (DHCPP)

How do you treat monkeypox?

- Supportive care
  - Most persons have mild disease and recover without any medical intervention
  - Some need IV fluids or other supportive care
- Vaccinia immune globulin
- Post-exposure prophylaxis with smallpox vaccine
  - Vaccine given after exposure to prevent manifestation of disease/severe disease in certain high-risk individuals

- Antiviral therapy
  - There is no specific antiviral approved for monkeypox
  - Some agents for smallpox have been used in high-risk persons infected with monkeypox
    - Tecovirimat
      - Inhibitor of orthopoxvirus protein
      - Approved for treatment of smallpox July 2018
      - Shown to protect nonhuman primates from lethal monkeypox infections
      - Only available through CDC
    - Cidofovir
      - In vitro activity against monkeypox
      - Associated with significant adverse events, including nephrotoxicity
    - Brincidofovir
      - Approved in June 2021 for treatment of smallpox
      - Oral analog of cidofovir

Prevention – vaccination

- Smallpox vaccines
  - Vaccinia-Prior smallpox vaccination has protective effect against acquisition of the disease and may ameliorate the clinical manifestations of the disease
  - Modified vaccinia Ankara vaccine (Imvamune and Jynneos) – approved in 2021 for certain laboratory workers at high risk for exposure to orthopox viruses

Let's Twist Again (Like We Did Last Summer)

?

Omicron Update

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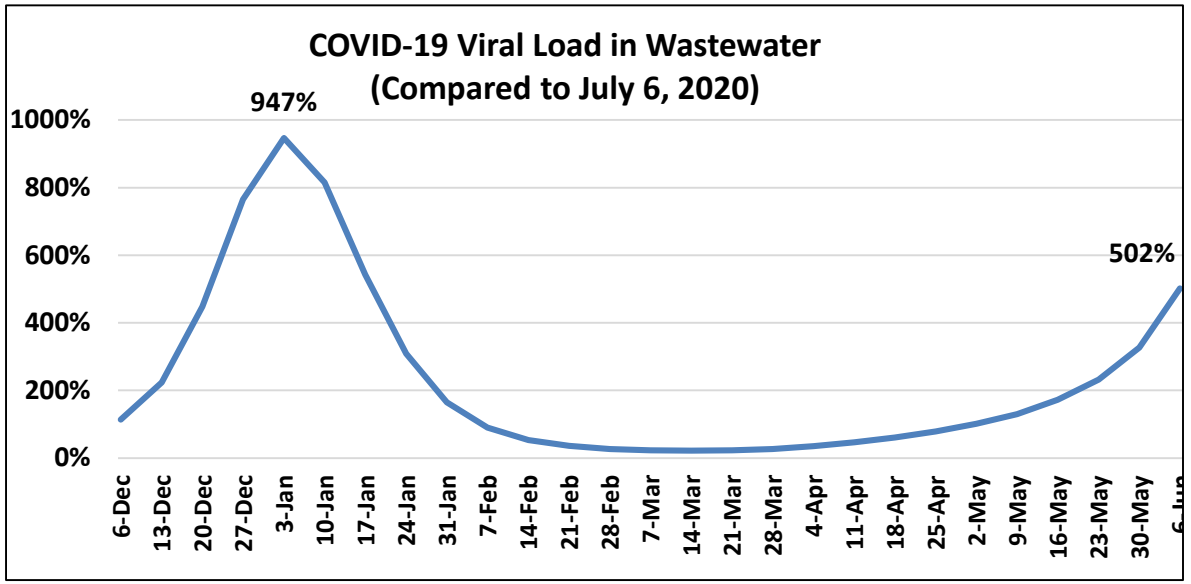
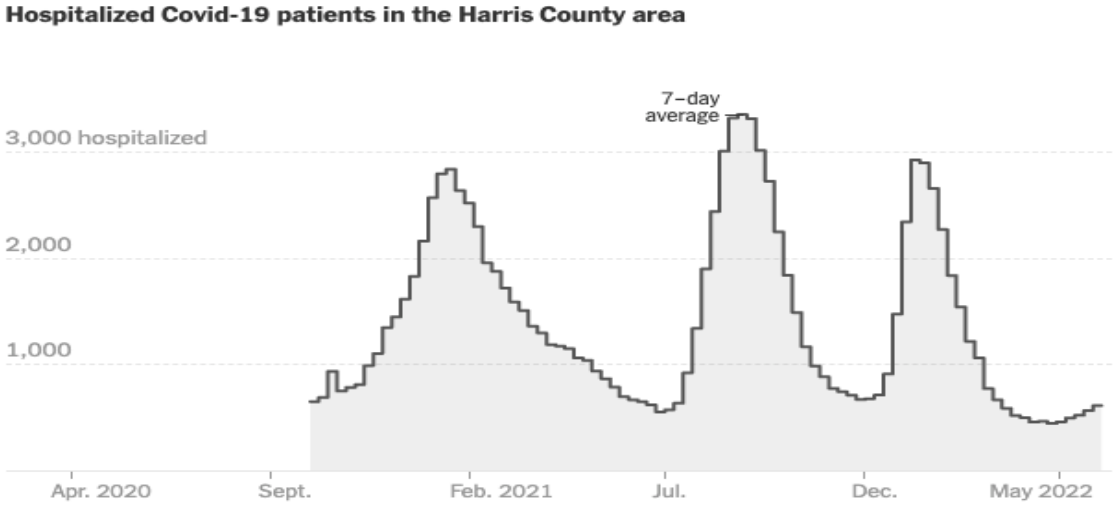
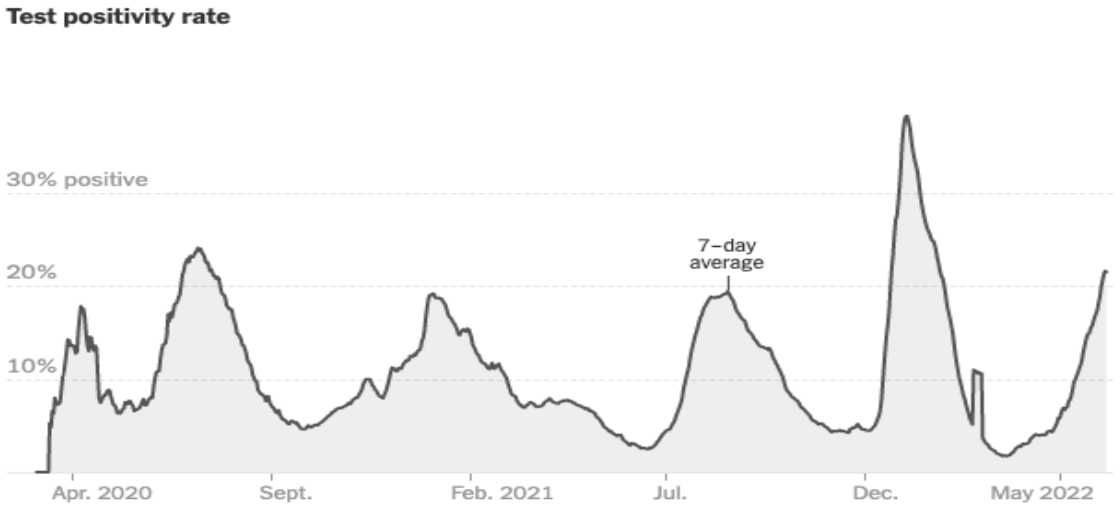
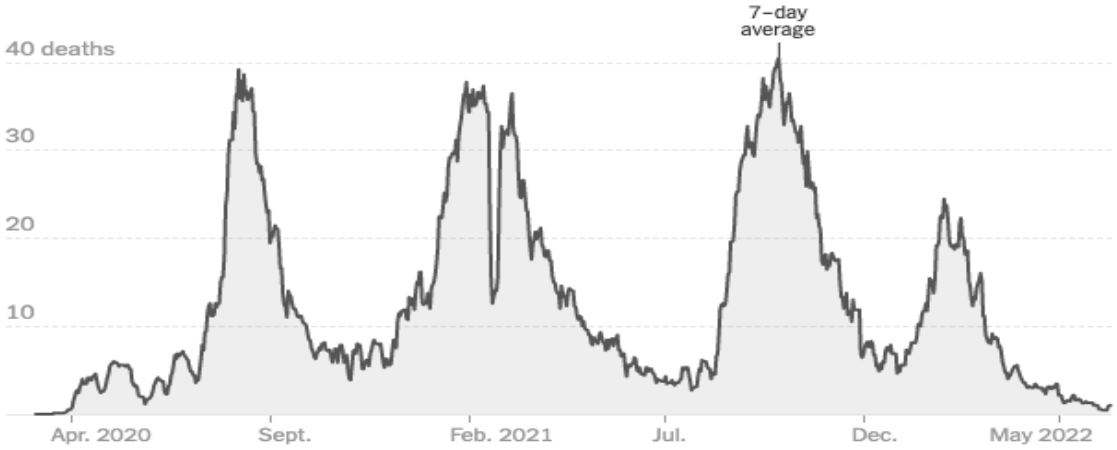
Harris County COVID Statistics

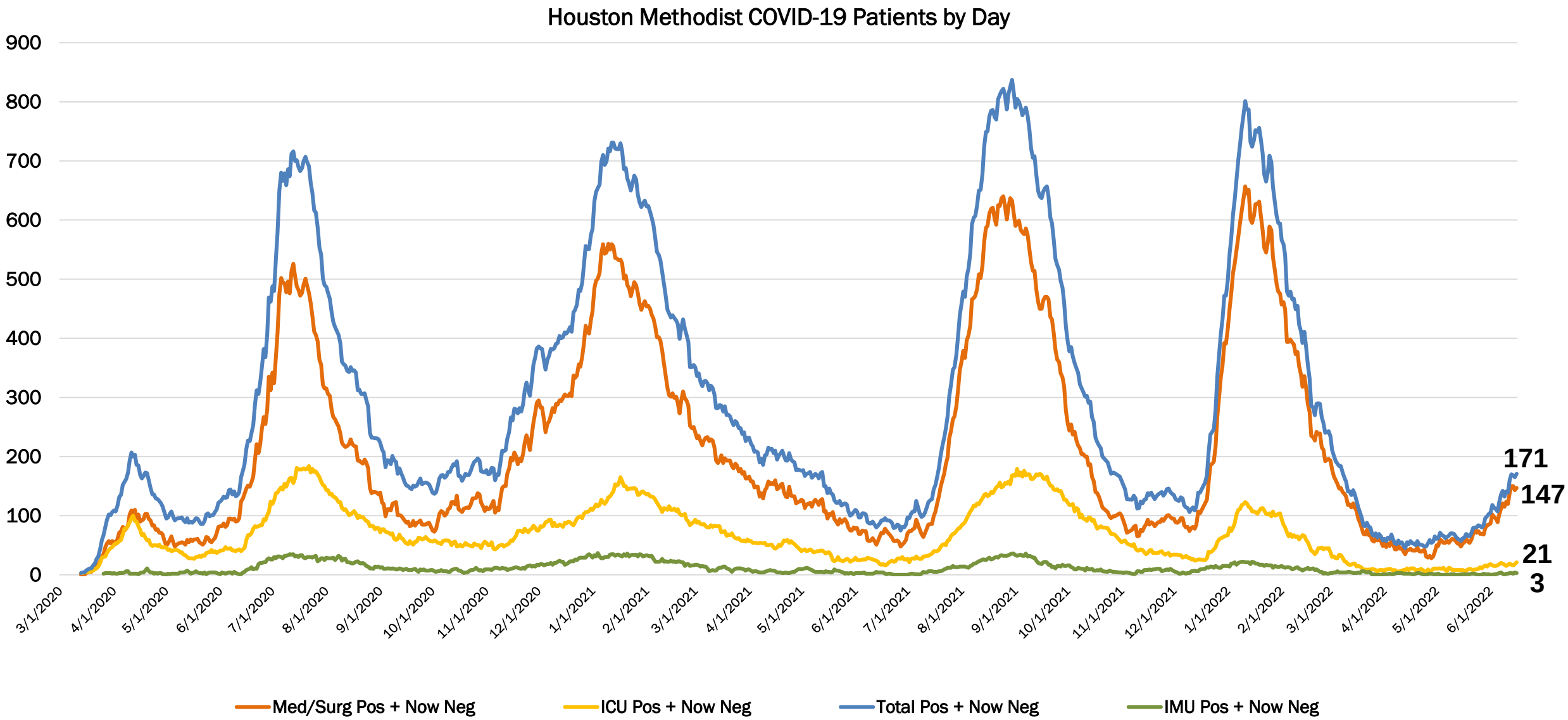








Houston Methodist COVID-19 Cases By Day



Data as of June 16, 2022

Is This What Coronavirus Herd Immunity Looks Like?

- Harris County
  - –64% of population 2 dose vaccinated
    - 24% of population 3 dose
  - –21% of population confirmed COVID
    - real percentage probably 40% - 60%
- COVID might be starting to act like other human coronaviruses
- Hopefully virus will not evolve a major breakthrough mutation

	Vaccine Immunity	Infection Immunity	Double Immunity
Hospitalization Incidence	0.06%	0.03%	0.01%
Incidence Rate Ratio Per person-days	1.00	0.60	0.25

Mayo Clinic Primary Care Network Experience – 106,349 Patients Followed for 21 Months

Pollock et al, Clinical Infectious Diseases, ciac186, https://doi.org/10.1093/cid/ciac186

Vaccine & Booster Update

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Immunity and Omicron

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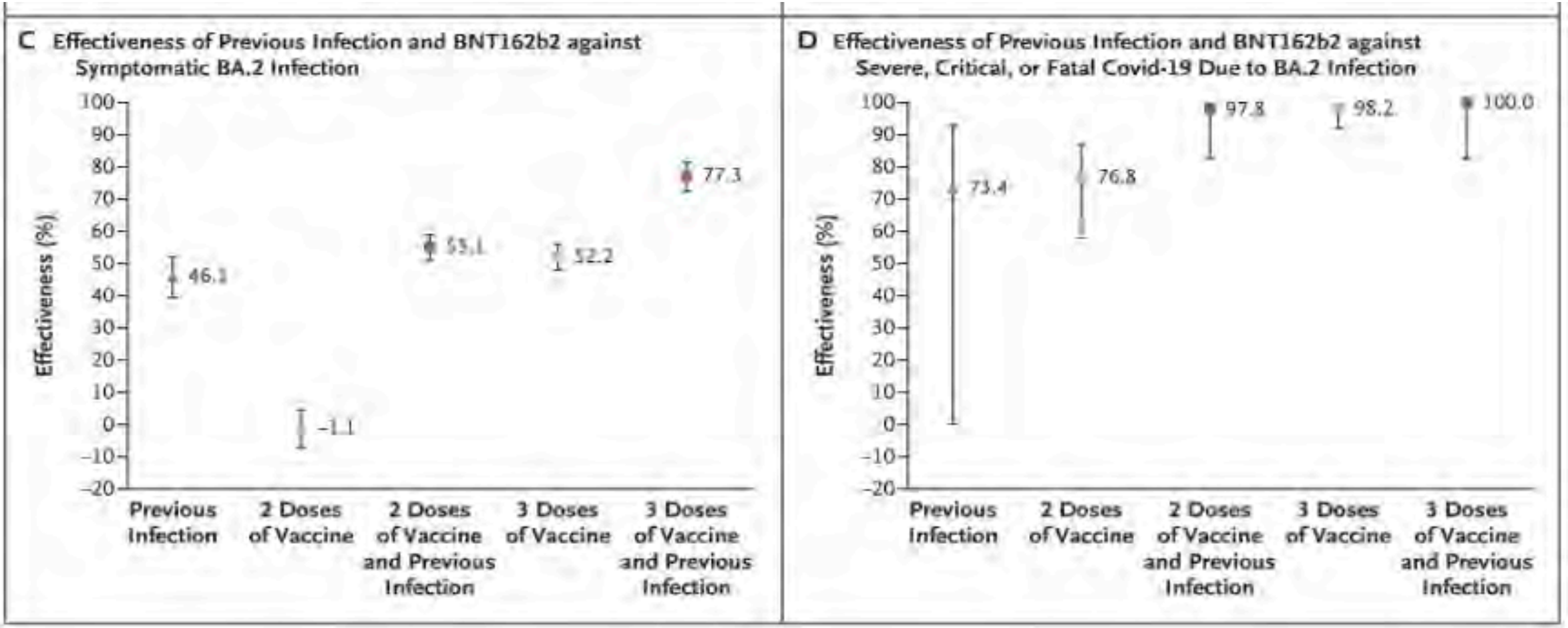
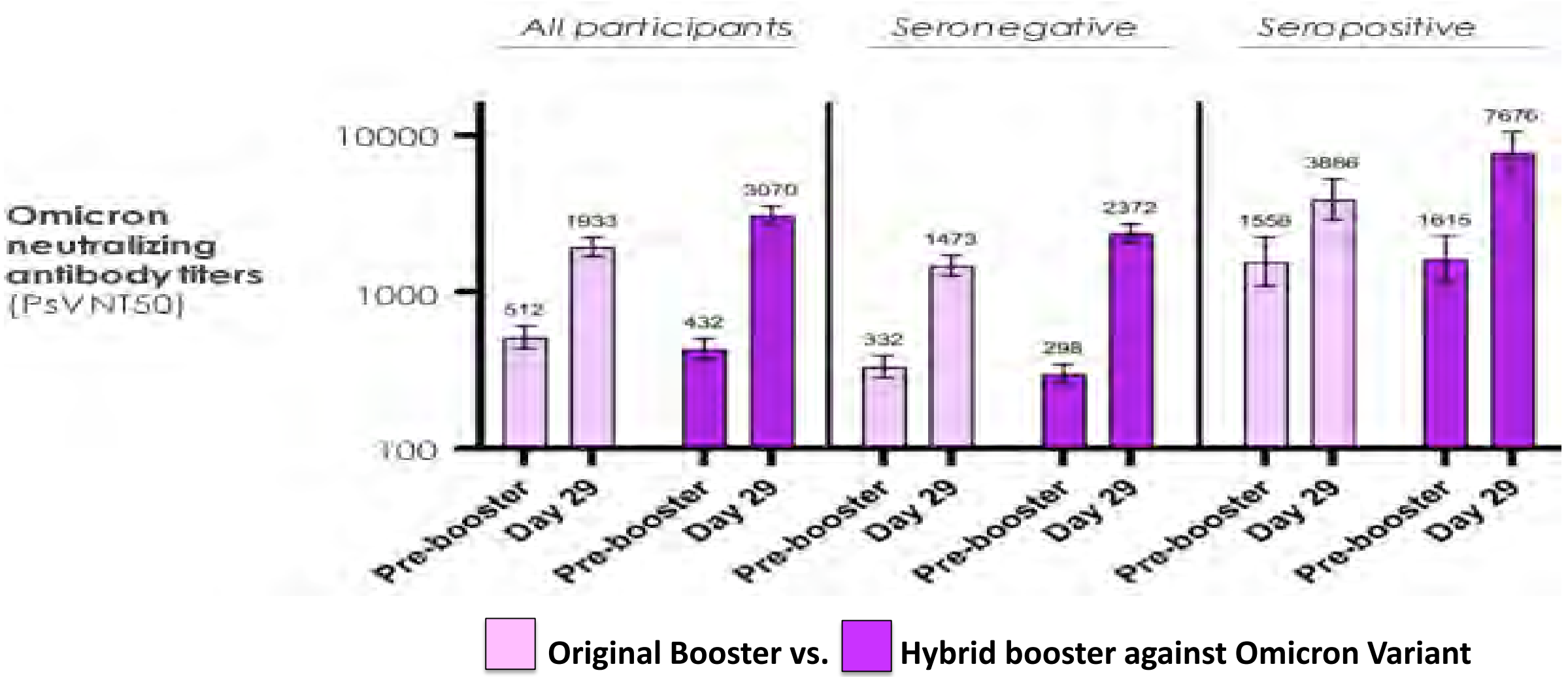


Israeli data on effectiveness of fourth dose of vaccine very similar to the above data on three doses + previous infection

Hybrid Booster is Better Than Original Vaccine Booster

Moderna press release, June 8, 2022



Original Booster vs. Hybrid booster against Omicron Variant

Future Vaccine Strategies for SARS Coronaviruses

- Tailored boosters against variants
  - —Best guess is annual boosters will be necessary
  - —Pfizer, Moderna both show some advantage of omicron-specific boosters
  - —Still amounts to playing catch-up – similar to flu – and requires guesses about variant evolution
  - —FDA still requires clinical studies of COVID boosters – does not for flu
- Novavax EUA Approval Imminent
  - —Protein + nanoparticle carrier + adjuvant
  - —Not a game changer
- Newer vaccines – more than a year away
  - —Intra-nasal vaccines
  - —Pan-coronavirus vaccines – multivalent antigens and/or different carriers

COVID Treatment Update

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COVID Treatments

- Proven
  - Paxlovid
  - Monoclonal antibodies
  - Molnupiravir
  - Baricitinib
  - Dexamethasone
  - Remdesivir
- Potential
  - Fluvoxamine
  - Peginterferon lambda
  - Sabizabulin
  - Ensovibep

Staying Safe This Summer

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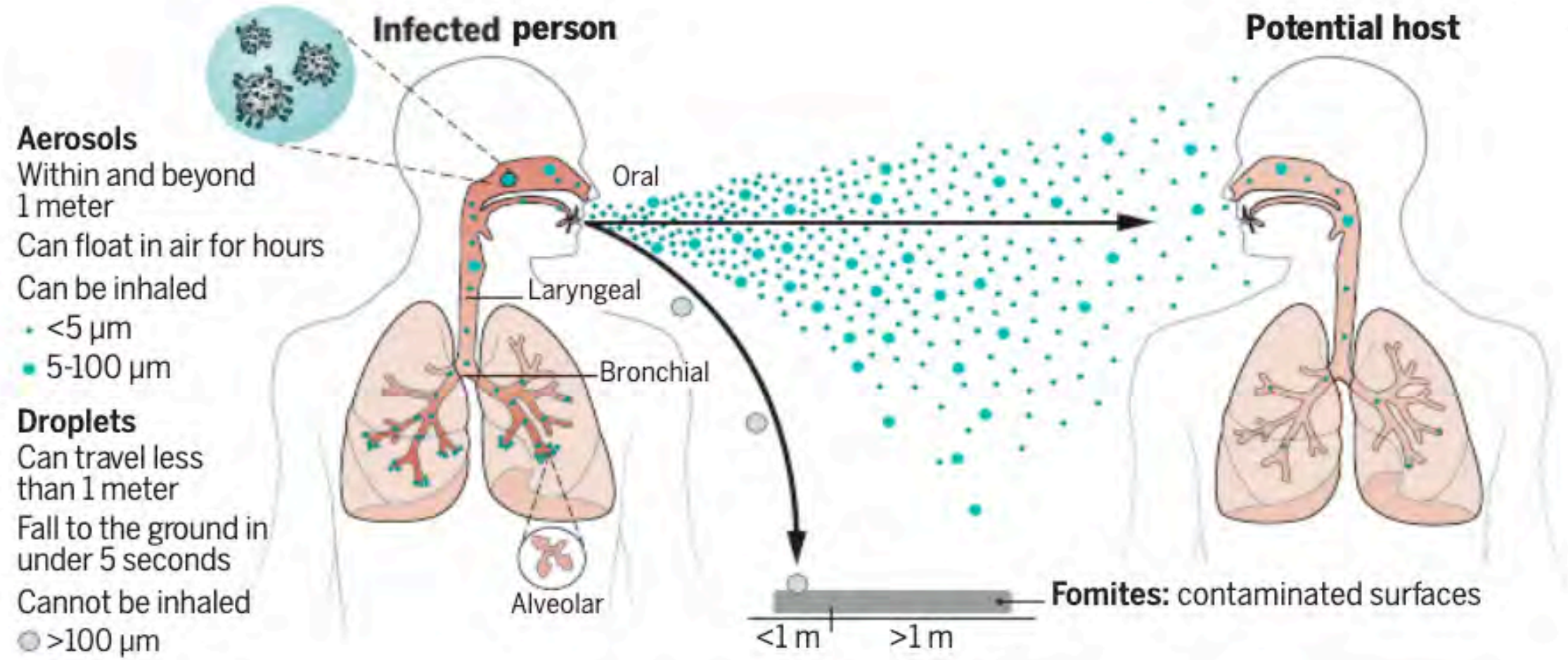
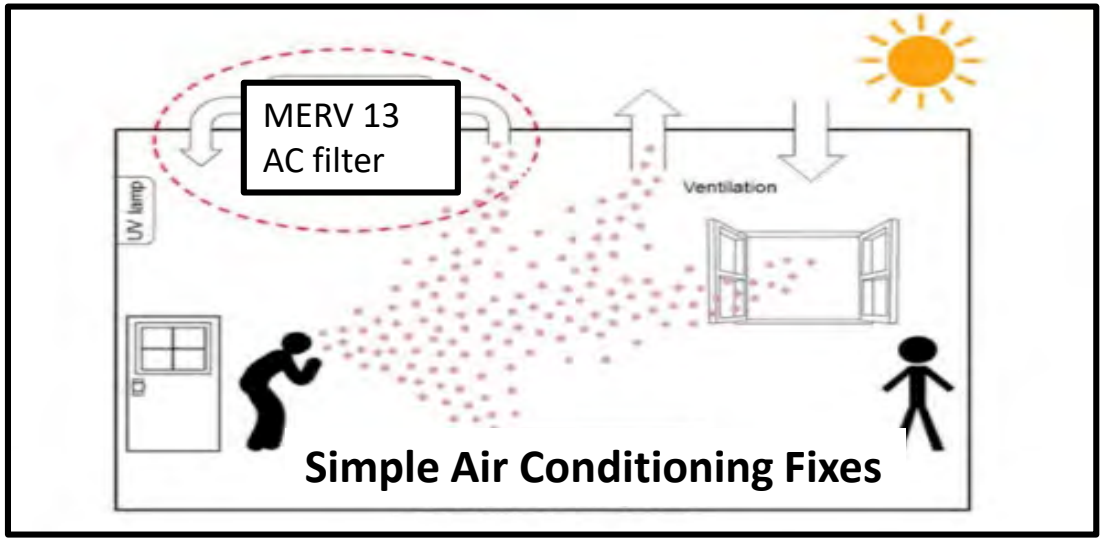
COVID is a Respiratory Infection Like Flu, Colds



The Air You Breathe: Filters, Ventilation, Masks

https://tinyurl.com/FAQ-aerosols



High quality ear loop masks for routine use

HEPA filter air purifiers for offices, meetings, or sick rooms

N95, KF94, KN95 masks for high risk situations

Precautions: Let Common Sense Be Your Guide

Example: All Outdoor Activities Are Not Equal

You Can Stay Safe and Still Go on With Life

73 yo Man with No Other Risk Factors

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Enhance Immunity – Minimize Risk of Exposure – Minimize Virus Dose if Exposed

Activities

- Travel in past year
  - –Europe three times
  - –East Coast 12 times
  - –Central America once
- Gym – two to three times per week
- Restaurants ~ weekly (outdoor seating)
- Grandchildren visits ~ monthly (testing)
- All normal meetings at work
- Miscellaneous – visits with friends etc.

Precautions

- Vaccinated and double boosted
- Eat well, sleep well, normal vitamin D
- Use high quality ear loop mask indoors in public spaces
- Wash hands often
- Avoid large indoor gatherings and dense outdoor crowds (weddings, concerts, medical conferences)
- In risky situations, wear an N95 mask

THANK YOU FOR ATTENDING OUR TOWN HALL CONVERSATION

If you would like more information about anything discussed today, please contact us at **foundation@houstonmethodist.org**