



If Only it Were an Imported Beer! Coronavirus and its Impact on Travel Medicine

STAN GROGG, DO, FACOP, FAAP
CERTIFICATE TRAVEL MEDICINE BY ISTM

Disclosures:

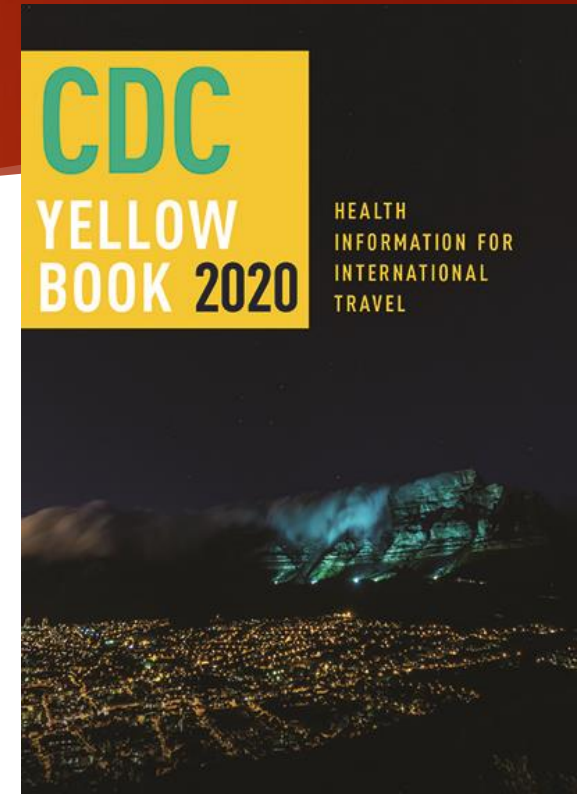
I was born a
Buckeye
In Bucyrus, Ohio



- ▶ Chair of Power of a Nickel,
 - ▶ Global Health Non-Profit agency whose mission is to provide medical care, medicines and medical equipment to underserved populations of the world.

References for travel medicine

- ▶ CDC: <https://wwwnc.cdc.gov/travel>
- ▶ CDC and Mass General Hospital:
www.Headinghomehealthy.net
- ▶ CDC's Yellow Book: <https://wwwnc.cdc.gov/travel/page/yellowbook-home-2014> (free download)
- ▶ <https://www.travax.com/>
- ▶ Shoreland Travax



Objectives

- ▶ After the presentation, the participant will be able to:
 - ▶ 1. Understand the evolution and meaning of Travelmedicine.
 - ▶ 2. Discuss the diagnosis possible treatment options for Coronavirus
 - ▶ 3. Counsel patients on future travel and suggested resources

Lockdown Around the World

- ▶ Just think about outcomes of Lockdowns
 - ▶ Stuck indoors, millions of singles are turning to the internet for virtual yoga dates, digital karaoke nights and WhatsApp birthday parties.
 - ▶ In nine months, we may see the first **coronababies** born
 - ▶ In a little more than a decade, they'll be known as the **quaranteens**

No more lockdown but rather PARTY!





Holy
Head-
Ache,
Batman

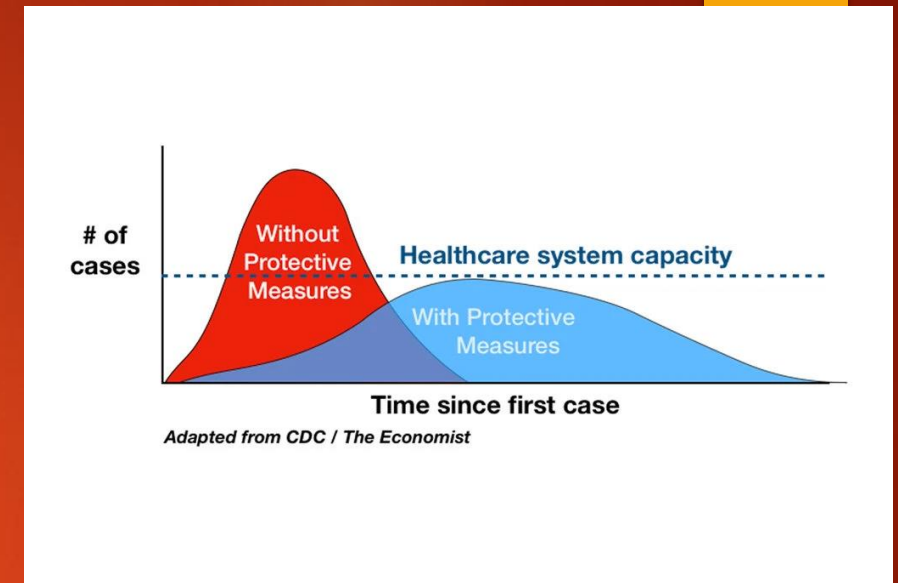
Instead
look what
we got:

<https://www.merriam-webster.com/words-at-play/coronavirus-words-guide>

- ▶ Pandemic
- ▶ Flattening the curve
 - ▶ Social distancing
 - ▶ Self-isolation
 - ▶ Self quarantine



- ▶ MERS (Middle East respiratory syndrome)
- ▶ SARS (severe acute respiratory syndrome)
- ▶ SARS-CoV-2 virus (nCoronavirus disease 2019, COVID-19)
- ▶ Stay at home Hand washing
- ▶ PPE (personal protective equipment)
- ▶ PUI (person under investigation) Lockdown
- ▶ N 95 face mask Distance learning Community spread
- ▶ National emergency Virtual Learning Shelter in place



EMPORIATRICS..... (Travel Medicine)

MedicineNet www.medicinenet.com

- ▶ A branch of medicine that specializes in diseases and conditions that are acquired during travel
- ▶ A **travel doctor** has been someone who knows about illnesses, particular to different countries and health risks that may be involved in getting there
 - ▶ BUT with present APPs **all healthcare providers can do travel medicine**
- ▶ With international travel, healthcare providers, need to be knowledgeable of the diseases and vaccines of the world

Background information about Travel Medicine

- ▶ Formally recognized as a discipline at the end of the 1980s
- ▶ Originally considered as a branch of Tropical Medicine
- ▶ GPs and nurses concerned with administering the vaccines needed for travel
- ▶ International Society of Travel Medicine (ISTM) was formed in 1991
- ▶ I would suggest joining ISTM if interested in staying up to date on travel diseases and vaccines (ISTM.com)

The International Society of Travel Medicine (ISTM) - <https://www.istm.org/>

- ▶ Society of physicians, pharmacists, nurses, dentists and other medical professionals
- ▶ Promote travel health initiatives
 - ▶ Committed to the advancement of travel medicine
 - ▶ Fosters **research**, facilitates exchange of **information**, and provides **educational programming** to serve the travel medicine community
 - ▶ Promotes the development and evaluation of **safe, effective, preventive and curative** interventions for patients prior to travel, during travel and post travel

My Involvement with Travel Medicine

- ▶ CDC granted my clinic in Tulsa, Oklahoma as a Yellow-Fever Vaccination Site in 1984
- ▶ I joined the International Society of Travel Medicine (ISTM) and obtained a travel medicine certification in 2003 in one of the first international exams given
- ▶ Obtained the travelmedicine.com website about 2000

As the AOA's liaison member of the Advisory Committee on Immunization Practices (ACIP), here is an update

- ▶ Next meeting will be virtual meeting on Wednesday June 24th
 - ▶ Anticipate having a vote for the annual influenza recommendation
 - ▶ Discuss any other urgent issues
 - ▶ Several recent travel vaccines have been discussed including:
 - ▶ Dengue Rabies Japanese Encephalitis Cholera Ebola
- ▶ **Soon Coronavirus vaccine discussions**

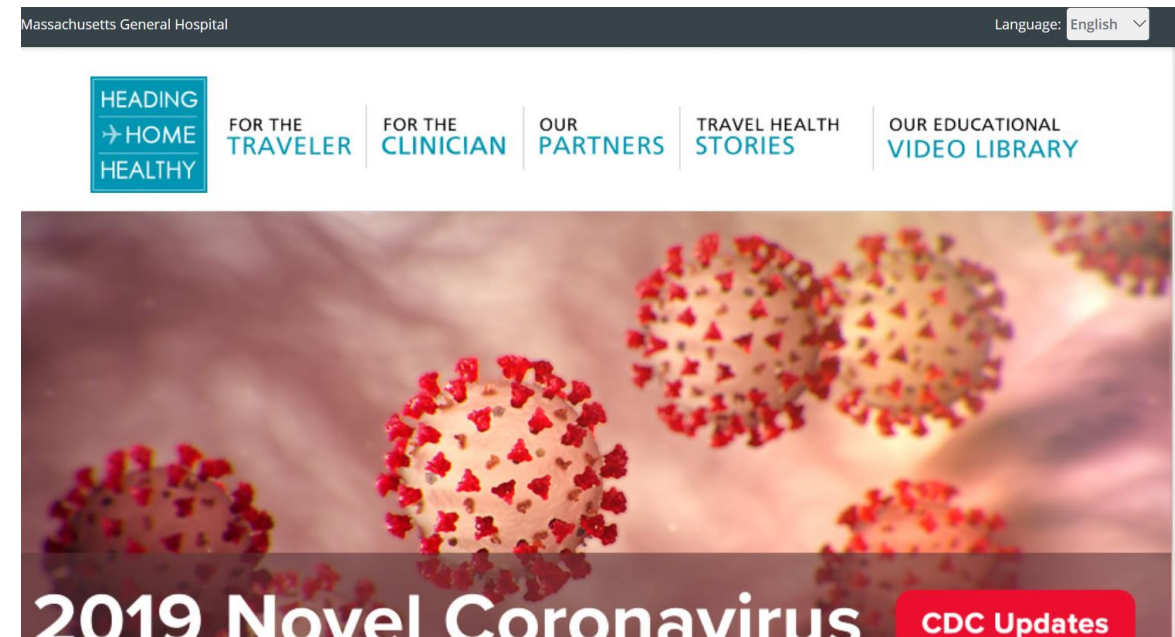
Telemedicine (Telehealth)

See DO Magazine, “How to do telemedicine in the time of COVID-19” Michael Brown, DO, goes over the new rules and the basics. APRIL 1, 2020

- ▶ The novel coronavirus disease (COVID-19) pandemic has led CMS and most private insurers to dramatically change their requirements for remote physician visits
- ▶ As a result of these changes—along with social distancing and other measures to avoid exposure to the virus—**physician use of telemedicine has exploded**
- ▶ On March 17, President Donald Trump announced that CMS would expand its coverage for telehealth visits
- ▶ Can use Skype (free) for Travel Medicine and refer to pharmacy for most vaccines and malarial medications (cash only)

Who can/should do telemedicine

- ▶ Any healthcare provider that has a computer, internet connection and wants to be involved with patients or themselves traveling
- ▶ It's easy, just go to Heading Home Healthy
www.Headinghomehealthy.net
- ▶ And type in the destination and you can pass on to your patients



Future travel: >93% of global population facing travel restrictions

An overwhelming majority of the world's population lives in a country with travel restrictions as the coronavirus pandemic unfolds. Pew Research shows that 93% of the world's population – that's 7.2 billion people – lives somewhere that has a restriction on people arriving from elsewhere who aren't citizens or residents. And about 3 billion people (39%) reside where countries have shuttered borders completely to noncitizens and nonresidents.

In the U.S., all foreign nationals from China, Iran and certain European countries are barred from entering. And the border between Canada and the U.S. is closed for nonessential travel.

Future travel with coronavirus behind us

- ▶ Air travel: how will future travel present?
- ▶ Cruises: will there be alterations for preventing infections outbreaks?
- ▶ Hotels: what changes will take place to allure travelers?



Findings of study on surfaces

<https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>

People could theoretically catch COVID-19 by touching contaminated surfaces or objects – and then touching their eyes, nose or mouth

Table. Median Half-Life on Surfaces

Hours

Surface	SARS-CoV-2 (hr)	SARS-CoV-1 (hr)
Copper	3.4	3.76
Cardboard	8.45	1.74
Steel	13.1	9.77
Plastic	15.9	17.7

What air travel may look after the pandemic.

- ▶ While most agree that travel will rebound
- ▶ Airfares could remain low for some time
- ▶ Airlines will keep the more flexible change and cancellation policies they recently adopted
- ▶ Will rebound, as it has in the past, after the financial crisis of 2008 and 9/11 for example, two other events that had a huge negative impact on air travel



Desire to travel between May and September

- ▶ A new survey showed of the 2,500 people who responded
 - ▶ 58% of Americans are planning to travel between May and September 2020, if their destinations aren't in quarantine
 - ▶ 25% of participants will avoid big cities and public transportation
 - ▶ 21% will travel domestically
- ▶ Maybe very little impact on the leisure traveler
- ▶ Big impact on the industry because of less business travel (**more webcasting rather than flying**)

Common disorders with airplane travel

<https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-by-air-land-sea/air-travel>

▶ **IN-FLIGHT MEDICAL EMERGENCIES**

- ▶ Syncope or presyncope (37%)
- ▶ Respiratory symptoms (12%)
- ▶ Nausea or vomiting (10%)
- ▶ Cardiac symptoms (8%)
- ▶ Seizures (6%)

Safety of “air” on commercial jets

- ▶ All commercial jet aircraft built after the **late 1980s**
 - ▶ Recirculate 10%–50% of the air in the cabin, mixed with outside air
 - ▶ Recirculated air passes through a series of filters 20–30 times per hour
 - ▶ Recycled air passes through high-efficiency particulate air (HEPA) filters, which capture 99.9% of particles (bacteria, fungi, and larger viruses or virus clumps) 0.1–0.3 μm in diameter

Illness's may occur as a direct result of air travel, but it is **uncommon**

- ▶ Main concerns with air travel
 - ▶ Exacerbations of chronic medical problems due to changes in air pressure and humidity
 - ▶ Relative immobility during flights leading to thromboembolic disease (Deep Vein Thrombosis & Pulmonary Embolism)
 - ▶ Proximity to other passengers with communicable diseases
 - ▶ Diseases may be spread by contact with infected secretions, such as when an ill person sneezes or coughs

PREFLIGHT MEDICAL CONSIDERATIONS

- ▶ Aircraft cabin pressure is usually maintained at the equivalent of 6,000–8,000 ft (1,829–2,438 m) above sea level
- ▶ Most healthy travelers will not notice any effects, however travelers with the following may have problems:
 - ▶ Cardiopulmonary diseases (especially those who normally require supplemental oxygen)
 - ▶ Cerebrovascular disease
 - ▶ Anemia
 - ▶ Sickle cell disease
- ▶ Aircraft cabin air is typically dry, usually 10%–20% humidity, which can cause dryness of the mucous membranes of the eyes and airways

New Boeing 787 and Airbus A 350

- ▶ Improved the cabin environment:
 - ▶ Greater number of temperature zones
 - ▶ Higher humidity of 25%
 - ▶ Faster time to refresh cabin air
 - ▶ Lower ambient noise
 - ▶ Multiple shades of LED lighting
 - ▶ Cabin air pressure equivalent to an altitude of only 2,000 ft

BAROTRAUMA DURING FLIGHT

- ▶ People with ear, nose, and sinus infections or severe congestion may wish to postpone flying to prevent pain or injury
- ▶ Oral or nasal decongestants may alleviate symptoms
- ▶ Travelers with allergies should continue their regular allergy meds
- ▶ Travelers should stay hydrated to help avoid irritation of nasal passages and pharynx and to promote better function of the eustachian tubes
- ▶ Travelers sensitive to abdominal bloating should avoid carbonated beverages and foods that can increase gas production
- ▶ People who have had recent surgery, particularly intra-abdominal, neurologic, intrapulmonary, or intraocular procedures, should consult with their physician before flying

Prevention of communicable diseases transmitted to other travelers during air travel

- ▶ People who are acutely ill, or still within the infectious period for a specific disease, should delay their travel until they are no longer contagious
- ▶ Travelers should be up-to-date on routine vaccinations and receive destination-specific vaccinations before travel
- ▶ Travelers should be reminded
 - ▶ Wash their hands frequently and thoroughly or use an alcohol-based hand sanitizer containing at least 60% alcohol
 - ▶ Cover their noses and mouths when coughing or sneezing

Cleaning airline seats:

- ▶ Wipe down all hard, nonporous surfaces thoroughly
- ▶ Follow package instructions for surfaces to be wet
 - ▶ Ranges from about 30 seconds to four minutes
 - ▶ This is when the germ-killing magic happens, so you can't rush it



Possible diseases one may contract when global traveling

- ▶ [African Tick-Bite Fever](#)
- ▶ [African Trypanosomiasis \(African Sleeping Sickness\)](#)
- ▶ [Avian Flu \(Bird Flu\)](#)
- ▶ [Chagas Disease \(American Trypanosomiasis\)](#)
- ▶ [Chikungunya](#)
- ▶ [Cholera](#)
- ▶ [Dengue](#)
- ▶ [Diphtheria](#)
- ▶ [Ebola](#)
- ▶ [Flu \(Influenza\)](#)
- ▶ [HIV](#)
- ▶ [Hand, Foot, and Mouth Disease](#)
- ▶ [Hepatitis A](#)
- ▶ [Hepatitis B](#)
- ▶ [Hepatitis C](#)
- ▶ [Hepatitis E](#)
- ▶ [Japanese Encephalitis](#)
- ▶ [Leptospirosis](#)
- ▶ [Malaria](#)
- ▶ [Measles](#)
- ▶ [Meningococcal Disease \(Neisseria meningitidis\)](#)
- ▶ [Mumps](#)
- ▶ [Murray Valley Encephalitis virus](#)
- ▶ [Pertussis \(Whooping Cough\)](#)
- ▶ [Plague](#)
- ▶ [Pneumococcal Disease \(Streptococcus pneumoniae\)](#)
- ▶ [Polio](#)
- ▶ [Rabies](#)
- ▶ [Rift Valley Fever](#)
- ▶ [Ross River virus disease](#)
- ▶ [Routine Vaccines](#)
- ▶ [Rubella](#)
- ▶ [Scabies](#)
- ▶ [Schistosomiasis](#)
- ▶ [Tetanus](#)
- ▶ [Tick-borne Encephalitis](#)
- ▶ [Tuberculosis \(TB\)](#)
- ▶ [Typhoid Fever](#)
- ▶ [West Nile virus](#)
- ▶ [Yellow Fever](#)
- ▶ [Zika](#)

Cruises background

- ▶ Cruise lines started 2020 expecting a banner year
- ▶ COVID-19 has changed that
- ▶ Cruise companies have been battered by an unprecedented drop in demand
- ▶ Summer seasons in Alaska and Europe are questionable

▶ Issues

- ▶ Crew readiness
- ▶ Securing provisions
- ▶ Implementing passenger health screenings
- ▶ Determining which ports will be open
- ▶ Challenge of simply getting potential passengers to the ship

Cruise ship travel presents a unique combination of health concerns

- ▶ Travelers from diverse regions brought together in the often crowded, semi-enclosed environments onboard ships can facilitate the spread of diseases
 - ▶ Person-to-person
 - ▶ Foodborne
 - ▶ Waterborne diseases
- ▶ Outbreaks on ships can be sustained for multiple voyages by transmission among crew members who remain onboard or by persistent environmental contamination

Air quality on cruise ships is BAD compared to airplanes

- ▶ According to a Purdue University air quality expert, cruise ship air conditioning systems are not designed to filter out particles as small as the coronavirus, allowing the disease to rapidly circulate to other cabins.
- ▶ The air quality on cruise ships is so bad, it could harm your health

<https://www.cnn.com/2019/01/24/health/cruise-ship-air-quality-report/index.html>

CRUISE SHIP MEDICAL CAPABILITIES

- ▶ ACEP guidelines (www.acep.org/Content.aspx?id=29980), which are followed by most major cruise lines, state that the cruise ship medical facilities should maintain the following minimum capabilities:
 - ▶ Provide emergency medical care for passengers and crew
 - ▶ Stabilize patients and initiate reasonable diagnostic and therapeutic interventions
 - ▶ Facilitate the evacuation of seriously ill or injured patients

Problems with diseases on cruise ships

- ▶ Port visits can expose travelers to local vectorborne diseases
- ▶ Remote location of the travelers at sea means that they may need to rely on the medical capabilities and supplies available onboard the ship for extended periods of time, and cruise travelers and their physicians should be aware of ships' medical limitations and prepare accordingly
- ▶ Certain groups, such as pregnant women, the elderly, or those with chronic health conditions or who are immunocompromised, require special consideration when considering cruise travel

Cruise ship illnesses/injuries

- ▶ 3%–11% of conditions are urgent or an emergency
- ▶ 95% of illnesses are treated or managed onboard
- ▶ 5% require evacuation and shoreside consultation
- ▶ 50% of passengers who seek medical care are older than 65 years of age
- ▶ Acute illnesses
 - ▶ Respiratory illnesses (19%–29%)
 - ▶ Seasickness (10%–25%)
 - ▶ Injuries from slips, trips,
 - ▶ Falls (12%–18%)
 - ▶ Gastrointestinal (GI) illness (9%–10%)
 - ▶ Death rates most often from cardiovascular events, range from 0.6 to 9.8 deaths per million passenger-nights

Measures to limit the introduction and spread of communicable diseases on cruise ships

- ▶ Passengers and their clinicians should consult CDC's Travelers' Health website (www.cdc.gov/travel) before travel for updates on outbreaks and travel health notices.
- ▶ Passengers ill with communicable diseases before a voyage should delay travel until they are no longer contagious (suggest checking to see what the trip cancellation policies are, as well as consider purchasing trip cancellation insurance when purchasing ticket)
- ▶ Passengers who become ill during the voyage should seek care in the ship's medical center to receive clinical management, facilitate infection-control measures, and maximize reporting of potential public health events

GI Illnesses: **norovirus** (most common), Salmonella, enterotoxigenic E. coli, Shigella, Clostridium and Cyclospora

- ▶ 22.3 cases per 100,000 travel days
- ▶ Outbreaks continue to occur. Updates on these outbreaks involving ships with US ports of call can be found at www.cdc.gov/nceh/vsp/surv/gilist.htm.
- ▶ > 90% of GI outbreaks are due to norovirus (low infective dose, easy person-to-person transmissibility, prolonged viral shedding, no long-term immunity, and the organism's ability to survive routine cleaning procedures)
- ▶ Wash hands with soap and water often, especially before eating and after using the restroom.
 - ▶ If GI disorder, call the ship's medical center and follow guidance

Respiratory Illness most common complaint

INFLUENZA: Most common vaccine preventable

- ▶ Shipboard outbreaks of influenza A and B can occur year-round
- ▶ Following measures are recommended year-round to protect travelers from influenza
 - ▶ Should have the current seasonal influenza vaccine at least 2 weeks before travel
 - ▶ Practice good respiratory hygiene and cough etiquette
- ▶ Passengers should report their respiratory illness to the medical center promptly and follow isolation recommendations

Vaccine-Preventable Diseases (VPDs)

- ▶ Outbreaks of measles, rubella, meningococcal disease and, most commonly, **varicella**, have been reported on cruise ships
- ▶ Preventive measures:
 - ▶ Passengers should be up-to-date with routine vaccinations before travel, as well as any required or recommended vaccinations specific for their destinations.
 - ▶ Women of childbearing age should be immune to measles, varicella and rubella before cruise ship travel.
 - ▶ Crew members should have documented proof of immunity to VPDs

Vectorborne Diseases: malaria, dengue, yellow fever, Chikungunya, Japanese encephalitis, and Zika

- ▶ Passengers should follow recommendations for avoiding mosquito bites and vectorborne infections:
 - ▶ Use an Environmental Protection Agency (EPA)-registered insect repellent
 - ▶ Treat clothing and gear with permethrin
 - ▶ While indoors, remain in well-screened or air-conditioned areas
 - ▶ When outdoors, wear long-sleeved shirts, long pants, boots, and hats.
 - ▶ Obtain yellow fever vaccination if recommended or required.
 - ▶ Take antimalarial chemoprophylaxis if needed

OTHER HEALTH CONCERNS

- ▶ Seasickness is a common complaint, affecting up to 25% of travelers
 - ▶ Cool fresh air and avoidance of unpleasant smells or sights
 - ▶ Scopolamine patches (72 hr of protection)
 - ▶ Dimenhydrinate (Dramamine)
 - ▶ Meclizine (Antivert/ Bonine)
 - ▶ Take medication several hours before travel to achieve dose

Hotels after COVID-19

- ▶ Health and safety guidelines should state:
 - ▶ All public areas are cleaned and disinfected multiple times per day
 - ▶ All rooms are cleaned and disinfected daily
 - ▶ Staff use gloves and sanitize
 - ▶ Provide all guests with anti-bacterial wash
 - ▶ Do not have any guests at hotel from any of the infected areas
 - ▶ Should keep guests informed

Three types of vaccines: Routine, Required and Recommended

- ▶ **Routine vaccines** are those that are recommended for everyone in the United States based on their age, health condition, or other risk factors
- ▶ **Required vaccine** is one that travelers must have in order to enter a country, based on that country's government regulations.
 - ▶ Yellow fever is the **only vaccine required** by certain countries.
- ▶ **Recommended vaccines:** those that CDC recommends travelers get to protect their health, even though they aren't required for entry by the government of the country you are visiting
 - ▶ Not part of the routine vaccination schedule
 - ▶ They protect travelers from illnesses that are usually travel-related.
 - ▶ A typhoid vaccine may help prevent typhoid a serious disease spread by contaminated food and water

Routine Vaccines that travelers should have before traveling

- ▶ Chickenpox
 - ▶ Diphtheria
 - ▶ Hep A
 - ▶ Hep B
 - ▶ HPV
 - ▶ Influenza
 - ▶ Measles
 - ▶ Meningitis
- | |
|-------------------|
| Mumps |
| Pertussis |
| Polio |
| Pneumo-
coccal |
| Rubella |
| Tetanus |

Other Travel Vaccines that may be recommended?

- ▶ Hepatitis A.
- ▶ Hepatitis B.
- ▶ Typhoid and paratyphoid fever.
- ▶ Meningococcal disease.
- ▶ **Yellow Fever.** Because of a longstanding shortage of vaccine, only limited locations have imported French vaccine
- ▶ Rabies.
- ▶ Japanese Encephalitis.

Other possible available vaccines for future

- ▶ **CYD-TDV** (Dengvaxia): vaccine used to prevent **dengue fever** in humans.
- ▶ **Ervebo**, the first FDA-approved vaccine for the prevention of **Ebola** virus disease (EVD)
- ▶ **Cholera**: Vaxchora, a single-dose oral vaccine to prevent **cholera** for travelers
- ▶ **RTS,S** (Mosquirix): **malaria** vaccine used to prevent malaria; requires four injections, and has a relatively low efficacy
- ▶ **Chikungunya**: no **vaccine** to prevent or medicine to treat

Malaria Medications



- ▶ Effective antimalarial medications
 - ▶ **Atovaquone-proguanil** (Malarone by GSK)
 - ▶ Should be taken with food or a milky drink. Start prophylaxis 1 or 2 days before entering a malaria-endemic area and continue daily during the stay and for 7 days after return
 - ▶ **Hydroxychloroquine** (Plaquenil by Sanofi-Aventis)
 - ▶ Suppression— In adults, 400 mg (=310 mg base) on the same day of each week, beginning 2 weeks prior to exposure. The suppressive therapy should be continued for 4 weeks after leaving the endemic area

Malaria Meds con't



- ▶ **Doxycycline prophylaxis** (100 mg daily for adults) begin 1 – 2 days before travel to malaria areas and taken once a day with food, at the same time each day, during travel in malaria areas and daily for 4 weeks after the traveler leaves such areas (exaggerated sunburn reactions, stomach upset and vaginal yeast infections)
- ▶ **Primaquine** <https://www.webmd.com/drugs/2/drug-12232/primaquine-oral/details>
- ▶ **Mefloquine** (Larium by Roche) Blackbox: nightmares, depression and hallucinations to paranoia, psychosis and aggression

Needed information for travelers

<https://www.uptodate.com/contents/immunizations-for-travel>

Destinations

For Travelers



Where are you going?

Aruba ▼

Go

For Clinicians



Traveler destination

-- Select One -- ▼

Go

It is so easy,
Can use **CDC**
site or
Traveling
Home Healthy.
Type in
Destination
and you can
see
recommended
vaccines and
malaria meds

Type in Costa Rica and you can immediately see what is needed

Travelers Health

Destinations (245) —

Costa Rica
Traveler View

Healthy Travel Packing List

Costa Rica
Clinician View

Find a Clinic

Travel Notices

Travel Advice and Resources

Disease Directory

Yellow Book

Frequently Asked Questions

Costa Rica Traveler View

Outbreak alert: There is a [dengue](#) outbreak in Costa Rica. Dengue is spread by mosquitoes. Travelers going to Costa Rica should take steps to [avoid mosquito bites](#). ([more information](#))



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Stay Healthy and Safe

Healthy Travel Packing List

Travel Health Notices

After Your Trip



Clinician View

Find out what is needed for specific areas: **Heading Home Healthy**: Mass General Hospital with CDC

Click for the physician, click country visiting and find information for patient as print out

Massachusetts General Hospital

Language: English ▾

HEADING
→ HOME
HEALTHY

FOR THE TRAVELER

FOR THE CLINICIAN

OUR PARTNERS


TRAVEL HEALTH STORIES

OUR EDUCATIONAL VIDEO LIBRARY


FOR THE CLINICIAN

A library of free resources, tools and information for health care professionals.

PRE-TRAVEL PROVIDERS' RAPID EVALUATION PORTAL.



VIDEO: HEADING HOME HEALTHY



TRAVEL HEALTH ALERTS

There is an outbreak of respiratory illness caused by a new coronavirus first identified in Wuhan, Hubei Province, China. The situation is changing rapidly, and additional cases are

Healthcare Providers CDC's Hotlines and emails

CDC-INFO National Contact Center

All topics for clinicians and general public (*English and Spanish*)

- 8 am to 8 pm Eastern, M-F: toll-free at 800-CDC-INFO (800-232-4636)
- E-mail form: www.cdc.gov/info

CDC Emergency Operations Center

Emergency or urgent patient care assistance (*Note: This line is not intended for use by the general public.*)

- Available 24 hours per day, 7 days per week: 770-488-7100

CDC Drug Service

Distribution of special biologic agents and drugs

- Formulary: www.cdc.gov/laboratory/drugservice/formulary.html
- 8 am to 4:30 pm Eastern, M-F: 404-639-3670
- After hours/weekends/holidays: 770-488-7100
- E-mail: drugservice@cdc.gov

Thank you.... Consider a global health trip with Power of a Nickel
(www.powerofanickel.org)



Questions/Comments

