Good Neighbor Insurance

Travel Medical Guide

Medical advice for travelers & expatriates

In this guide:

+ Treating specific travel-related illnesses
+ ZIKA and Bird Flu: The latest on spread and treatment
+ What to do in a medical emergency
+ Important resources and information
+ Using overseas medical insurance

...much more >>

Like this report in print or .pdf format?
We have both print and online editions of this helpful guide. You may request the guide in either format at info@gninsurance.com.

THIS GUIDE IS THE FOURTH IN A SERIES ON TRAVELING SAFE AND TRAVELING SMART:

- *"The Top Three Risks When Traveling Overseas"*
- *"The Definite Guide to Jet Lag"*
- *"Travel Safety Guide 101"*
- This current guide on *"Travel Medical Advice for Travelers and Expatriates"*

Good Neighbor Insurance has been protecting and keeping travelers and organizations overseas safe for more than 20 years. We hand-select emergency medical plans to fit both young and old, those looking for minimal insurance at the most affordable pricing to platinum plans for executives and those desiring care similar to that found in the U.S.

Our plans start at under $1.00 a day including options that will cover pre-existing conditions, those over 65, adventure sports, war and terrorism, high-risk nations, kidnap and ransom and more.

WE SPECIALIZE IN: Serving the charitable and non-profit/social good sector, both individual volunteers, families, and group health insurance for organizations. Many of our staff have lived and worked abroad themselves, and continue to go abroad to travel and serve.

BECAUSE OVERSEAS **INSURANCE** DOESN'T HAVE TO BE EXPENSIVE. IT JUST HAS TO BE GOOD.

Questions? Inquiries? Email info@gninsurance.com

Disclaimer
All of the information presented in this book was correct and reflected real and best methods of staying healthy and safe overseas at the time of it's writing.

We have made every effort to ensure that the information presented here is correct.

If you have questions, please contact info@gninsurance.com.

SPECIAL THANKS TO OUR PARTNER

IMG™

FOR SPONSORING THIS GUIDE

This Travel Medical Guide

You are holding in your hands *(or viewing on your device)* the enlarged, updated ***"Travel Medical Guide"*** first written and created by Dr. John Askew, and used with permission.

Dr. Askew not only practiced medicine for over 48 years (Specializing in Obstetrics & Gynecology, delivering 4,000 babies during his career), but also lived and worked overseas in Kosova teaching at the University of Pristina. He has also volunteered with organizations in Bahrain, Cambodia, Thailand, Romania, and South Africa.

Our hope is that this guide will not only keep you safe overseas but will offer real help and resources should you need them during an illness or emergency.

While many people new to travel overseas ask about bird flu and the ebola virus and insurance to cover the risk of terrorist attack, it is more important that you understand the top three risks that 70% of all travelers encounter abroad, therefore we also recommend that you read the free ***"Top Three Risks When Traveling Overseas."*** You can download it free at ***http://www.DontGetStuckOverseas.com***

At the minimum, we recommend (along with the U.S. State Department) that all travelers purchase emergency travel medical coverage (which is included in every plan we sell at www.gninsurance.com).

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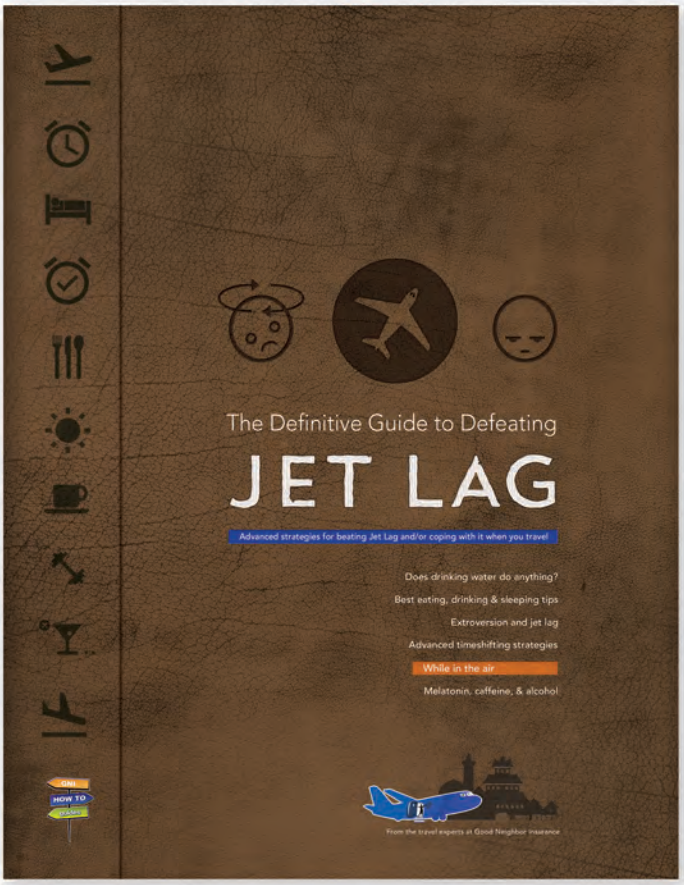
good neighbor insurance



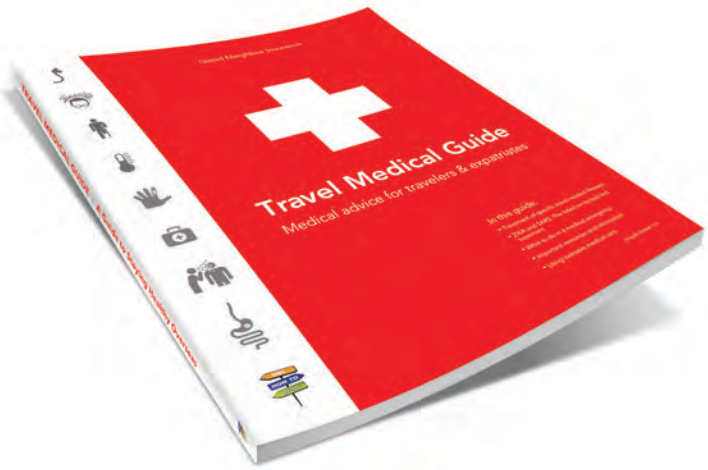
Have you seen our other guides?

Each is meant to help you travel a little safer and a little smarter.

Free at www.gninsurance.com

or request yours at:

moreinfo@gninsurance.com



This guide covers...

- Basic overseas health
- Creating a travel medical supply kit
- How to use travel medical insurance
- The Risks of Air Travel
- The 10 Commandments of Travel Medicine
- What to do in an emergency
- Recommended online medical guides/apps
- Water treatment and water purification
- Nutrition
- Pregnancy

As well as:

- Avian Flu
- Chikungunya
- Cholera
- Dengue Fever
- Diptheria
- Ebola
- Hand Foot & Mouth
- Hemorrhagic Fever
- Hepatitis
- Influenza
- Japanese Encephalitis
- Leishmaniasis
- Leptospirosis
- Lyme Disease
- Malaria
- Measles
- Meningitis
- MERS
- Parasitic Disease
- Polio
- Rabies
- Ross River Virus
- Tetanus
- Tuberculosis
- Typhoid
- Yellow Fever
- Zika

Good Neighbor Insurance

Travel Medical Guide

A Guide to Staying Healthy Overseas - Medical Advice for Travelers and Expatriates

By Dr. Jonathan Askew, MD

Supplemented by Good Neighbor Travel Experts

Analytics Ads

Search

Travel packing list - "Must haves"

Good Neighbor Insurance
www.gninsurance.com

International travel insurance for trips or if moving overseas. We love travel–Do you? Good pins, rates, service...That's Good Neighbor! www.gninsurance.com

1.5k Pins · 54 Boards · 12.2k Monthly views

41 Pins
207 Followers

'must-have' items to pack when traveling overseas. Here's what's on my travel packing list. What's on yours?

Every good medical kit has bandaids

Good Neighbor Ins...
Travel packing list - "...

Good Sunglasses

MAKE A PHOTOCOPY OF YOUR PASSPORT AND VISA. Also take a...

Good Neighbor Ins...
Travel packing list - "...

Spare glasses or reading glasses are a must!

Good Neighbor Ins...
Travel packing list - "...

$10.99

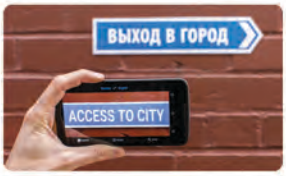
Serious sunscreen with a high broad spectrum SPF - Organic or a name brand like Bullfrog which won't wash off.

You can take your own, or you can wish you took your own...

Good Neighbor Ins...
Travel packing list - "...

Sanuk travel shoes or flipflops Sanuk shoes/sandals are the best...

Good Neighbor Ins...
Travel packing list - "...



Translation and travel apps Google Translate with Word Lens, which translates signs/text.

The Top Three Risks Guide - Free

A must have. I don't want to get sick or stuck overseas...

Good Neighbor Ins...
Travel packing list - "...

How to Take Prescription Drugs on International Flights

Prescription drugs in original, sealed bottles and with original prescription by your doctor on letterhead

Linda Neis
Dominican republic

Light / A flashlight: We love the solar powered LuminAid!

Good Neighbor Ins...
Travel packing list - "...

At least one Extension cord, multi-plug /splitter wall plug and a travel power conversion kit depending on your destination.

Good Neighbor Ins...
Travel packing list - "...

Portable Charger RAVPower 22000mAh 5.8A Output 3-Port Pow...

In Addition

Items you don't want to forget:

One gallon ziplock bags and 1-ounce small laundry detergent for washing clothes
100ft paracord
Duct tape
Hand sanitizer
Insect repellant (w/DEET)
Neck pouch or security wallet
Water filter or purification tablets
Activated charcoal for diarrhea

General Travel Medical Kit - Essentials

Here is an additional list of items you should have with you when traveling or living abroad:

- A physician's signature should attest to the need for all controlled medications in their original bottles.
- Contraceptive and hygiene products (See your doctor before taking with any anti-malarial meds)
- Health record information including the name, address, fax, e-mail of physician
- List of medications, allergies and medical problems
- Travel & Evacuation Plan - A "must-have"
- Painkillers ((Tylenol, Anacin, Motrin, etc.), anti-diarrhea, anti-nausea and malaria meds
- Medical alert bracelet or necklace if needed
- Elastic compression bandage/wrap
- Bandaids (may not be available locally)
- Safety pins

HOW TO USE INTERNATIONAL TRAVEL INSURANCE

Select a good travel plan. Many excellent options start at around a $1.00 - $2.00 a day for $500,000 in coverage and emergency evacuation along with a multitude of other benefits.

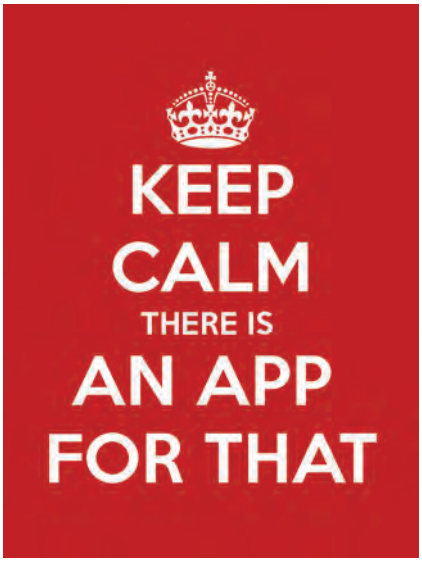
BEFORE YOU LEAVE:

First, know your benefits and plan.
Open the email or the packet you received in the mail. Make sure your name and information is correct.

NEXT, PRINT OUT OR COPY YOUR TRAVEL MEDICAL I.D. (INSURANCE CARD) – FRONT & BACK

- The back has important numbers you will need in an emergency!
- Take a photo (using your smartphone) of the front/back of your insurance card and send a copy to your team leader, organization, and key contact/family member at home in case of an emergency, or if unconscious.
- Make sure to put a copy (front and back) of your medical I.D. card in your passport.
- Put a copy of your medical I.D. card into your travel wallet/wallet you will be carrying overseas.

LOOK TO SEE IF YOUR INSURANCE PLAN HAS AN APP FOR YOUR PHONE OR AN ONLINE PORTAL YOU MUST LOG INTO OR REGISTER AT.



(It will make things much easier if you go in and do this before having a mishap or illness abroad where internet may be spotty.)

UNDERSTAND YOUR DEDUCTIBLE

- Make sure you have either cash or a credit card limit to cover any expenses you must pay up front.
  Knowing what is, and what is not, covered will be helpful before you get seated on the plane

- Realize that your travel insurance most likely includes benefits such as translation services, help with lost bags or replacing lost documents and more. Knowing of these benefits can make your trip easier and more enjoyable.

IF YOU NEED TO BE SEEN OVERSEAS BY A DOCTOR OR AT A HOSPITAL/CLINIC

- Call the number on the back of your I.D. card beforehand to see if they have a recommendation:

  - They may have a direct pay agreement with a local provider saving you money up front.
  - They may be able to direct you to a better facility or doctor with higher standards of care.
  - *Note that some procedures abroad require pre-certification before treatment.*

- For anything that you must pay for up front, get physical copies of all receipts, bills, prescriptions, and reports, so that they can be turned in for reimbursement and to show your physician back home.
  - Do not worry if they are in another language or currency. Usually your international insurance can help with that or accept documents in other languages/currencies.

- Pay attention to the time limit on submitting claims so you have no trouble getting reimbursed.

- Claims forms can usually be found online, as well as tracking claims.

  You may also be able to electronically submit receipts and proof of treatment if you go online and register.

  You can track progress on claims, communicate directly through the app or website, see any additional claims requirements.

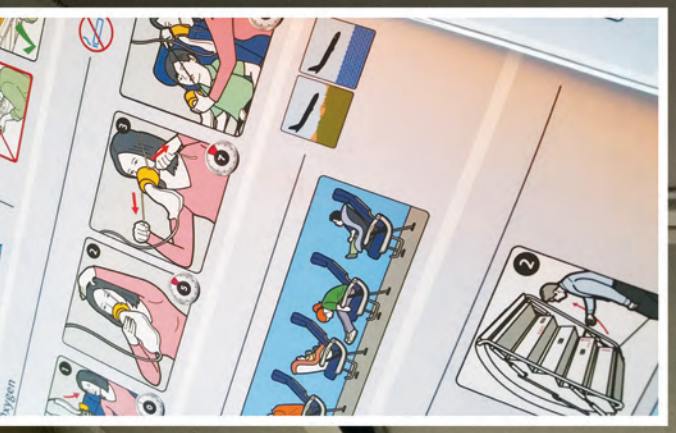
  You can even renew or extend your policy if you decide to stay longer.

The 10 Commandments of Travel Medicine

1. Thou shalt consult thy doctor in time to complete vaccinations.
2. Thou shalt know thy destination and associated risks.
3. Thou shalt take thy malaria pills as directed.
4. Thou shalt protect against insect bites of all kinds (insect repellent).
5. Thou shalt eat wisely.
6. Thou shalt not go swimming in unchlorinated fresh water.
7. Thou shalt wear thy shoes, and not open sandals.
8. Thou shalt make new friends but be careful.
9. Thou shalt be prepared for adventures and alternate plans.
10. Thou shalt be prepared for emergencies
    (and have a good rescue policy at hand)

- Dr. Elaine Jong


SAÍDA EXIT
LAVATÓRIO
LAVATORY
NÃO FUME
NO LAVATÓRIO
NO SMOKING
IN LAVATORY
LAVATORY



FLY THE FRIENDLY SKIES?

SOME OF THE RISKS OF AIR TRAVEL YOU SHOULD BE AWARE OF

Many travelers thnk at least once about "What if the plane goes down?" and while all travel insurance plans include flight insurance or accidental death and dismemberment just for that reason, the actual risk of a plane crash are slim to none. However, **there are real risks associated with air travel. Here are the most common:**

1. Germs/viral –Due to seat backs, tray tables, coughing passengers,...

As plane fly, their jet engines pull in the thin cold air from the outside, compressing and heating it to make it breathable. Then, it runs through high-efficiency particulate air filters, which remove 99.97 percent of germs. The cabin's air is typically replaced about every two minutes. Compared with the high particle count of an office building, airplane air is about as pure as you can expect to breathe.

The problem comes from other passengers behind you and beside you coughing or sneezing.
Solution? Turn the air flow so that it is blowing down into your lap, driving germs away from your face.

One out of three airplanes in a recent study tested positive for Staphylococcus aureus (MRSA), an antibiotic-resistant bacteria.

Unfortunately the same filtration process that keeps the air clean also removes moisture from the air. This dries

out your mucous membranes (your eyes and the inside of your nose) that trap germs and keep you from inhaling them.

Ever get "dry eyes" on a flight?
Rubbing your eyes after you've touched a contaminated surface is one way to catch a cold. Using hand sanitizer, wearing glasses (sunglasses or reading glasses keep you unconsciously touching your eyes), and cleaning your tray table/seat back with alcohol-based sanitizer can help.

Staying hydrated and using Vaseline inside your nostrils can help keep your nose from drying out as well and trapping germs as designed. It may also help you from getting nosebleeds on airplanes.

2. Dehydration is also a real risk due to the dry air and long flights with little to drink. That is why many travel-related articles encourage drinking a lot of water.

3. Deep Vein Thrombosis(DVT) is the third most common vascular disease next to stroke and heart attack. It is estimated that DVT affects one in 5,000 travelers on long flights.

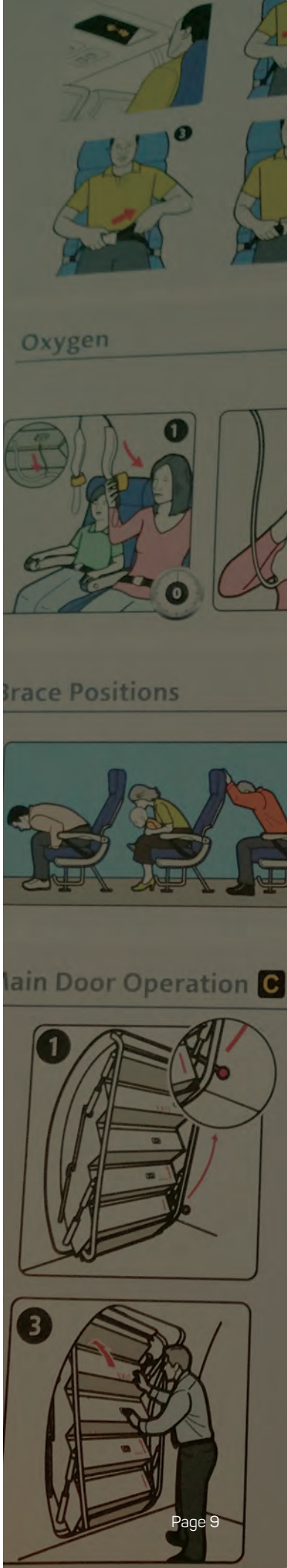
You should be concerned if you have recently had surgery, are a cancer patient, have limited mobility, are obese, or are over 70.

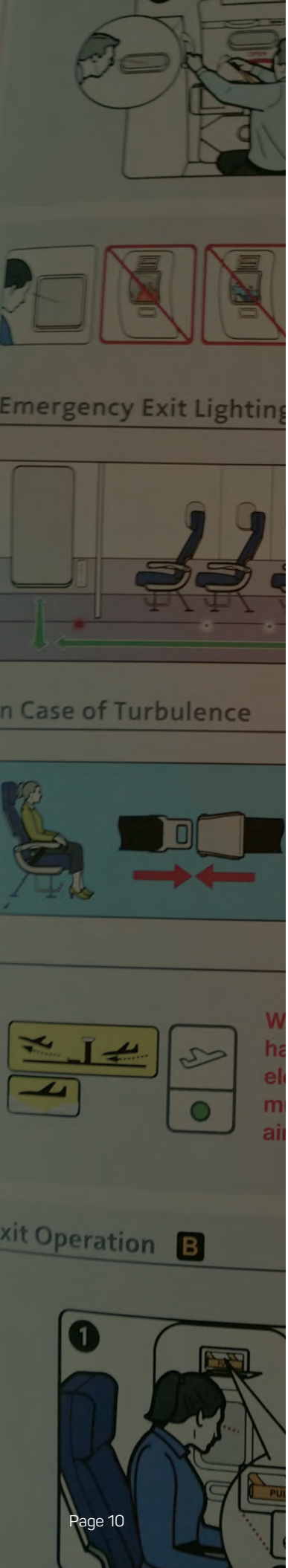
Back in the day of PanAm and leisure travel, passengers were encouraged to stand up, move about the cabin and chat with other passengers (and drink!), but today passengers must consciously determine to stand up, and walk in the aisle to protect themselves.

Stretching in your seat can also help, as does reserving an aisle seat. This is better than a middle seat or window seat, where you will be less inclined to get out so you do not trouble other passengers too often. Older passengers especially should plan to reserve aisle seats.

Where you sit makes a difference:

Even sitting on your chair and just pressing up on your legs—in essence, rocking down on your heels and up with your toes—or standing to stretch in place - can make a big difference in whether you are going to have deep vein thrombosis.





Qantas put out a series of suggested exercises a number of years ago which you can find at https://www.qantas.com/travel/airlines/your-health-inflight/global/en or search YouTube for "Qantas inflight exercises."

You may want to consider compression socks from a medical supply store or pharmacy. *(These are much better than regular socks with tight elastic bands at the top which can actually trap blood and make things worse)*. Ask your doctor about taking a baby aspirin or blood thinner meds before flying if you know you are at risk.

4. Extreme sinus pressure/pain can feel like an icepick into the brain.
This is called **Aerosinusitis** or **Barotrauma**. Usually due to a preexisting sinus condition or having a cold, pressure builds behind the eyes or cheeks, and is extremely painful. You may not have any stuffiness or symptoms before takeoff.

If you have allergies, or any kind of sinus condition, we recommend you take medication at least one hour before any fllght. Suggestions include maximum-strength Sudafed, a nasal spray, or an antihistamine such as Benadryl.

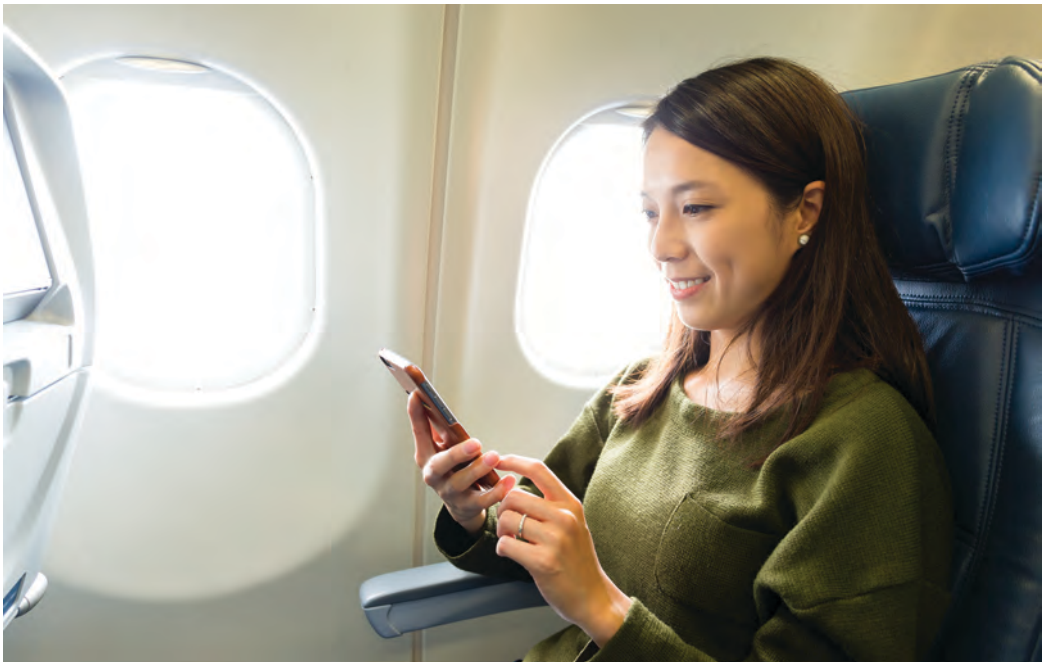
Make sure you pack any inhaler or sinus medication you may need into carry-on bags so that it is not down in the cargo hold when you need it.

If you take specific prescription medication daily/nightly, it is recommended that you take it before your flight the day of your travels to reduce the risk of aerosinusitis

5. Air sickness also called Kinetosis or "Travel sickness"
– We don't hear about *air sickness* as much these days unless there is unexpected turbulence on a flight even though it is suggested that up to one-third of the population may be susceptible to some form of motion sickness. Becoming "air sick" is a kind of motion sickness and is normal. It can result in nausea, vomiting, vertigo, panic, cold sweats, and more. If you experience motion sickness, reserve seats over the wings in the center of the aircraft (which will have less "tilt" or pitch.) Window seats can also help those who suffer from air sickness. The worst seats are the rearmost rows closest to the tail. You may also be able to ask other passengers or a cabin attendant for help switching seats if you know this to be a problem. Attendants can then also be more attentive to your needs.

Some people recommend drinking carbonated soda water or sodas, or taking anti-motion sickness drugs. There are also bracelets that use pressure points that help some people on flights. Fresh cold air may help, as well as trying to nap, or moving around the cabin.

6. Turbulence and injuries due to turbulence. This is typically due to people who fall or are thrown around the cabin because they weren't belted in. This is more common for flight crews than passengers. Obey all seat belt signs, and if in a restroom or away from your seat when the turbulence occurs, ask an air cabin attendant for help getting back to your seat safely. *Be aware that in storms or when passing over a mountain range a plane can lose or gain 10-20 feet in altitude. In extreme cases, at high altitudes, even 100 feet is not unheard of.*



7. Getting struck by an item in overhead baggage. Always move away from being directly under overhead bins when they are being opened. Ask those trying to pull down bags to let you out first, to make it easier (and so they do not accidentally hit you with their bags). Reserve window seats IF you do not need to be on the aisle.

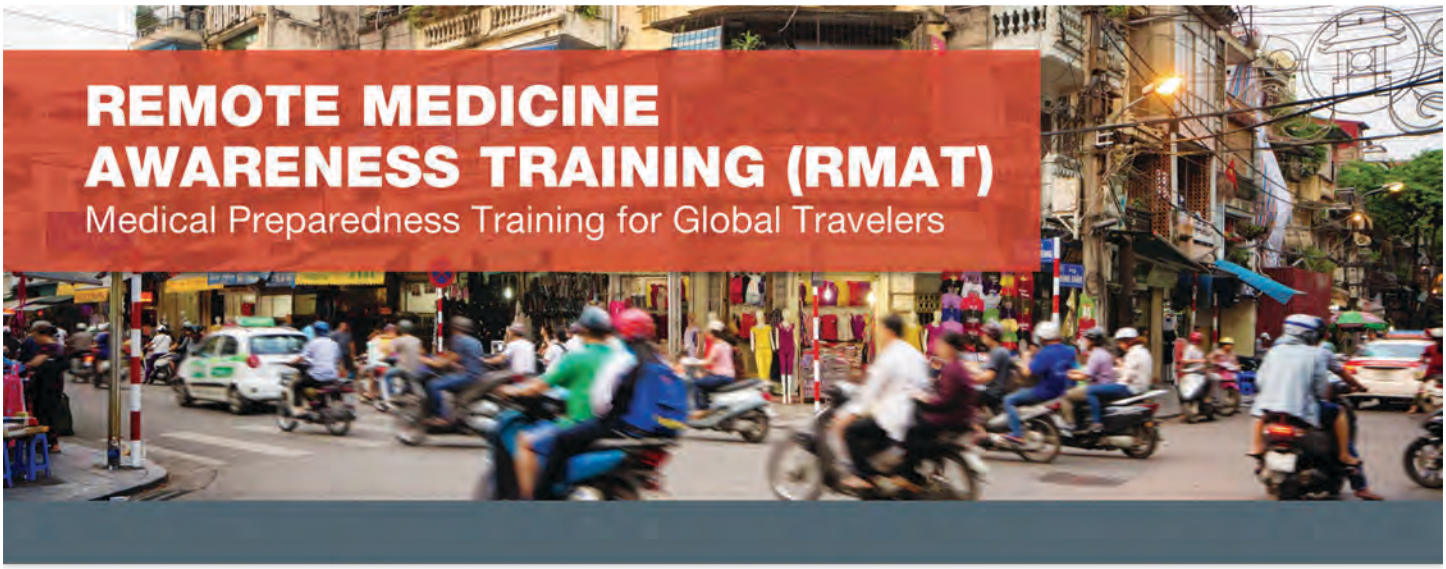
8. Cardiovascular trouble such as fainting or dizziness. This is one reason that planes now come equipped with medical kits and defibrillators. Every long-haul flight now also has a way to connect by radio to physicians that are available around the world to talk to them.

Some people have expressed a concern about high levels of radiation, not only due to body scanners at airports but due to cosmic radiation on airplanes (due to altitude and thinner air/more exposure). However, unless you are doing a LOT of flying, you may not be getting enough exposure to concern yourself compared to other more common risks of overseas travel. (For more, see https://www.scientifi-camerican.com/article/air-travel-exposes-you-to-radiation-how-much-health-risk-comes-with-it/)

9. Jet lag can put you at risk if it causes you to be tired and not alert at a new destination. We have created an entire guide called, "The Definitive Guide to Jet Lag" to address the risks and latest science on minimizing the effects of "jet lag" (aka circadian dysrhythmia). You can get it free at: https://www.gninsurance.com/free-guide-on-preventing-jet-lag/

Of course, the length of your flight, and/or connecting flights, increases the various risks of air travel. When it is possible, break longer flights into stopovers or multi-leg trips so you can get up, walk a bit in the airport, rest, as well as get sunlight and fresh air.

Remote Medical international



REMOTE MEDICINE AWARENESS TRAINING (RMAT)

Medical Preparedness Training for Global Travelers

The Remote Medicine Awareness Training is a hands-on and scenario-based course for global travelers, which teaches students travel awareness skills and risk management techniques to avoid high-risk situations. Students are also prepared to respond to an incident by learning to assess and stabilize immediate life threats, transfer a patient to a higher level of care, and utilize resources such as medical kits and telemedicine.

Acquire Practical Skills

At Remote Medical International®, we design our courses to be taught in an intimate learning environment and focus our curriculum on the skills and topics that matter most. Students practice with real equipment in realistic scenarios that simulate actual medical situations and the stress involved. With curriculum fortified by the ongoing experience of our medical support division, your personnel will learn from cutting-edge case studies and proven techniques that are applicable to remote locations across the globe.

Learn from Experienced Medical Providers

Our instructors are professionally trained and active practitioners who have ongoing, real-life experience providing medical support, curriculum development, and corporate medical direction in remote locations. This requirement ensures that your personnel leave our courses with an effective and true-to-life system in which to provide care. From special operations to critical care paramedics, our instructors add depth and expertise to our curriculum. We can also assign an instructor that specializes in a skill set (e.g. altitude or tropical medicine) specific to your organization.

Receive a Respected Certification

Remote Medical International has trained and certified over 17,000 students from global companies, governmental agencies, all branches of the US military, national research organizations, NGOs, and more.

Learn More Today

Contact Remote Medical International today to speak with a representative about this course or inquire about a customized course by calling +1 (206) 686-4878 or emailing info@remotemedical.com. Visit us online at www.remotemedical.com.

FORMAT:

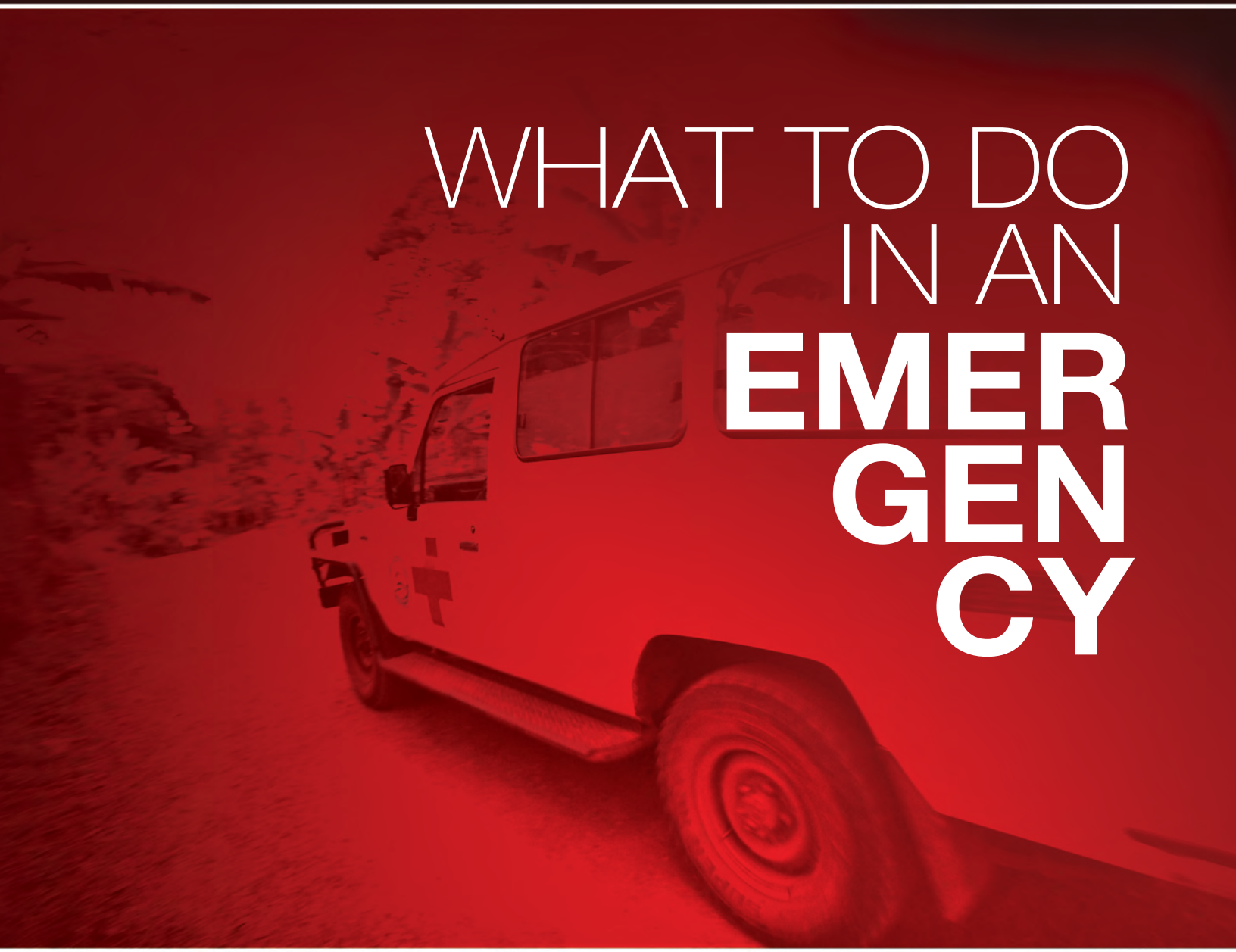
- 8 Hours
- Taught Onsite

TOPICS COVERED:

- Pre-Trip Planning
- Travel Awareness
- Risk Management
- Lifting & Moving Patients
- Blast Injuries
- Weapons
- Intro to Medical
- Care Under Duress
- Patient Assessment
- Mass Casualty Incidents
- Motor Vehicle Incidents
- Telemedicine
- Kit Usage

There is no alternative to preparation.
A trained, quick-thinking team member or team leader may be the difference between life in death overseas.

In remote areas, or when first responders are delayed, or the nearest hospital is an hour away, this article will help you save a life.



WHAT TO DO IN AN EMERGENCY

You may be monitoring a sick child living abroad, or maybe a coworker isn't looking well, you may be a witness to an accident, or involved in an accident yourself requiring quick assessment.

The following outline will help you speak clearly and assist emergency personnel, doctors or first responders.

Are you personally in danger at the moment?

Is the patient/victim currently in danger due to their environment? – First can you secure the site or area around the person at risk to keep them from any further danger?
- Are they a danger to themselves?
- Where are you? *(If you do not know, is there anyone nearby to ask?)*
- Have first responders been called? Estimated time of arrival?
- Ask around. Did anyone see what happened? (It is important to do this before people leave.)

Talk to the person. Check for responsiveness,
"Hey!, Are you okay?"

If they're talking - that is good.

You can roughly assess their breathing in about two seconds.
- Is he gasping for breath?
- Is he struggling or choking/desperate?
- Is he speaking in full sentences?

Look at their skin.
- Is it pink?
- Is it pale and sweaty?
- Is it cold and clammy?
- Is there any obvious trauma, such as serious bleeding or a puncture wound to the chest?

Calm yourself down
- Try to make eye contact with the victim.
- Do not panic or demonstrate excessive anxiety or worry, even if the accident is serious/there is serious bleeding.

CRITICALLY IMPORTANT:

DO NOT ATTEMPT to move a victim unless the area remains dangerous. Spinal and neck injuries and spine stabilization may be critical.

If the situation warrants immediate medical intervention (i.e. choking, life threatening bleeding, cardiac arrest, convulsions, or going into shock) take action immediately,
if you are unsure, ask others and…

When you are unsure about what to do, small tasks (such as holding a hand) are comforting and distracting.

Reassure the patient. Remember a kind smile.
Hold their hand if it isn't painful or if they reach out.
- Let them know what you are doing for them.
- An emergency can have nothing to do with medicine or first aid (such as a panic attack/dementia).
- Holding their hand allows you to also feel their skin. Is it dry, moist, wet? Is it warm, hot, cool, cold?
- Let them know it is a pleasure to meet them/help them and you are honored to be able to help.

If you must lift/move a patient,
and they try to reach out and grab something or struggle to stand, reassure them to rely on your help by saying,

"It's okay. Relax. We've got you."

Is the patient conscious?
- If the right questions are asked, he or she can usually give you a pretty good idea of what is wrong before any additional physical examination is performed.

If you don't know them, ask for their name.
- Write it down if it is hard to remember.
- Sometimes a friend or family member or team member present can also supply information critical to report to first responders.

Keep talking to the person
- It can give you a better understanding of their mental/physical state. (*People may lie when they're hurt/scared/ think they may have caused an accident or do not want to cause a scene.)*
- They may not want to go to the hospital even though they are sitting in a chair with clear chest pain. It's not personal.
- Do not confront them, or try to convince them. Just keep taking to them and gathering information to tell first responders later.

Master basic assessment at:

https://medictests.com/how-to-memorize-the-national-registry-medical-assessment/

Do not try to perform medicine if you are not properly trained.

You may be asked your opinion of the patient using *CUPS:*
- C= critical
- U= unstable
- P= potentially unstable
- S= stable (at the moment)

Remember the goal is to observe and keep the patient as safe and comfortable as possible until emergency help arrives/first responders arrive.

Call local emergency services.
- Speak slowly and clearly especially if in a foreign country.
- If a local person is handy, be ready to have them translate but do not give up the phone since then you will not know what is being said/recommended/happening.
- Keep one main phone line open at all times.

Get someone to call the medical insurance emergency number on the back of your/their insurance card.
- If they are conscious, ask them about their medical I.D. card/insurance card.
- If unconscious, ask any friends present or let them know you are going to check for a wallet/ look into their purse.
- Always try to have a witness when you must do this to ascertain identity, nationality, or insurance coverage.

Who else locally or back home needs to be called?
- As a backup?
- Possibly the embassy?
- At their request?

Use pressure, not a tourniquet, to control life threatening bleeding.

Can the person tell you:

- Any signs or symptoms
- Allergies
- Medications
- Pertinent past history
- Last oral intake
- Any specific events leading up to the illness/injury/accident?

If a patient is conscious,
you may also want to ask a little more history of their condition in case they cannot later remember or are not conscious to tell first responders.

(If sudden pain or dizziness caused the victim to fall or caused an accident it may be a symptom of more than just the physical injuries due to the fall/accident.)

WHILE WAITING FOR EMERGENCY SERVICES:

Try to stay on the phone with an Operator or Emergency Services!

Visual Inspection:
- Take a moment to perform a head-to-toe rapid assessment.
- Focus on the patient's chief complaint.
- Do not neglect any other physical signs.
- Pay attention to your general impression of the person, because it is usually right.

Assessment of the patient's airway, breathing, and circulation; or ABCs.

How is the person breathing?
- You can count the patient's breathing or heart rate for 30 seconds and multiply by two.
- This *provides an estimate of the patient's breathing or heart rate for a minute and do not require 60 seconds to complete the task.*

Do you know how to take a person's pulse?
- A rapid pulse may indicate the presence of some form of shock or anxiety (heart is racing).
- A very slow pulse rate may a heart attack, stroke, or that the person may be cose to losing consciousness.

Skin/Circulation: During the initial assessment, any findings other than warm, pink, and dry skin should be noted. Skin that is cool, cold, moist, clammy, hot, flushed, or mottled is something that the emergency operator should be told.

Is the patient conscious and cooperative?
Using the AVPU system, are they:
A=Awake/alert;
V=Responds to voice but unaware;
P=Responds only to pain; or
U=Unresponsive to words/pain, unconscious

Repeat Ongoing Assessment every 15 minutes for a stable patient and every 5 minutes for an unstable patient.

This assessment should answer the following questions:

1. Is the patient's condition improving?
2. Are any known problems getting better or worse?
3. What is the nature of any newly identified complaints/problems?

NUTRITION
WHEN LIVING OVERSEAS

Nutrition is an area of expatriate health that is under-emphasized, if mentioned at all, to the detriment of many committed individuals who may have wisely planned other aspects of their prospective living or traveling abroad. *If nutrition is discussed in traveling or expatriate circles, it's usually in the context of food safety (an important but not exclusive concern).*

Increasingly, scientific research reveals that nutrition is one of the fundamental factors underlying the development of certain chronic diseases such as adult-onset diabetes, cardiovascular disease, or gastrointestinal inflammatory diseases. There is some evidence that suggests nutrition may also affect mental well-being. Disease and poor food selection can make residing overseas difficult.

Existing disease could be exacerbated by factors such as stress or unstable food availability. Prevention and management of nutritionally-modifiable chronic disease not only involves maintaining adequacy of essential nutrients, but is also related to weight control. Obesity (affecting about a third of adults in the U.S.), increases the risks of the aforementioned conditions substantially.

LET'S LOOK AT FOOD SAFETY FIRST:

Food Safety and Toxicity

The subjects of microbial and environmental contamination, while increasingly drawing attention in this country, take on a more urgent tone when addressing food safety in the developing world. ***Microbial contamination*** refers to bacterial or mold infestation; while ***environmental contamination*** refers to pesticide residue or heavy metals in food, such as lead or aluminum.

Microbial contamination can cause ***"food-borne illness,"*** better known as ***"food poisoning."*** Toxins produced by harmful bacteria ingested in food can produce intense and sometimes violent gastrointestinal symptoms. While the primary pathogens are *Staphylococcus aureus, Salmonella species* and *Clostridium perfringens* (which are responsible for 70 to 80% of all reported outbreaks), there are many other bacterial as well as some viral and protozoan agents. Reporting food-borne illness is increasing worldwide, and in recent years a number of new pathogens have emerged. The World Health Organization's website, www.who.org, has extensive information on this topic.

It's wise to learn about the most likely factors that contribute to food poisoning, particularly in a setting where you may not have total control over food sources, storage, and preparation. *The most frequently identified factors that contribute to microbial contamination of food are: 1.)* Improper cooling of food, 2.) Lapses of 12 or more hours between preparing and eating, 3.) Improper hygiene of food handlers, and 4.) Contaminated raw foods. These factors are largely controllable in the States, but less controllable abroad.

Nutrition Facts

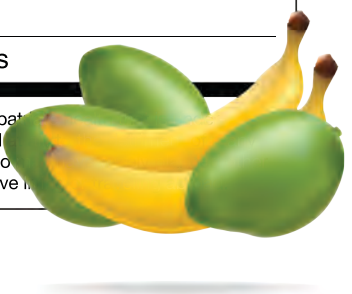
Universal advice for expatriates
For travelers of: all sizes/types

In this article:

Contents

100% daily value*

*Nutrition is an area of expat
emphasized, if mentioned
committed individuals who
aspects of their prospective l



Control procedures include washing hands before eating and proper washing and preparing of food, sanitizing food preparation surfaces and tools, cooking food to specific temperatures, rapid chilling of food, and storage at correct temperatures.

Environmental contamination
We're all exposed to an increasing variety and load of toxic substances in the air and water, and in our food.

Many developing world environments, have greater exposure to toxins as well as to more noxious agents. Certain foods can help "protect" us because they contain important nutrients that can assist in detoxification or they contain natural antagonists to the toxins. A recent article in ***The International Journal of Toxicology*** reviewed the aspects of nutritional protection. For example, vegetables grown in contaminated soil can readily accumulate ***cadmium***, a toxic metal that, at chronic exposure at excessive levels, is associated with kidney problems and possibly neurodegeneration. Zinc, contained in a variety of nuts, is a cadmium antagonist and therefore can inhibit its accumulation in the body.

Vitamin C, abundant in citrus fruits and brightly colored vegetables, can inhibit the conversion of the meat preservative, sodium nitrite, into carcinogenic substances.

There are too many types of toxic agents and examples of protective nutrients to mention here. The point is that it is important to do some basic research about the area where you will reside to get current and specific information about the environment and food supply. Then you can create a rudimentary plan of health protection that involves diet, and may necessarily involve dietary supplementation, to compensate for known risks.

Protection of the Intestinal Environment

For individuals planning to reside in the developing world, it may be important for them to protect their health at the "gut" level. **Within the normal healthy intestines is a complex colony of different and mostly beneficial indigenous bacteria called *"microflora."*** Balance within this microbial culture is very important not only to ensure proper digestion and assimilation of dietary nutrients, but also to provide a protective barrier to undigested food and dangerous microbial agents called ***antigens.***

This is one mechanism whereby immunity is protected; another may be via modulation of immune system mechanisms and defenses.

For centuries, people from all cultures have proclaimed the immune-enhancing benefits of eating fermented foods, particularly yogurt which contains lactic acid bacteria, primarily ***Lactobacillus acidophilus.*** Non-dairy examples of fermented foods that contain helpful bacteria are sauerkraut and miso.

Certain bacterial strains in these foods can survive digestion and reside and proliferate in the gut environment, reducing the toxin-producing "bad bacteria" via various mechanisms, and helping to sustain a balanced microflora.

These bacterial friends can not only be administered in ***"probiotic"*** foods, like those mentioned above, but can also be taken in supplement form.

According to research, a probiotic is a live microbial culture in a cultured food product. If a dietary probiotic is not available, then a supplement is recommended. An effective probiotic supplement should have specific beneficial microorganisms that are in sufficient numbers. They should also be viable to be transplantable in the gut and capable of altering, and thus improving, the microfloral balance.

Administration of probiotics has been found to result in an increase in fecal counts of bifidobacteria and lactobacilli, a decrease in fecal pH, and a decline in those bacterial enzyme activities that are associated with the development of colon cancer.

Research, largely European (specifically Scandinavian and German), has documented various health effects attributed to the use of probiotics including: ***Lower frequency and duration of diarrhea associated with the use of antibiotics, rotavirus infection, chemotherapy, and traveler's diarrhea; stimulation of both T-cell and B-cell immunity; and, decrease in toxic and carcinogenic substances in the colon.***

There is some evidence of other benefits such as relief from constipation, as well as irritable bowel and reduction of allergic symptoms possibly by alleviating the intestinal inflammatory response, but further research is needed.

Probiotics hold promise as a tool in the treatment of chronic inflammatory diseases that originate in the gut. Some examples of this are gastroenteritis, food allergy, and inflammatory bowel diseases as well as chronic inflammatory disease with a scope beyond the gut, such as rheumatoid arthritis.

Keep in mind that after a course of antibiotics, all bacteria, good and bad, are destroyed; the extent of microflora destruction in the gut depends on the scope of the antibiotic taken.

It's wise to conscientiously ingest fermented foods and/or take a probiotic supplement after finishing the antibiotics to help in quickly restoring a healthy gut environment.

Obtain a reputable product that contains strains of bacteria which have been lab-tested to survive intestinal passage. Such has been found with mostly lactobacilli and bifidobacteria strains, and one that adapts well to the intestinal tract either by adhering to epithelial cells or preventing pathogenic bacteria from adhering.

Studies have found that ***Lactobacillus GG*** is an effective probiotic strain for treatment of traveler's diarrhea caused by ***Escherichia coli.***

Unless you're very familiar with this topic, you should check with a knowledgeable health practitioner or pharmacist regarding recommendations for quality probiotic supplements.

Chronic disease prevention

A large body of research literature supports the notion that dietary antioxidants play an important role in preventing many human diseases (e.g., cancer, atherosclerosis, stroke, rheumatoid arthritis, neurodegeneration, and diabetes).

This prevention is due, in part, to the ability of dietary antioxidants to destroy ***free radicals***. Free radicals (e.g., superoxide, nitric oxide, and hydroxyl radicals) and other reactive species (e.g., hydrogen peroxide, peroxynitrite, and hypochlorous acid) are molecules produced in the body. This is a result of oxidation due to normal aerobic metabolic activities such as breathing, eating, and exercising, as well as through the effects of external factors such as toxicants, pollutants, and radiation.

These free radicals result in cascading cell injury, and have been implicated in various chronic degenerative processes, as well as in the aging process in general.

Dietary antioxidants include various amino acids such as glutathione, vitamins such as vitamin E and vitamin C, and minerals such as selenium and zinc, as well as polyphenols in tea. There are also antioxidant enzymes manufactured in the body such as superoxide dismutase, catalase, glutathione reductase, and glutathione peroxidases.

Antioxidants and these antioxidant enzymes work together to scavenge free radicals. There has been growing evidence over the past three decades showing that dietary deficiencies of various nutrients such as protein, selenium, and zinc, or an excess of certain nutrients such as iron, gives rise to cell injury and the oxidation of biomolecules that contributes to chronic degenerative diseases.

Individuals planning to reside in areas of the world that have relatively greater environmental pollution are particularly wise to maintain a high dietary antioxidant intake. Antioxidants are found in varying amounts in fruits and vegetables, particularly those that are brightly-colored and dark green, as well as in green tea. If you cannot get adequate fresh, consistent produce, then a supplemental antioxidant formula is recommended.

There is an overwhelming body of literature about this topic on the internet, as well as in bookstores, which can help. More often, in terms of sheer vol-

ume of information, it can be confusing for even the most avid nutritionist.

The most important and fundamental antioxidants to consider in terms of basic supplementation are vitamin C and vitamin E. Vitamin E prevents the oxidation of fats in our bloodstream, and sound research has found that it may reduce the risk of heart disease by protecting LDL against oxidation. This inhibits the key factor in the development of atherosclerotic plaque. A protective level of vitamin E exceeds 200 mg/day. A safe and sensible daily recommendation would be somewhere between 200 and 400 mg/day.

Vitamin C has a number of protective roles. Your daily requirement for vitamin C rises when you're under psychological stress. It also protects tissues from physical (oxidative) stress, such as in infection, extremes in temperatures, toxic metal intake, chronic use of certain medications, as well as protecting iron from oxidation in the gut, thereby enhancing its absorption. Vitamin C scavenges, particularly, the hydroxyl radical and superoxide, thereby helping prevent cancer, heart disease, and cataracts. Vitamin C also acts as a natural antihistamine thereby mitigating the allergic response. A protective level of vitamin C would exceed 600 mg/day. A safe and sensible daily recommendation would be about 400-500 mg. a couple times per day.

Medical Nutrition Therapy

Medical nutrition therapy is a widely recognized and essential component of treatment for diabetes mellitus, cardiovascular disease, dyslipidemia (unhealthy blood fat and cholesterol levels), and hypertension, all conditions that respond favorably to nutrition. The nutritional focus for these conditions includes reduction of total fat, saturated fat and cholesterol intakes and increasing fruit, vegetable, and fiber consumption.

These interventions are intended to normalize lipid levels and other cardiovascular markers, stabilize blood glucose, lower blood pressure and maintain or reduce weight.

Substantial evidence suggests that these dietary approaches to disease prevention and treatment are successful, resulting in fewer physician office visits, delay of pharmacotherapy, less frequent hospitalizations and reduced incidence of disease-related complications. Generally, excess diet constituents implicated in disease risk are fats, cholesterol, and sugar, as well as lack of fiber, antioxidants, protein, calcium, iron, vitamin D, and folic acid.

Hundreds of dietary intervention studies support the positions of both the *Expert Panel on Detection, Evaluation* and *Treatment of High Blood Cholesterol in Adults and the National Cholesterol Education Program*, which recommend nutrition therapy and other lifestyle changes as the initial treatment for unhealthy blood fat and cholesterol levels.

In general, dietary factors that increase blood cholesterol are saturated fat, cholesterol, and trans fatty acids. Trans fatty acids are polyunsaturated fats that have been altered by the hydrogenation process and can damage arterial walls. Dietary factors that decrease blood cholesterol are monounsaturated fat, fish oil, and fiber. Research has also found that low-saturated, high-monounsaturated diets (olive and canola oil) lower total blood cholesterol, specifically the harmful LDL, but tend to increase the beneficial HDL.

Recent research has found that levels of the toxic metabolite, homocysteine, rise to dangerous levels due to inadequate dietary levels of folic acid, vitamin B6, and vitamin B12. This increases the risk of arterial wall damage, leading to an increased risk of cardiovascular disease. Low levels of these nutrients, which are found primarily in fresh produce, inhibit the normal conversion of homocysteine to the amino acid, methionine.

General prevention

While acute deficiencies of vitamins and minerals are rare in the developed world, we are discovering that sub-optimal intake or less than the recommended daily allowance can contribute to the development of chronic disease over time.

In the developed world, modern farming, distribution, and storage methods, as well as the modern stressful lifestyle and preference for chemically-processed and fast foods, have all added up to most people, in fact, not consuming optimal daily amounts of all the vitamins and minerals they need from diet alone.

Living in the developing world may increase your risk of suboptimal intake of nutrients even more so due to factors such as poverty, lack of supply, etc.

Furthermore, as people age, their digestive and absorptive processes are less efficient resulting in lower nutrient assimilation, compounding the risk.

There are a host of chronic daily symptoms beyond the more dramatic ones mentioned above that can be a result of chronically inadequate levels of nutrients, the etiology of symptoms such as headaches, depression, fatigue, and indigestion are often physiological and the source is often dietary.

Diet is usually overlooked and these common symptoms are merely medicated.

For example, a chronically inadequate intake of one or more of the B vitamins is not unusual, particularly with individuals who eat few fresh vegetables and whole grains. These nutrients are essential for energy metabolism and a low dietary intake can be the causal factor involved in lethargy or fatigue.

Consider diet if heading to destinations abroad where dietary and psychological stresses will abound. But which supplements? A good general guideline is to take a comprehensive multiple vitamin/mineral produced by a reputable company, preferably targeted at your gender and age group. Then, depending upon your destination and with the help of a knowledgeable health practitioner, add a single antioxidant such as vitamin C or an antioxidant formula that can be safely combined with your multi-vitamin for added protection.

Being Overweight/Obesity

No discussion of the health benefits of nutrition is complete without considering the conditions of being overweight and obese, particularly because they are increasingly prevalent and are associated with a host of chronic diseases, some leading to premature mortality. As we know, both of these conditions, at different levels, are multifactorial and refer to having body fat stores that are excessive for an individual's height, weight, gender and race to an extent that risks or produces adverse health outcomes (cardiovascular disease and type 2 diabetes).

A good assessment of how your weight compares to the standard utilizes a calculation of body mass index or BMI [Divide your weight (kilograms) by your height (meters) squared.]

If you find yourself outside of the desirable range, consider a diet and exercise program with your doctor or health practitioner to prepare yourself for relocation. **Often, changing a vocation and/or residential location increases psychological stress levels, which exacerbates bad dietary habits.**

An overweight condition coupled with a new, higher level of stress can lead to health problems.

Beyond the weight issue is the importance of the site of the increased fat tissue. Excess abdominal fat is associated with a much higher risk of cardiovascular disease and diabetes even if the BMI is in the desirable range.

Losing weight is an achievable goal when embarking on a sensible eating plan, not a "diet." Losing weight must also be accompanied by a realistic exercise plan that can be maintained in your new location and can be as simple as walking 3 times a week for about 30 minutes. Exercise may not produce any major weight losses alone, but will help to change the body composition by increasing muscle tissue and strengthening the heart.

– Bonnie L. Beezhold, M.H.S., C.C.N.

Nutritional Resources

Extensive and reliable nutritional information for all ages along with links to other nutrition sites.

- The American Dietetic Association
  – http://www.eatright.org/
- The World Health Organization
  – http://www.who.int/topics/nutrition/en/
  – http://www.who.int/topics/diet/en/
- National Institutes of Health
  – https://www.nih.gov/health-information
- For Dietary Supplments:
  – https://ods.od.nih.gov/
- U.S. Government health information site
  – https://healthfinder.gov/
- The Food and Drug Adminstration site
  – https://www.fda.gov/Food/default.htm

International PREGNANCY

For up-to-date advice go to www.pregnanttraveler.com

Expatriate workers should recognize that going overseas and having a baby in a developing country will certainly not be the same as in the U.S. There may be some unpredictable health problems in which a child can be lost.

In other locations, having a baby may be equal to, or safer than in, the U.S.

Many of the countries in which people serve have maternal/mortality rates still in the ranges of what the U.S. had in the late 1800's in terms of pregnancy losses. If a pregnant patient can AVOID TRAVELING in the first 12 weeks, that is best since the first trimester is the time of *organogenesis* (fetal formation) and no medicine can claim to have no effect on the formation of your baby.

Airlines vary in their rules regarding transporting pregnant patients, but none of them willingly allow pregnant women past 36 weeks gestation.

Many organizations (such as the U.S. military) recommend that you return to the U.S. by 32 weeks in most situations depending on where you intend to deliver the baby.

- Routine immunization should NOT be done in the first 12 weeks of pregnancy
- Diphtheria and tetanus vaccine can be given after the first trimester
- Measles, mumps and rubella vaccinations should NOT be given in pregnancy
- Polio vaccination can be given in the second trimester if the patient has never been immunized because there is a tendency for pregnant patients to get polio. *Oral polio is no longer recommended in the U.S. because of gastrointestinal transmission of the virus to immune-compromised patients. They should be dosed at 0 and 30 days prior to travel*
- Hepatitis B & A vaccinations may be given in the second trimester
- Pulmonary influenza vaccine should be given to the pregnant traveler prone to chronic respiratory disease
- Yellow fever vaccine should NOT be given to a pregnant woman unless travel to an

endemic area is ABSOLUTELY unavoidable. *Preferable when needed in the 2nd trimester. If at all possible travel in those areas should be avoided until after delivery. Breastfeeding, however, is not contraindicated. Yellow fever vaccination is generally NOT recommended in children under 2 years because of complications of encephalitis*

- Typhoid (oral vaccine) is not generally given to pregnant patients because of febrile reactions with adverse effects. It is not recommended in the patient unless the risk of typhoid in a MUST-travel area is unavoidable.
- Japanese encephalitis vaccine is not recommended in pregnancy at all. Avoiding travel in infected areas should be considered
- Malaria-endemic areas require personal protective measures since no prophylaxis is 100% effective. *So, remain indoors between dusk and dawn. Wear light-colored clothing with long sleeves, pantlegs, shoes and socks*
- Permethrin-treated bed nets and electrical citronella coils should be used.

Chloroquine and Progauonil have been used for decades by the British with no documented birth defects. First trimester is still a concern FOR ANY MEDICATIONS. Mefloquine has been given in the second trimester with no adverse effects. ***Breastfeeding mothers should take anti-malarials.*** *Doxycyline SHOULD NOT BE USED IN PREGNANCY except in a mother with acute malaria. Graying of teeth of the baby is the only known problem. Apparently graying of the bone also takes place but causes no proneness to fracture. (More on breastfeeding at https://www.cdc.gov/breastfeeding/recommendations/vaccinations.htm)*

Air travel **during pregnancy**

Aisle seats at the bulkhead should be requested ahead of time. Pregnant women should walk every half hour during flight, flexing and extending ankles and legs. Avoid dehydration.

Those with a history of thrombophlebitis *(blood clots and vascular inflammation of the great vessels of the legs)*, sickle cell trait and severe anemias should probably avoid flying during pregnancy. When it is unavoidable, oxygen should be ordered (in advance) for severe sickle cell and anemia.

Women should avoid air travel with newborns for the first 6 weeks because alveoli (air sacules in the lungs)are not completely functional yet.

Infants are prone to pain with the collapse of the Eustachian tube with air pressure changes. Breastfeeding during this time relieves that, or a bottle as well as Benadryl or a decongestant.

Travel Medical Kit for Pregnancy –

- Talcum powder
- Oral Rehydration Packets
- Anti-fungal for Yeast Infections
- Thermometer
- Multi-vitamins
- Acetamenophine (Tylenol)
- Mosquito Repellent with > 15% DEET
- Blood pressure Cuff in 3rd Trimester
- Urine Dip Sticks
- Anti-malarial for Self-treatment
- Anti-diarrheal

Clean water and water safety

Clean water is essential to both your health and safe drinking/food preparation.

Travelers diarrhea, giardia, hepatitis A, typhoid, dysentery, polio and cholera among the illnesses that can be transmitted by unclean water.

While diarrhea is the most widely known disease linked to contaminated water, almost 240 million people are affected by *schistosomiasis* – an acute and chronic disease caused by parasitic worms/parasitic disease contracted through exposure to infested water.

Use safe or bottled water to take pills or when brushing your teeth. Take care opening bottled water due to germs around the cap. Showering and swimming can also put you at risk. Likewise, you can filter water, but if you rinse hands or food containers/utensils with questionable water, or put your mouth directly on water bottles or soda cans without wiping them down, you stand a strong chance of infection. Ensure safe food preparation when eating out.

Ensuring a safe water supply:

*Realize that there is a difference between a **trip abroad** and **living overseas** when trying to secure a safe water supply.*

Filtration/Purification – There is a difference between water filtration and water purification. *You will want to protect against:*

Protozoa & Cysts – Single-cell parasites; Tiny (between 1 and 20 microns). Easiest to filter out.

Bacteria – Very tiny (0.1 to 10 microns).

Viruses – (hepatitis A, rotavirus, enterovirus, norovirus) Exceptionally tiny (0.005 to 0.1 micron).

Good water purifiers for overseas usage are able to rid water of all three health threats compared to those filters used by backpackers and campers that aren't nearly as effective against viruses.

Brands like Brita and PUR will not filter any of the above, and should never be used on anything but water from a safe clean water source. Water filters/purifiers should be able to be "backwashed" (clean water only), so they do not require replacing filters which may be hard to locate overseas. Sawyer Point ZeroTWO Purifier and S3, Grayl, Lifestraw Mission and Lifestraw Family, & MSR Guardian all filter viruses and eliminate waste plastic and need for bottled water.

Boiling – Known as *"heat disinfection."* **This is the only foolproof treatment method,** *however it may still taste bad or be cloudy.*

Start by bringing water to a rolling boil for at least one minute. Doing so will kill most types of disease-causing organisms that may be present. If the water is cloudy, you may want to filter it through a clean cloth, or allow it to settle first, and draw off the clear water for boiling. At an altitude greater than 6,562 feet, boil the water for 3 minutes.

Sterilization – In an emergency, you can add 8 drops of 6% bleach, or 6 drops of 8.25% bleach, to each gallon of water to disinfect it. Double the amount of bleach if the water is cloudy, colored, or very cold. Stir. Then let stand for 30 minutes before drinking.

Chlorine in bleach effectively kills a large variety of microbial waterborne pathogens, including those that can cause typhoid fever, dysentery, cholera and Legionnaires' disease. However, this method kills some, but not all, types of disease-causing organisms that may be in the water.

Adding two drops of household chlorine bleach per gallon of already filtered or bolied water can also help maintain water quality while in storage.

Understanding Your Needs.
Exceeding Your Expectations.

At International Medical Group® (IMG®), we understand the intricacies of worldwide health care delivery, and are especially sensitive to the needs of those in the international missionary market. IMG created an entire division in 1992 devoted solely to providing specialized products and services to the missionary community. We've had the privilege of assisting hundreds of organizations, and a big factor in earning their confidence has been our plan design and unique services which help provide affordable and stable premiums. While we provide a wide range of worldwide benefits that will follow your missionaries wherever they go, our group plan is designed to encourage them to receive medical care overseas when it is feasible, where the cost of medical care is comparatively less than in the U.S. Combined with other top-tiered benefits and services like our Medical Travel Management benefit and Medical Concierge Service, we are well positioned to help you and your members take more control of your health care costs, which lends itself to affordability and premium stability.

It is rare to find a company that offers specialized products and services for the missionary community. As much as we are proud of our history of helping missionaries throughout the years, it is we who consider ourselves blessed to have had the opportunity to contribute in some way to the well-being and peace of mind to those who are serving the great commission abroad.

There's an axiom that says if you focus on the needs of your clients first, positive results will follow. The attention that Good Neighbor pays to its clients on a regular and consistent basis is second to none. Individuals and organizations readily find they have a friend and an advocate when they entrust Good Neighbor to be their insurance representative. IMG is fortunate to have a partner the likes of Good Neighbor in bringing our products to the missionary community.

Regards,

Mark Rogers
IMG Missionary Marketing Director
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ext. 4644
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IMG

www.imglobal.com

Contents

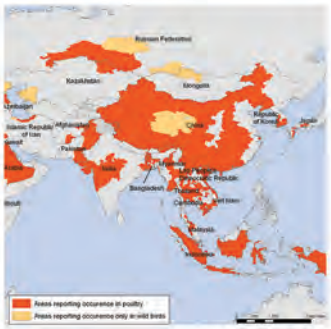
Pandemics and Illnesses: Location, Transmission, Symptoms, Prevention and Treatment

Aka:

H5N1, H7N9
Asian avian influenza
Bird flu

Where is it found?

CHINA | EGYPT
SOUTHEAST ASIA
EUROPE



Notes:

HPAI infections have been reported in U.S. domestic poultry, but human infections have primarily occurred in Africa, South East Asia, Central Asia, Europe, and the Middle East.

Avian Bird Flu

The CDC has Level 1 travel warnings for both China and Egypt

Often called bird flu, it is an infection that affects wild birds and poultry. *Bird flu* doesn't normally affect humans, but is very contagious among bird populations, requiring extermination of flocks. ***Over the past few years, there have been human outbreaks.*** An influenza pandemic occurs when an avian influenza virus emerges with the ability to cause sustained human-to-human transmission, which the human population has little to no immunity against.

With the growth of global trade and travel, a **local epidemic** can become a ***pandemic*** rapidly, with little time to prepare a public health response.

Transmission:

So far, this virus has not acquired the ability to spread easily among humans. The primary risk factor for human infection appears to be direct or indirect exposure to infected live or dead poultry, or contaminated environments, such as live bird markets. Those handling infected poultry or preparing poultry for consumption, in household settings, are at risk.

There is no evidence to suggest that the A(H5), A(H7N9) or other avian influenza viruses can be transmitted to humans through properly prepared poultry or eggs. A few influenza A(H5N1) human cases have been linked to consumption of dishes made with raw, contaminated poultry or blood.

Symptoms:

Can range from mild to severe. Symptoms range from conjunctivitis to flu-like illness (e.g., fever, cough, sore throat, achiness). Symptoms can also include pneumonia-like symptoms, which require hospitalization. Highly pathogenic avian influenza (HPAI) infection can have very serious symptoms, such as shortness of breath, respiratory distress, diarrhea, vomiting, and seizures. Human infections with Asian H5N1 viruses have been associated with severe disease and death.

Prevention and Treatment:

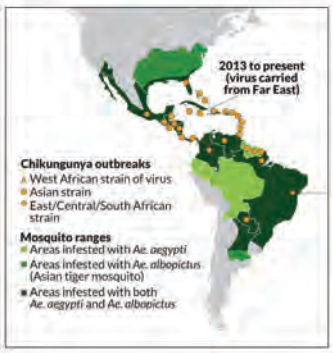
The best way to prevent infection is to **avoid sources of exposure,** such as feeding wild birds, avoiding public bird markets overseas, and surfaces contaminated with feces from birds. *Seasonal influenza vaccines will not prevent infection with avian influenza A viruses,* but can reduce the risk of co-infection with human and avian influenza A viruses. If you do contract bird flu abroad, there are antiviral drugs (oseltamivir, peramivir, zanamivir) to treat bird flu in humans. There is also a vaccination for people aged 18 – 64 who have an increased risk of exposure to H5N1 virus.

More Info:
http://www.who.int/mediacentre/factsheets/avian_influenza/en/
https://www.cdc.gov/flu/avianflu/avian-in-birds.htm
https://www.cdc.gov/flu/avianflu/prevention.htm

Aka: **CHIKV**

Where is it found?

CENTRAL AFRICA
INDONESIA
S. AFRICA INDIA
THE CARIBBEAN



Notes:

Primarily found in areas of Central Africa, Southeast Asia, India and the tropics. Lately, in the Caribbean.

Chikungunya

"That which bends up" based on the stooped position of patients

Chikungunya is a mosquito-borne virus that can be imported to new areas by infected travelers. There is no vaccine to prevent or treat chikungunya virus infection. The CDC has listed CHIKV a category C priority pathogen since it could be a potential biological weapon due to ease of production and dissemination, availability, and potential for high morbidity and mortality rates and major health impact.

In 2016, more than 1,000 cases of the illness have been registered in Delhi, India. Local media have reported that 10 people in the city have also died of chikungunya-related complications.

Transmission

Chikungunya is spread by bites usually from A. aegypti mosquitoes, but research has also found that the Asian tiger mosquito can carry the disease (the same mosquitoes that carry dengue).

Symptoms

Chikungunya usually includes the sudden onset of high fever and joint pain (without inflammation), particularly affecting the hands, wrists, ankles and feet. Usually the fever lasts two days and then ends abruptly. While acute symptoms can subside in 1 to 2 weeks, the joint pain can persist for months or years.

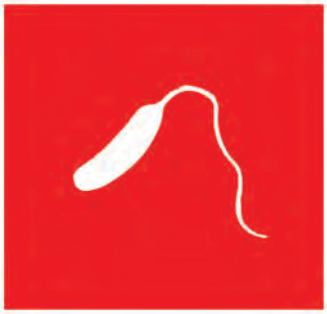
In older subjects, the joint and muscle pain can last much longer. In one outbreak, up to 66% of those those over 45 years old experienced pain for three years after their initial infection. In an outbreak in Italy, 66% of people reported muscle and joint pain for up to a year.

Onset of symptoms is usually rapid, one to 12 days after infection. Infected travelers from CHIKV infected countries may not demonstrate symptoms until three days later; ample time for air travelers to fly home to cities that may not recognize or diagnose chikungunya.

Prevention and Treatment:

The best means of prevention is avoiding mosquito bites, especially in countries where the disease is most common. There is no proven medication to treat chikungunya yet. A person can decrease symptoms by drinking fluids to prevent dehydration, resting, and taking medicine such as ibuprofen, naproxen, and acetaminophen to relieve fever and joint pain. Those with severe joint and muscle pain may want to go to a clinic or hospital for a prescription used for those with arthritis (such as celecoxib or adalimumab). Drug companies are currently testing a vaccine for chikungunya. Hopefully it will be on the market soon.
Treatment is difficult, so prevention is best: Mosquito coils, mosquito nets, treated long-sleeved clothing, and insect repellent are best.

More Info: CDC, Wikipedia, Comparison of Dengue and Chikungunya

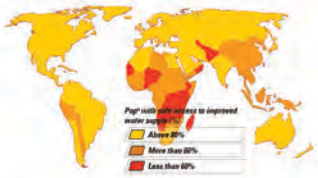


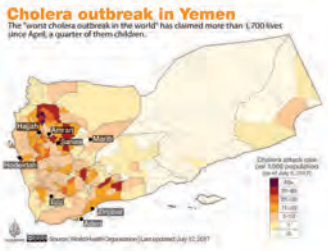
Aka: **Vibrio Cholera, Infectious Diarrhea**

Where is it found?

CENTRAL AFRICA
SOUTHEAST ASIA
MEXICO
INDIA

CHOLERA EPIDEMICS
Areas without access to clean water





Notes:

Primarily found in areas with poor sanitation. War-torn Yemen is facing the "world's worst cholera outbreak."

Cholera

Can kill within hours if left untreated, but is easily treatable

Each year there are 1.3 to 4.0 million cases of cholera, and 21,000 to 143,000 deaths worldwide due to cholera. Most of those infected will have no or mild symptoms, but can still spread the disease. They can be successfully treated with oral rehydration solution. Severe cases will need rapid treatment with intravenous fluids and antibiotics.

Cholera is found and spread in places with inadequate water treatment, poor sanitation, and inadequate hygiene. The cholera bacterium itself is usually found in water or food sources that have been contaminated by feces from a person infected with cholera. A person gets cholera by drinking water or eating food contaminated with the cholera bacterium.

Transmission:

The disease is not likely to spread directly from one person to another; therefore, casual contact with an infected person is not a risk for becoming ill. The cholera bacterium is ingested. Transmission is closely linked to inadequate access to clean water and sanitation facilities. Typical "at-risk" areas include slums, where basic infrastructure is not available, as well as refugee camps, where minimum requirements of clean water and sanitation have not been met.

Symptoms:

Symptoms usually appear 2-3 days after exposure. The infection is often mild or without symptoms, but can sometimes be severe. Approximately one in 10 (5-10%) infected persons will have severe disease characterized by profuse watery diarrhea, vomiting, and leg cramps. In these people, rapid loss of body fluids leads to dehydration and shock. Without treatment, death can occur within hours.

Prevention and Treatment:

Cholera vaccine is generally not recommended by the World Health Organization (WHO) except in certain epidemic areas. You must have the immunization at least 3 weeks before visiting those areas. Cholera changes rapidly, so a vaccine generally does not work except for a specific area. Previous cholera vaccinations will not provide protection. Repeated vaccination is recommended within 6 months if a person remains in a high epidemic area. Prevention via proper treatment/filtering of water and properly cleaning/cooking food is critical to stopping cholera (See article on Clean Water).

Patients can be treated with oral rehydration solution (a prepackaged mixture of sugar and salts) mixed with water and drunk in large amounts. Severe cases also require intravenous fluid replacement. With prompt rehydration, fewer than 1% of cholera patients die. Antibiotics may also help shorten the course and diminish the severity of the illness. Persons who develop severe diarrhea and vomiting in countries where cholera occurs should seek medical attention promptly.

More Info: http://www.who.int/cholera/en/, as well as the CDC website

Aka: **Breakbone fever, Dengue hemorrhagic fever**

Where is it found?

Notes:

Worldwide.

Primarily found in the southern hemisphere and areas known for mosquitos, such as the tropics,

Dengue Fever

Occurs routinely in more than 100 tropical countries

Dengue, often called *breakbone fever*, is a disease caused by one of four closely related dengue viruses. *Dengue hemorrhagic fever* is a more severe form of the infection that can be fatal if it isn't recognized and properly treated. A person is at greater risk where an outbreak or epidemic is occurring. Dengue is also becoming common once again.

Dengue causes 100 million infections per year around the world, putting about 500,000 people in the hospital, most of them children. It is fatal for 25,000 of them every year.

Transmission:

Dengue is transmitted to humans from infected mosquitos. The disease cannot be spread directly from person to person. The primary driver has been the growth of slums. Open water lines, sewer systems, and trash disposal—latrines, storing water in jugs and barrels, and consigning trash to open dumps. All create small pools of stagnant liquid, that dengue-carrying mosquitoes prefer. (The pools can be very small, less than an ounce.)

After a bite, the virus replicates in the blood for four to seven days; once the fever starts, there are at least two to 10 days when the victim can cause an infection in the next mosquito that bites him or her. In the two weeks between the initial bite and the end of the infectious stage, a traveler can unknowingly transport the virus from an area where it is common—a marketplace in Singapore, a resort in Thailand, or a beach in the Caribbean—to somewhere it has never been before.

Symptoms:

Dengue's principal symptoms are high fever, severe headache, severe pain behind the eyes, joint pain, muscle and bone pain, rash, and mild bleeding (e.g., nose or gums bleed, easy bruising). Generally, younger children and those with their first dengue infection have a milder illness than older children and adults. *Dengue hemorrhagic fever* is characterized by a fever that lasts from 2 to 7 days, with general signs and symptoms consistent with dengue fever. When the fever declines, symptoms including persistent vomiting, severe abdominal pain, and difficulty breathing may develop.

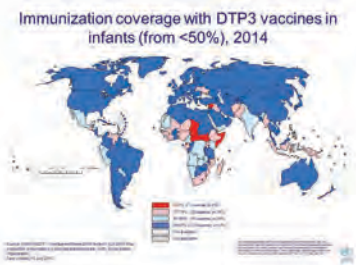
Prevention and Treatment:

There is no vaccine to prevent dengue, and there are no specific medications to treat the disease. Therefore, prevention is the most important step, which means avoiding mosquito bites. The CDC recommends repellents containing DEET, picaridin, oil of lemon eucalyptus, or IR3535 as the active ingredient. Repellent should be applied to clothing as well as exposed skin. Mosquito coils and citronella candles may assist in reducing mosquitoes around you. Make sure that window screens don't have holes, and consider sleeping under mosquito nets.

Aka: **Corynebacterium diphtheriae, malignant hypertoxic diphtheria, diphtheria gravis**

Where is it found?

DIPTHERIA
Areas with known outbreaks



Notes:

Primarily found in areas that do not vaccinate. Most often in sub-Saharan Africa, India, & Indonesia.

Diptheria

In 2014, 7,321 cases of diphtheria were reported to the WHO

Diphtheria can lead to potentially life-threatening complications, such as breathing difficulties and problems with the heart and nervous system.

Someone with diphtheria could lose much or all of their normal lung function. This is called *respiratory failure*. It can also cause inflammation of the heart muscles which can cause your heart to beat irregularly, or even *heart failure*. Diphtheria can also cause complications that affect the nervous system (neurological complications). These can occur weeks after you first experience diphtheria symptoms.

Transmission:

Diphtheria is spread from person to person, usually through coughing and sneezing. A person can also get infected by coming in contact with an object, like a toy or a doorknob, that has been contaminated with the bacteria that causes diphtheria. You can become infected with diptheria bacteria if you have close contact with cattle, because they carry the bacteria in their nose and throat.
You can also become infected with the bacteria after drinking unpasteurized milk or eating food made with unpasteurized milk.

Symptoms:

Common symptoms of diphtheria are weakness, sore throat, fever, and swollen glands in the neck. Two – three days into the onset of symptoms, a thick coating can build up in the nose or throat, making it very difficult to breathe and swallow. This coating is caused by the toxin that the bacteria produces. This toxin can also be absorbed into the blood stream and cause damage to the heart, kidneys, and nerves.

Prevention and Treatment:

The best way to prevent diphtheria is to get vaccinated. The diphtheria vaccination is part of the childhood immunization schedule. Teens should also get a booster dose around 11 or 12 years of age. Adults should be vaccinated against diphtheria every 10 years, since the vaccine's protection fades over time.

If diphtheria is suspected, immediately go to a hospital. You will be admitted to an isolation ward to stop the infection spreading to other people.
A diphtheria infection is treated using two types of medication:
• Antibiotics to kill the diphtheria bacteria
• Antitoxins to neutralise the effects of the toxin produced by the bacteria
Most people who have diphtheria require a 14-day course of antibiotics. After this time, if diphtheria bacteria are still present, you may need to continue taking antibiotics for another 10 days. **Once you have completed the treatment, you won't be infectious to other people.**

More Info: https://wwwnc.cdc.gov/travel/diseases/diphtheria
http://www.who.int/immunization/topics/diphtheria/en/index1.html

Ebola

A rare & deadly disease, often fatal but a very low risk to travelers

Ebola, also known as *Ebola hemorrhagic fever*, is a rare disease with an average EVD fatality rate is around 50%. Fatality rates have varied from 25% to 90% in past outbreaks based on the speed of initial treatment (before the collapse of critical bodily functions) and overall health of the infected person before contracting the virus. Ebola tends to most often kill those who already are experiencing weakened immune systems.
The CDC has travel warnings for many countries in West and Central Africa. During outbreaks, the disease can spread quickly in healthcare settings (a clinic or a hospital), which is what happened in West Africa.

Aka: **EVD, EHF, Ebola hemorrhagic fever**

Where is it found?

SENEGAL NIGERIA
SIERRA LEONE
GUINEA LIBERIA
ACROSS AFRICA

Transmission:

Ebola spreads through direct contact (as well as the eyes, nose, and mouth) with blood or body fluids (including vomit and urine) of a person sick with Ebola, or objects (like needles and syringes) that have been contaminated with body fluids from a person with Ebola, or the body of a person who died from Ebola. Ebola is not spread through air or water.

Health-care workers have been infected while treating EVD patients. African burial ceremonies have also contributed to the spread. There is no evidence that mosquitoes and other bugs can spread the disease. Scientists have yet to determine if the disease can be sexually transmitted. Ebola can also be spread from infected animals to humans – Only a few species of mammals (e.g., humans, bats, monkeys, and apes) have shown the ability to become infected with and spread Ebola virus.

Symptoms:

The incubation period, that is, the time interval from infection to onset of symptoms is 2 to 21 days. Humans are not infectious until they develop symptoms. First symptoms are the sudden onset of fever fatigue, muscle pain, headache and sore throat. Followed by vomiting, diarrhea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding.
It can be difficult to clinically distinguish EVD from other infectious diseases such as malaria, typhoid fever and meningitis.

Prevention and Treatment:

There is still no FDA-approved vaccine available for Ebola, although they are in testing stage. If in an area affected by an Ebola outbreak, practice careful hygiene. Avoid all contact with other people's blood and body fluids. Do not handle items that have come in contact with an infected person's blood or body fluids (such as clothes, bedding, needles, and medical equipment). Immediate treatment, rehydration with oral or intravenous fluids, and treating specific symptoms, improves survival.

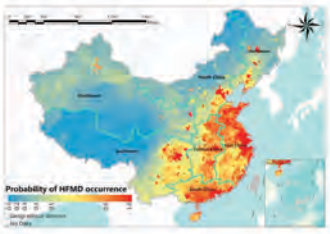
More Info:
http://www.who.int/mediacentre/factsheets/fs103/en/
https://www.cdc.gov/vhf/ebola/index.html

Notes:

First in the Democratic Republic of the Congo (at Ebola River). Since then, cases reported in West Africa, Zaire, Uganda and Sudan.

Aka: **HFMD, Coxsackievirus A16, Enterovirus**

Where is it found?



Notes:

HFMD is highly contagious and occurs in all areas of the world. Outbreaks have been occurring in Asia since 1997.

Hand Foot and Mouth Disease

There is no vaccine to protect against the virus, but it is not serious

Hand, foot, and mouth disease is a common viral illness that usually affects infants and children under 5. It sometimes occurs in adults. It is often confused with *foot-and-mouth disease*, which is found in cattle, sheep, and swine. (The two diseases are caused by different viruses and are not related – Humans do not get the animal disease, and animals do not get the human disease.) The virus is named *coxsackievirus a16* and *enterovirus 71*. The doctor might refer to it as *the coxsackie virus*.

Hand, foot, and mouth disease is found all over the world. In countries with temperate climates, cases occur more often from spring to fall. Since 1997, large outbreaks have been reported mostly in children in East and Southeast Asia. On April 13, 2015, the CDC released a travel health warning for an outbreak of hand, foot, and mouth disease in Singapore.

Transmission:

The disease is transmitted person-to-person, or object-to-person. It can also be airborne, if, for example, a person with the disease coughs on someone else. A person is most contagious the first seven days of illness, but can be contagious for days or weeks after the symptoms go away.

HFMD can spread through spit or poop. The best way to prevent infection is to wash hands thoroughly. That also applies after you change a diaper or wipe a runny nose.

Symptoms:

Symptoms are a fever, ulcer-like or blister-like sores in the mouth, and skin rash/blisters. The first sign is usually a fever and poor appetite. Mouth sores usually develop one to two days after the fever, and a rash often appears around the same time. The rash is usually on the palms of hands and the soles of the feet, but it can also appear on knees, elbows, buttocks, or genital area. Not everyone gets all of the symptoms. They may only get mouth sores or a rash. While it's not pleasant, it also isn't serious.

Prevention and Treatment:

There is no specific treatment or vaccine to protect against the virus. Washing hands is important, especially after changing diapers and using the toilet. Clean and disinfect frequently touched surfaces, including toys. Avoid close contact with someone who has HFMD, or sharing eating utensils or cups. Hand-foot-and-mouth disease should go away on its own after 7 to10 days. Administer over-the-counter medications to relieve pain and fever, such as ibuprofen or acetaminophen.

More Info:

https://www.cdc.gov/hand-foot-mouth/index.html
https://www.webmd.com/children/guide/hand-foot-mouth-disease#1
https://en.wikipedia.org/wiki/Hand,_foot,_and_mouth_disease

Hemorrhagic Fever

From relatively mild illness to severe, life-threatening epidemics

In general, the term *"viral hemorrhagic fever"* is used to describe a severe multisystem syndrome (*multisystem* because multiple organ systems in the body are affected), sometimes associated with uncontrolled bleeding due to specific viruses. Hemorrhagic fever covers a group of illnesses caused by several distinct families of viruses that include the *Ebola* and *Marburg*, *Crimean-Congo* and *Rift Valley Fever*, *Lassa Fever*, and *Dengue* and *Yellow Fever* viruses. VHFs have common features: They affect many organs, cause severe bleeding, and/or affect the body's ability to regulate itself.

VHFs are found around the world. Specific diseases are usually limited to areas where the animals/humans that carry them live. ***Because of the large range of VHF viruses, we encourage further research into specific viruses based on your destination and risk exposure.***

Aka: **VHF, viral hemorrhgic fevers RNA viruses**

Where is it found?

Rift Valley Fever Distribution

Transmission:

Some viruses that cause hemorrhagic fever can spread from one person to another. Ebola, Marburg, Lassa and Crimean-Congo hemorrhagic fever are examples. Others are spread by tick bite, mosquito, rodents or exposure to bodily fluids of those infected.

Symptoms:

It is important to treat lesser symptoms seriously and see a doctor if they persist/worsen. Signs and symptoms of VHFs include (by definition) fever and bleeding. The severity of symptoms varies with the type of virus. Initial signs and symptoms often include marked fever, fatigue, dizziness, muscle aches, loss of strength, and exhaustion. These symptoms are often accompanied by internal or abnormal bleeding or small polka-dot hemorrhages under the skin; however, the bleeding is itself rarely life-threatening. Severely ill patient cases may show shock, nervous system malfunction, coma, delirium, and seizures. Some types of VHF are associated with kidney failure.

Prevention and Treatment:

With the exception of the Yellow Fever vaccine neither vaccines nor experimental vaccines are readily available to protect against these diseases. Therefore, prevention efforts must concentrate on avoiding contact with any specific host species based on location/transmission type. If prevention methods fail and a case of VHF does occur, efforts should focus on preventing further transmission from person to person.
Because many of the hosts that carry VHF viruses are rodents or mosquitos/pests, practice disease prevention. Care during the use of, disinfection, and disposal of instruments and equipment used in treating or caring for patients with VHF, such as needles and thermometers is critical.

More Info: https://medlineplus.gov/hemorrhagicfevers.html
https://www.cdc.gov/vhf/virus-families/index.html
http://www.who.int/topics/haemorrhagic_fevers_viral/en/

Notes:

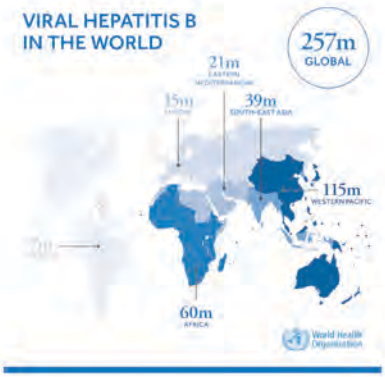
Outbreaks in West and Central Africa, Egypt, Saudi Arabia, up into Eurasia, Turkey, Russia.

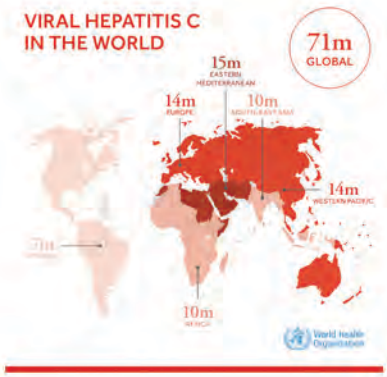
Hepatitis

Aka: **Hepatitis A,B,C,D,E viral hepatitis, HAV, HBV, HCV, HDV, HEV.**

Where is it found?

WORLDWIDE
WESTERN PACIFIC
AFRICA
ASIA
CENTRAL ASIA





Notes:

Worldwide, with cyclic recurrences in not vaccinated. West pacific, asia, Africa,Western sub-Saharan Africa, and central Asia.

Hepatitis kills more than HIV, tuberculosis, and malaria combined

Hepatitis deaths are caused by five distinct viruses (Hepatitis A–E) with different routes of transmission. Death can also occur decades after infection, and people die with hepatitis-related liver cancer and *cirrhosis*. While deaths from *tuberculosis* and *HIV* have been declining, deaths from hepatitis are increasing. The most common types, Hepatitis A, Hepatitis B, and Hepatitis C, have different symptoms and treatments.

Transmission:

Hepatitis A is transferred primarily through water and food, and is easily contacted. You can get it in a health care facility where needles or IV solution bottles are reused or from someone else's blood or fluids. B is considered a sexually transmitted disease. Unlike hepatitis B and C, hepatitis A infection does not cause chronic liver disease and is rarely fatal, but it can cause debilitating symptoms and fulminant hepatitis (acute liver failure), which is often fatal. Hepatitis E is common in many parts of the world. It is transmitted from ingestion of fecal matter in microscopic amounts, and is usually associated with contaminated water supply in countries with poor sanitation. There is currently no FDA-approved vaccine for Hepatitis E.

Symptoms:

It's possible you might have hepatitis and not realize it. Sometimes there aren't any symptoms. Or you might get a wrong diagnosis because it shares some of the same signs as the flu. The most common symptoms of hepatitis are: Loss of appetite, fatigue, mild fever, muscle or joint aches, nausea and vomiting, and pain in your belly. Some people have other issues, such as: dark urine, light-colored stools, jaundice (yellowing of the skin and whites of the eyes), itchy feeling, mental changes, and internal bleeding. Always check with your doctor if you have any of the signs of hepatitis. If you don't get treatment it can lead to cirrhosis.

Prevention and Treatment:

There are safe and effective vaccines that can prevent hepatitis A and B (but not for types C, D, or E). If you are not sure about prior vaccination you should consult your doctor before traveling overseas. You should get two shots, 6 months apart for complete protection. If you need the vaccine because of upcoming travel, get it at least 1 month before you go. Ask your doctor about vaccines that combine hepatitis A and B.

Hepatitis E usually clears in 4-6 weeks so there is no specific treatment. However, pregnant women infected with hepatitis E are at considerable risk of mortality from this infection.

More Info:
http://www.who.int/campaigns/hepatitis-day/2016/en/
https://wwwnc.cdc.gov/travel/diseases/hepatitis-a
https://wwwnc.cdc.gov/travel/diseases/hepatitis-b

Aka: **flu, seasonal flu, influenza A & B**

Where is it found?

Influenza

Your risk depends on the time of year and your destination

There are many different influenza A viruses; some are found in humans and others in animals such as *Avian flu* (in birds and poultry).

Transmission:

From person to person, spread via sneezing or coughing, as well as surfaces infected by an infected person's mucus or saliva.

Symptoms:

Influenza can cause mild to severe illness, and at times can lead to death. The flu is different from a cold. The flu usually comes on suddenly. People who have the flu often feel some or all of these symptoms: fever or feeling feverish/chills, cough, sore throat, runny or stuffy nose, muscle or body aches, headaches, and fatigue (tiredness). Some people may have vomiting and diarrhea, though this is more common in children than adults. Most people who get influenza will recover in a few days to less than two weeks, but some people will develop complications (such as pneumonia) as a result of the flu. It's important to note that not everyone with flu will have a fever.

Prevention and Treatment:

Flu vaccine is one of the best travel deals you will find. Influenza is constantly adapting and influenza is the one infection every traveler is likely to encounter from the moment they get on the plane. Plus, you usually do not have time to be sick when traveling. People who have not gotten a flu vaccine this year and are traveling to parts of the world where influenza is active should get the flu vaccine to protect themselves during their trip.

People should get vaccinated at least 2 weeks before travel because it takes 2 weeks for vaccine immunity to develop after vaccination. *Keep in mind that after June, flu vaccines are usually not available in the U.S. until the influenza vaccine for the next season is produced. So plan ahead.*

Most people infected with flu will recover without needing medical care. However, if you have severe illness or you are at high risk for flu complications, seek medical care. There are prescription medications called *"antiviral drugs"* that can be used to treat influenza illness. Antiviral drugs are prescription medicines (pills, liquid, an inhaled powder, or an intravenous solution) that fight against the flu in your body. Antiviral drugs are not sold over-the-counter. You can only get them if you have a prescription from your doctor or health care provider. **Antiviral drugs are different from antibiotics**, which fight against bacterial infections. Always call your international health insurance provider to make sure your prescriptions will be covered.

More Info: https://www.cdc.gov/flu/travelers/travelersfacts.htm
http://www.who.int/ith/vaccines/seasonal_influenza/en/
https://www.webmd.com/cold-and-flu/qa/what-is-the-flu

Notes:

Worldwide. Travelers face additional risk due to contracting new strains

The flu season lasts from October through May in the Northern Hemisphere and from April through September in the Southern Hemisphere. In tropical countries, flu can be spread year-round.

Aka: **JE virus (related to West Nile & St. Louis encephalitis)**

Where is it found?

SUBTROPICAL WESTERN PACIFIC ASIA

Notes:

Asia, In temperate areas, JE virus transmission is seasonal. Usually peaks in the summer and fall. In the subtropics/tropics, transmission can occur year-round

Japanese Encephalitis

A mosquito-transmitted virus that causes inflammation of the brain

Japanese Encephalitis (JE) is a potentially severe disease. JE is caused by a virus spread by infected mosquitoes in Asia and the Western Pacific. JE virus is one of a group of mosquito-transmitted viruses related to *Dengue*, *Yellow Fever* and *West Nile Virus*, and is spread by mosquitoes, that can cause inflammation of the brain (encephalitis).

For most travelers the risk is extremely low but depends on where you are going, the time of year, your planned activities, and the length of the trip. (You are at higher risk if you are traveling to rural areas, will be outside frequently at dawn or dusk, or will be living/traveling in Asia for a long period of time.)

Transmission:

Transmitted by the bite of infected mosquitoes in certain areas of the world, particularly Asia, and tends to be more actively spread during the summer travel season.

Symptoms:

It takes 5 to 15 days after the bite of an infected mosquito to develop symptoms. Most people who are infected develop mild symptoms or no symptoms at all. In people who develop severe disease, initial symptoms include fever, chills, headache, fatigue, nausea and vomiting. The disease can progress to inflammation of the brain (*encephalitis*) and is often accompanied by seizures. Coma and paralysis occur in some cases.

Prevention and Treatment:

See your doctor at least 6 weeks before your trip: The JE vaccine is given in 2 doses that are spaced over a month. You should get the last dose at least 10 days before your trip. It may not be covered under insurance and is expensive. However, you may want to get it if living in rural areas continuously for six months or more, or if you are a foreign aid worker.

All travelers to Japanese Encephalitis (JE) endemic areas should take precautions to avoid mosquito bites to reduce the risk for JE and other mosquito-borne infectious diseases. Cover exposed skin by wearing long-sleeved shirts, long pants, and hats. Consider pre-treated clothing. Use insect repellent (with DEET) as directed. Stay in accommodations with air conditioning, window screens, and bed nets.

There is no specific treatment. Severe illnesses are treated by supportive therapy which may include hospitalization, respiratory support, and intravenous fluids. Take acetaminophen, rather than pain relievers that contain aspirin and ibuprofen (Advil).

More Info:
https://www.webmd.com/brain/encephalitis-japanese
https://wwwnc.cdc.gov/travel/diseases/japanese-encephalitis

Leishmaniasis

The second-largest parasitic killer in the world (after malaria)

This is a parasitic disease spread by sand flies. *Visceral Leishmaniasis* is the most severe form. Without proper diagnosis and treatment, it has a high fatality rate. This disease is the second-largest parasitic killer in the world (after *malaria*), responsible for an estimated 200,000 to 400,000 infections each year worldwide. Leishmaniasis is found in parts of more than 90 countries, including the tropics and subtropics. There are several different forms of leishmaniasis in people. The most common forms are *Cutaneous Leishmaniasis*. *Visceral leishmaniasis* is the second most common form.

Aka: **Visceral leishmaniasis (VL), kala-azar, black or dumdum fever**

Where is it found?

SOUTH AMERICA
EUROPE MEXICO
MIDDLE EAST

Notes:

Two species cause the visceral form of the disease in East Africa & Indian subcontinent; and the other in Europe, North Africa, & Latin America.

Transmission:

Spread by the bite of sand flies. The sand flies that transmit the parasite are only about one third the size of typical mosquitoes, or even smaller. Sand flies become infected by sucking blood from an infected animal or person. Sand flies usually are most active in twilight, evening, and nighttime hours (from dusk to dawn). Although sand flies are less active during the hottest time of the day, they may bite if they are disturbed (for example, if a person brushes up against the trunk of a tree or other site where sand flies are resting).

Some types (species) of Leishmania parasites also may be spread via contaminated needles (needle sharing) or blood transfusions. Congenital transmission (from a pregnant woman to her baby) has been reported.

Symptoms:

Cutaneous Leishmaniasis is characterized by skin sores. Some people have a *silent infection*, without any symptoms or signs. The sores may start out as papules (bumps) or nodules (lumps) and may end up as ulcers (like a volcano, with a raised edge and central crater). The sores usually are painless (but can also be painful). Some people have swollen glands (for example, under the arm, if the sores are on the arm or hand).

Visceral Leishmaniasis attacks the inside of the body, rather than the outside. Some people have a silent infection, without any symptoms or signs. People who develop clinical evidence of infection usually have fever, weight loss, swelling of the spleen and liver, and abnormal blood tests. People may have low blood counts, including a low red blood cell count, a low white blood cell count, and a low platelet count.

Prevention and Treatment:

There is no vaccination. Preventive measures include lessening contact with dusk and nighttime biters. Insect repellent with DEET is the primary method of avoidance.

More Info:
http://www.who.int/leishmaniasis/learn_about_the_disease/en/
https://www.cdc.gov/parasites/leishmaniasis/index.html
https://en.wikipedia.org/wiki/Leishmaniasis

Leptospirosis

A spiral bacteria spread via water, damp soil, vegetation and mud

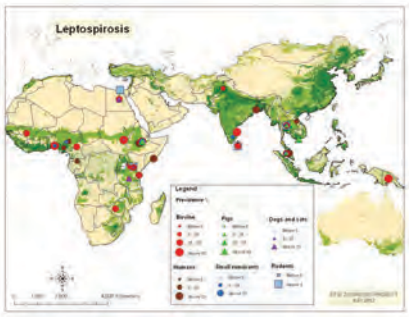
Leptospirosis is an infection caused by corkscrew-shaped bacteria called *Leptospira*. Signs and symptoms can range from none to mild such as headaches, muscle pains, and fevers; to severe with bleeding from the lungs or meningitis.

Up to 13 different genetic types of Leptospira may cause disease in humans. It is estimated that seven to ten million people are infected by Leptospirosis a year.

Aka: **Lepto, 7-day fever, Weil's Disease, harvest fever, field fever, cane-field fever, mild fever, rat catcher's yellows, black jaundice"and in Japan, "nanukayami fever"**

Where is it found?

WORLDWIDE
SUB-TROPICS
TROPICS
SOUTH EUROPE



Transmission

The bacteria that cause Leptospirosis are spread through the urine of infected animals, which can get into water or soil and can survive there for weeks to months.

Many different kinds of wild and domestic animals carry the bacterium. The most common animals that spread the disease are rodents, and contracted when animal urine comes into contact with breaks in the skin, eyes, mouth, or nose. Animals which are infected may have no symptoms, mild symptoms, or severe symptoms. In the developing world the disease most commonly occurs in farmers and in poor people who live in slums. Outbreaks of leptospirosis are usually caused by exposure to contaminated water, such as floodwaters. Person to person transmission is rare.

Symptoms

Some infected persons have no symptoms at all. The time between a person's exposure to a contaminated source and becoming sick is 2 days to 4 weeks. Illness usually begins abruptly with fever and other symptoms. Leptospirosis may occur in two phases: 1.) After the first phase (with fever, chills, headache, muscle aches, vomiting, or diarrhea) the patient may recover for a time then become ill again. 2.) The second phase is more severe; the person may have kidney or liver failure or meningitis or bleeding into the lungs and called *Weil's disease* or *severe pulmonary hemorrhage syndrome* based on symptoms. The illness lasts from a few days to 3 weeks or longer. Without treatment, recovery may take several months.

Prevention and Treatment:

Penicillin, Amoxicillin, and Doxycycline are used for treatment. Intravenous antibiotics may be required for persons with more severe symptoms. The risk of acquiring leptospirosis can be greatly reduced by not swimming or wading in water, esp. after flooding/rains. Protective clothing or footwear should always be worn by those exposed to contaminated water or soil.

More Info: https://en.wikipedia.org/wiki/Leptospirosis
https://www.cdc.gov/leptospirosis/index.html
http://www.who.int/topics/leptospirosis/en/

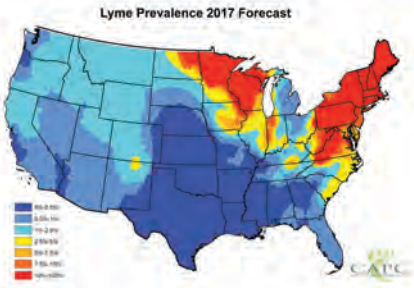
Notes:

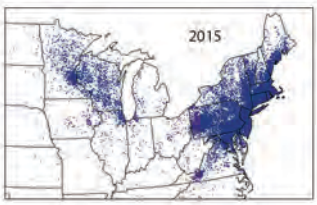
A common parasitic disease found in 80 nations especially parts of the tropics, subtropics, and southern Europe, as well as worldwide.

Aka: **Lyme borreliosis**

Where is it found?

NORTH AMERICA





Notes:

North America. The highest number of confirmed Lyme disease cases were reported from New Jersey, Pennsylvania, Wisconsin, New York, Massachusetts, Connecticut, Minnesota, Maryland, Virginia, New Hampshire, Delaware, and Maine.

Lyme Disease

Most infections occur in the Northeast and Mid-Atantic states

Lyme Disease is caused by the bacterium *Borrelia burgdorferi* and is diagnosed based on symptoms, physical findings (e.g., rash), and the possibility of exposure to infected ticks. The CDC estimates about 329,000 cases of Lyme Disease occur each year in the USA.

Transmission

Lyme is transmitted to humans through the bite of infected blacklegged ticks. Ticks can attach to any part of the human body but are often found in hard-to-see areas. In most cases, the tick must be attached for 36 to 48 hours or more before the Lyme disease bacterium can be transmitted. Most humans are infected through the bites of immature ticks called **nymphs.** Nymphs are tiny (less than 2 mm) and difficult to see; they feed during the spring and summer months. Adult ticks can also transmit Lyme disease bacteria, but they are larger and are likely to be discovered and removed.

Symptoms

Early signs and symptoms of Lyme Disease include fever, chills, headache, fatigue, muscle and joint pain, and swollen lymph nodes, the CDC says. Diagnosing Lyme can be difficult, because many people who actually have Lyme may be misdiagnosed with other conditions.
In about 70% to 80% of infections, a rash is seen. The rash can expand to about 12 inches across. It may feel warm to the touch, but rarely itches or is painful, and it can appear on any part of the body. Other common symptoms are muscle and ache joints and swollen lymph nodes. If left untreated, you may experience severe joint pain and swelling, particularly in the knees, loss of muscle, Heart palpitation or an irregular heartbeat and shooting pains/numbness/tingling in the hands and feet.

Prevention and Treatment:

Steps to prevent Lyme Disease include using insect repellent, removing ticks promptly, applying pesticides, and reducing tick habitat. Dogs can also pick up ticks and can get sick. About 10% of dogs with Lyme Disease will become ill. They are also carriers of the ticks back into your home. We recommend using a tick control product on your pet.

A vaccine is available for those living in endemic areas.
Most cases of Lyme Disease can be treated successfully with a few weeks of antibiotics. The antibiotics amoxicillin and tetracycline are used, usually for 10-21 days, says CDC epidemiologist Paul Mead, MD. Other antibiotics that may be used include cefuroxime and doxycycline. If you're treated early in the infection stage, a full recovery is likely.

More Info:
https://www.cdc.gov/lyme/index.html
https://www.webmd.com/rheumatoid-arthritis/arthritis-lyme-disease
https://www.lymedisease.org/lyme-basics/lyme-disease/about-lyme/

Malaria

Malaria is still extremely dangerous. It has a 4 – 20% mortality rate

Malaria is still a killer. Over 30,000 American and European travelers are infected each year. It has a 4%–20% mortality rate. There are three types of malaria, often with *chloroquine resistance*.

According to a World Health Organization report in 2015, there were 214 million cases of malaria worldwide. This resulted in an estimated 438,000 deaths. In Sub-Saharan Africa, over 75% of cases were due to *P. falciparum*, whereas in most other malarial countries, less virulent species predominate. Almost every malarial death is caused by *P. falciparum*.

Transmission

Malaria is a mosquito-borne disease caused by being bitten. All of the important species bite between dusk and dawn. In many places, transmission is seasonal, with the peak during and just after the rainy season. Because the malaria parasite is found in red blood cells of an infected person, malaria can also be transmitted through blood transfusion, organ transplant, or the shared use of needles or syringes contaminated with blood. Malaria is not spread person to person and cannot be sexually transmitted. You can't get it through contact with an infected person.

Symptoms

Usually appear 10–15 days after the infective mosquito bite – Fever, headache, and chills– They may be mild and difficult to recognize as malaria. If not treated within 24 hours, P. falciparum malaria can progress to severe illness, often leading to death. A classic malaria attack consists of a cold stage (sensation of cold, shivering). a hot stage (fever, headaches, vomiting; seizures in young children), and finally a sweating stage (sweats, return to normal temperature, tiredness).

Prevention and Treatment:

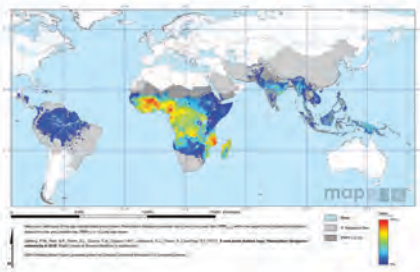
DEET from 17 – 35% should be sprayed directly on the skin. Permethrin-impregnated mosquito netting and clothing can be purchased. **Avoiding, or reducing, activity after dusk helps.** Mosquito coils are effective. and is spraying rooms an hour before bedtime. Long-sleeved shirts/pants, light in color also help. Mosquitoes in certain countries have built up a resistance against certain drugs, so make sure to check the CDC and/or talk to the doctor about which anti-malarial drug you need to take based on your destination - https://www.cdc.gov/malaria/travelers/country_table/a.html
It is extremely important to continue taking tablets as directed after you have returned home, to cover the incubation period of the disease from 10 days to 4 weeks. Malaria vaccines are being worked on.

More Info:
http://www.who.int/malaria/en/
https://www.cdc.gov/malaria/travelers/
http://malaria.emedtv.com/malaria/malaria-incubation-period.html

Aka: **Plasmodium falciparum (most life threatening)**
Plasmodium vivax

Where is it found?

SUB-SAHARA AFRICA
TROPICS | ASIA
SOUTHEAST ASIA
LATIN AMERICA



Notes:

Two types cause the most serious forms of the disease in Sub-Saharan Africa & Southeast Asia, Asia and Latin America.

Measles

No other vaccine-preventable disease causes as many deaths

Measles affects about 20 million people a year, primarily in the developing areas of Africa and Asia. In populations with high levels of malnutrition and a lack of adequate healthcare, mortality can be as high as 10%. In cases with complications, the rate may rise to 20–30%. Measles is one of the leading causes of death among young children even though a safe and cost-effective vaccine is available. Measles is still common in many parts of the world, including some countries in Europe, Asia, the Pacific, and Africa. Worldwide, an estimated 20 million people get measles and 146,000 people, mostly children, die from the disease each year.

- In 2015, there were 134 200 measles deaths globally – about 367 deaths every day or 15 deaths every hour.

Transmission

Measles is so contagious that if one person has it, 90% of the people close to that person who are not immune will also become infected. This highly contagious virus lives in the nose and throat and mucus of an infected person. It spreads to others through coughing and sneezing. Measles virus can live for up to two hours outside the body when an infected person coughs or sneezes. If other people breathe the contaminated air or touch the infected surface, then touch their eyes, noses, or mouths, they can become infected.

Symptoms

Measles symptoms generally appear about 7-14 days after a person is infected. Measles typically begins with high fever, cough, runny nose, and red, watery eyes. Two-three days after symptoms begin, tiny white spots may appear inside the mouth. Measles is highly contagious virus and spreads through the air through coughing and sneezing.

Prevention and Treatment:

The best prevention for measles is vaccination. It's possible, but unlikely for you to catch the measles if vaccinated as a child.If you are not sure of previous measles vaccinaton, receive two doses of MMR vaccine before traveling separated by at least 28 days. The CDC has Level 1 travel warnings up for quite a few countries, so make sure to check the website.

There is no specific treatment for measles. Stay well-hydrated. Acetaminophen (Tylenol, others) or Ibuprofen (Advil, Motrin, others) can help bring the fever down. Giving vitamin A may lessen the severity of the measles. Give as a large dose of 200,000 international units (IU) for two days.

More Info:
https://www.mayoclinic.org/diseases-conditions/measles
https://www.cdc.gov/measles/travelers.html
http://www.who.int/ith/vaccines/measles/en/
http://www.immunize.org/catg.d/p4209.pdf

Incl: **Rubella, German measles, 3-day measles**

Where is it found?

Notes:

Developing nations, areas where vaccination has not been universal in Africa, Asia, SE Asia, Europe and the Pacific Islands.

Meningitis

Can cause severe brain damage/is fatal in 50% of cases if untreated

Meningitis is an inflammation of the membranes surrounding your brain and spinal cord. Even when the disease is diagnosed early and adequate treatment is started, 5% to 10% of patients die, typically within 24 to 48 hours after the onset of symptoms.

Several different bacteria can cause meningitis. *Neisseria meningitidis* is the one with the potential to cause large epidemics. The most common in the U.S. is *pneumococcal meningitis*. *Meningococcal meningitis* is highly contagious and mainly affects teenagers and young adults. There are also multiple viruses that can cause meningitis. Usually *Viral meningitis* is mild and clears up on its own. *Fungal meningitis* is fairly uncommon and is not contagious from person to person.

Aka: **meningococcal disease, bacterial meningitis, Hib meningitis Pneumococcus, Meningococcus**

Where is it found?

Transmission

The bacteria are transmitted from person-to-person through sneezing or coughing. Close and prolonged contact – such as kissing or living in close quarters (sharing eating or drinking utensils) with an infected person – can cause someone to contract the disease. The average incubation period is 4 days, but can range between 2 and 10 days.

Symptoms

The main symptoms are headache, fever, and a stiff neck, therefore, it's easy to mistake the early signs of meningitis for the flu. Usually, though, the fever will come on suddenly, and be very high. Headaches will also be very severe, and feels different from a normal headache. You may experience vomiting and nausea. Other symptoms include, confusion, seizures, sensitivity to light, and a lack of interest in eating and eating. In some cases (meningococcal meningitis), there may be a rash.

Prevention and Treatment:

There are six vaccines. For most people, only one dose is recommended before travel. Children may need a series – Please consult with your doctor. 7–10 days are required after vaccination before travel.

Meningococcal disease should always be viewed as a medical emergency. Admission to a hospital or health clinic is necessary, and penicillin, ampicillin, chloramphenicol or ceftriaxone administered as soon as possible. Because meningitis is passed person to person, the most important prevention is basic cleanliness. Wash your hands. If you know someone who has had meningitis, don't share drinks, food, eating utensils, etc., with them. Try to avoid being in enclosed areas with those sick or coughing.

More Info:
http://www.who.int/csr/disease/meningococcal/en/
https://wwwnc.cdc.gov/travel/yellowbook/2018/infectious-diseases-related-to-travel/meningococcal-disease
https://www.mayoclinic.org/diseases-conditions/meningitis/

Notes:

Much higher risk if traveling to or living in the meningitis belt in sub-Saharan Africa during the dry season (December through June)

Middle East Respiratory Syndrome

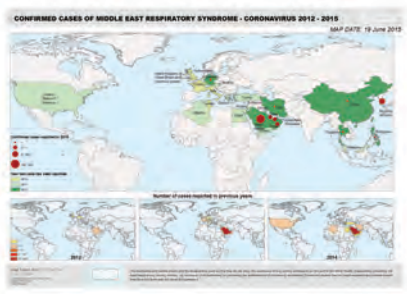
MERS kills about one-third of infected patients

Middle East Respiratory Syndrome (MERS) is an illness caused by a *coronavirus* called *MERS-CoV* found in the Middle East and travelers who have spent time in the Middle East. The CDC issued a level 2 travel health warning for the Arabian Peninsula/Middle East.

MERS affects the lungs and your breathing. Most MERS patients developed severe acute respiratory illness although not all. MERS patients have ranged in age from younger than 1 to 99 years old.

Aka: **MERS-CoV**
Middle East Respiratory Syndrome

Where is it found?



Transmission

Mostly spread human-to-human. However, we do not know exactly how people become infected with the virus. Evidence of transmission to humans from direct contact with camels (which do not exhibit symptoms due to carrying the virus) has been steadily increasing. Most instances of person-to-person spread have occurred in healthcare workers and other close contacts are due to coughing or exposure to those infected.

Symptoms

Most people confirmed to have MERS-CoV infection have had *severe acute respiratory illness* with symptoms of: fever, cough, shortness of breath. *Pneumonia* is also common for MERS.
Incubation is usually about 5 or 6 days, but can range from 2 to 14 days.
Some people also had gastrointestinal symptoms, diarrhea and nausea/vomiting. Severe complications include pneumonia and kidney failure.

Most of the people who died had an underlying medical condition. Some infected people had mild symptoms (such as cold-like symptoms) or no symptoms at all; they recovered.

Prevention and Treatment:

Currently, there is no vaccine to prevent MERS-CoV infection. Individuals with MERS often receive medical care to help relieve symptoms. Those with impaired immune systems face a higher risk. Do your best to strengthen your immune system, and only travel if in good health.
Protect yourself by taking everyday preventive actions, such as wash your hands often with soap and water for 20 seconds, and help children do the same. Use an alcohol-based hand sanitizer. Try to avoid those coughing/sneezing if in affected regions or airplanes transiting through the Gulf. Avoid touching your eyes, nose and mouth. Try to avoid personal contact (such as kissing, or sharing cups or eating utensils), with sick people. Clean and disinfect frequently touched surfaces such as airplane seat trays and doorknobs.

Notes:

Nearly 2,000 MERS cases have been identified in multiple countries in the Arabian Peninsula, incl. travelers to the region.

More Info:
https://www.cdc.gov/coronavirus/mers/index.html
https://wwwnc.cdc.gov/travel/notices/alert/coronavirus-saudi-arabia-qatar
http://www.who.int/emergencies/mers-cov/en/

Parasitic Disease

A broad topic requiring additonal research online to stay healthy

Different types of parasites cause disease, all with varied symptoms, but usually organized into three main classes. They cause many of the diseases experienced by people overseas. A serious infection can develop from just one single organism that will multiply inside of you.

A long list of the most common parasites can be seen at:
https://www.cdc.gov/parasites/az/
https://www.cdc.gov/parasites/travelers.html
The *neglected tropical diseases* that affect more than 1 billion people—one-sixth of the world's population are also at
https://www.cdc.gov/globalhealth/ntd/

Some are able to penetrate intact skin (without lacerations) by swimming in water that is contaminated, or ingested through poorly cooked food/eating with unwashed hands. Others by simple touching.

Transmission

Parasites normally enter the body through the skin or mouth. Pets abroad can lead to parasite infestation. Clean water sources are essential to prevention. Other risks are walking barefeet, inadequate disposal of feces, lack of hygiene, close contact with someone carrying specific parasites, and eating undercooked foods, or unwashed fruits and vegetables.
You can also get parasites by mosquito bite, bed bugs, or fleas.

Symptoms

Multiple. Since they can vary in seriousness and the need for immediate treatment when detected - Anything causing serious sickness or lasting more than three days should receive a doctor's assessment/treatment.

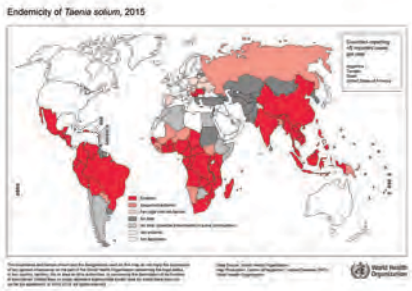
Prevention and Treatment:

Avoidance, when possible. Most parasitic infections can usually be treated with drugs that should be prescribed locally as some parasites have become resistant to antibiotics. Call your medical insurance provider (toll-free) to make sure prescriptions will be covered before treatment. **Since the topic is broad, we encourage you to research specific parasitic diseases common to your destination.** Do not attempt to self-treat/self-medicate. Practice safe water and food preparation: *"Cook it, boil it, peel it, or forget it."* Meticulous grooming, and cleaning of bed linen with aerosol insecticides. Washing with infected water will spread, rather than eliminate parasites. Avoid contact with feces and toilets. Avoid swimming except in chlorinated pools. Avoid animals/pets that roam outdoors.

More Info:
https://en.wikipedia.org/wiki/Parasitic_disease
https://www.cdc.gov/parasites/about.html
https://www.merckmanuals.com/home/infections/parasitic-infections/overview-of-parasitic-infections

Aka: **giardiasis, eColi, hookworm, worms, ascaris, bed bugs, scabies, lice, waterborn diseases, diarrhea,...**

Where are they found?



Notes:

Worldwide largely due to poor water sources and poor sanitation, esp. in tropics/subtropics

Polio

Still found in many parts of the world – Check CDC before travel

Polio now survives only among the world's poorest and most marginalized communities, where it primarily affects children. The three wild strains cannot survive long outside the body meaning that it is possible to stop/eradicate polio. One dose of the vaccine costs between 10-14 cents.

Dangers to health workers/aid workers is one reason countries still experience polio. In Pakistan and Afghanistan, the Taliban have issued fatwas against polio vaccination fearing western attempts at sterilization.
Polio remains a crippling and potentially deadly infectious disease. The virus spreads from person to person invading an infected person's brain and spinal cord, causing paralysis.

Endemic to Pakistan, Afghanistan and Nigeria. Outbreak countries experiencing re-infection are Syria and Democratic Republic of Congo (DRC).

You may need proof of your polio vaccination after traveling to one of the countries listed above. You should request a yellow card called an *International Certificate of Vaccination or Prophylaxis (IVCP)* that states when you were vaccinated.

Transmission

Polio is spread through person-to-person contact. Polio can also be spread by drinking water or other drinks or eating raw or undercooked food that are contaminated with the feces of an infected person. The CDC has released level 2 travel alerts for polio in multiple countries, so before you travel, check the alert page to see if your country is included.

Symptoms

Most people who are infected will not have any visible symptoms. About 25% of people will have flu-like symptoms that may include sore throat, fever, tiredness, nausea, headache, and stomach pain. These symptoms usually last 2-5 days and go away on their own. An even smaller portion of people will develop meningitis or paralysis.

Prevention and Treatment:

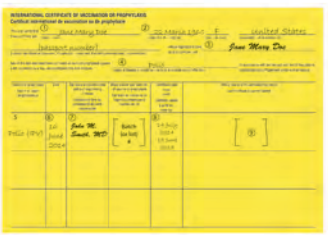
Everyone should be up-to-date with their routine polio vaccination series. In addition, if traveling to a nation of increased risk, AND you were vaccinated as a child, a one-time adult *polio vaccine booster dose* (IPV) is recommended for travelers to certain countries. That dose should have been received between 4 weeks and 12 months before departure Make sure children have all vaccinations. Practice food and water safety tips.

More Info:
https://www.cdc.gov/polio/us/travelers.html
https://wwwnc.cdc.gov/travel/news-announcements/polio-guidance-new-requirements
http://www.who.int/ith/updates/20140612/en/

Aka: **Poliomyelitis infantile paralysis**

Where is it found?

SUB-SAHARAN AFRICA
PAKISTAN NIGERIA
AFGHANISTAN

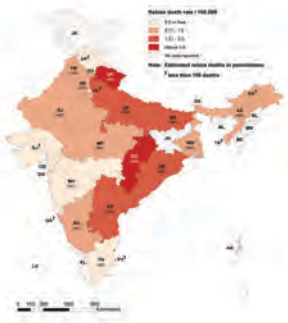


Notes:

The World Health Organization (WHO) declared the international spread of wild poliovirus (WPV) a public health emergency of international concern in 2014. Of special concern was Pakistan, Afghanistan and Nigeria. Burma (Myanmar), Guinea, Laos, Madagascar, and Ukraine are also listed.

Aka: **hydrophobia, lyssa**

Where is it found?



Notes:

Worldwide. More than 95% of human deaths caused by rabies occur in Africa and Asia. India has the highest rate of human rabies in the world.

Rabies

Found in 150 countries but almost never due to rats

Rabies is a preventable viral disease of mammals killing more than 55,000 people, mostly in Africa and Asia, every year - a rate of one person every ten minutes. Although effective vaccines and *immunoglobulins* exist for rabies, they are not readily available or accessible to those in need.

Rabies is still common in countries with inadequate public health resources and limited access to preventative treatment. If you are going to a poor country for more than a month, you probably need to get a rabies vaccination. Check the CDC page for the country where you are traveling and/or ask your doctor.

The rabies virus infects the central nervous system, ultimately causing disease in the brain and death.

Transmission

The most important global source for contracting rabies in humans is from uncontrolled rabies in dogs. Bites by rabid dogs is still the cause of over 90% of human exposures to rabies and of over 99% of human deaths worldwide.

Transmission of rabies virus usually begins when infected saliva of a host is passed to an uninfected animal or person. Surprisingly, rabies is almost never found among rats, and they have not been known to transmit rabies to humans.

Symptoms

The early symptoms of rabies in people are similar to that of many other illnesses, including fever, headache, and general weakness or discomfort. As the disease progresses, more specific symptoms appear and may include insomnia, anxiety, confusion, slight or partial paralysis, excitation, hallucinations, agitation, *hypersalivation* (increase in saliva), difficulty swallowing, and *hydrophobia* (fear of water). Death usually occurs within days of the onset of these symptoms.

Prevention and Treatment:

Rabies is best prevented through vaccination, both in pets and humans. **Wash any wounds immediately.** One of the most effective ways to decrease the chance for infection is to wash the wound thoroughly with soap and water. If bitten, or rabies is suspected, a doctor should decide if you need a rabies vaccination. Additional doses or rabies vaccine should be given on days 3, 7, and 14 after the first vaccination.
It is important to stay away from wild animals in other countries, especially dogs, and bats.

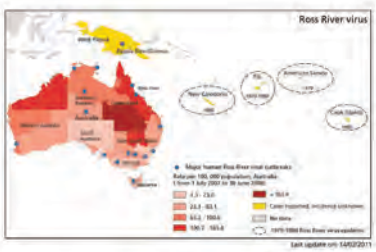
More Info:
https://www.cdc.gov/rabies/index.html
https://www.cdc.gov/rabies/exposure/animals/other.html

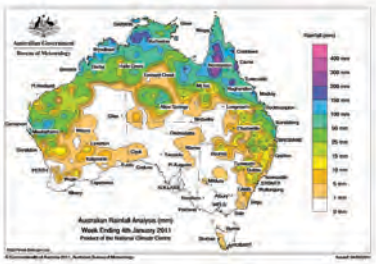
Aka: **RRVD,**
Ross River fever

Where is it found?

PAPUA NEW GUINEA

AUSTRALIA





Notes:

Travelers who go to Australia and Papua New Guinea are at risk for RRVD.

Ross River Virus

Spread through mosquito bites in Australia, Fiji & Papua New Guinea

Ross River fever is caused by infection with Ross River virus, one of a group of viruses called *arboviruses* (or *arthropod-borne viruses*), which are spread by the bite of infected mosquitoes.

The CDC has a level 1 travel notice for Australia. The disease is also found in Papua New Guinea and Fiji. Travelers who plan to spend a lot of time outdoors or who will be in areas with a lot of mosquitoes are at increased risk of RRVD. The number of infections tends to peak in the summer and autumn months.

Transmission

Ross River Virus Disease (RRVD) is spread through mosquito bites and cannot be spread erson-to-person.

Symptoms

About 55%–75% of people who are infected do not feel sick.
Incubation period is from 3 days to 3 weeks, usually 1 to 2 weeks.
For some people experienced symptoms, the most distinctive and distressing feature of Ross River Virus infection is usually joint pain. Any joint in the body may be affected, but the most common sites are the wrists, knees, ankles, fingers, elbows, shoulders and jaw.

Symptoms of RRVD can also include muscle pain, fever, tiredness, and rash. Most patients recover within a few weeks, but some people experience joint pain, joint stiffness or tiredness for many months. About 10% of people have ongoing depression and fatigue.

Prevention and Treatment:

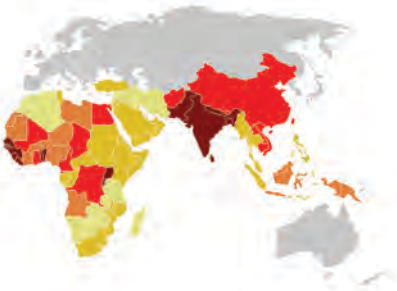
No vaccine or medicine can prevent RRVD.
The only way to prevent RRVD is to prevent mosquito bites. Cover exposed skin by wearing long-sleeved shirts, long pants, and hats. Use an insect repellent with the following active ingredients: DEET, Picaridin, or IR3535. If you are also using sunscreen, apply sunscreen first and insect repellent second. Use permethrin-treated clothing and gear (such as boots, pants, socks, and tents). You can buy pre-treated clothing and gear or treat them yourself.

More Info:
http://www.health.nsw.gov.au/Infectious/factsheets/Pages/ross-river-fever.aspx
https://wwwnc.cdc.gov/travel/diseases/ross-river-virus-disease
http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+topics/health+conditions+prevention+and+treatment/infectious+diseases/ross+river+virus+infection/ross+river+virus+infection+-+including+symptoms+treatment+and+prevention

Aka: **Lockjaw, Clostridium Tetani**

Where is it found?

DEVELOPING WORLD
SUB-TROPICS
TROPICS



Tetanus

Care should be taken with any open wound

Tetanus can be fatal, but international travel generally does not increase the risk of tetanus. People who are doing humanitarian aid work, or disaster relief, such as constructing/demolishing buildings, may be at risk.

Transmission

Tetanus is not spread from person to person.
Spores of tetanus bacteria are everywhere in the environment, including soil, dust, and manure.

They enter the body through breaks in the skin — usually cuts or puncture wounds caused by contaminated objects.

Wounds contaminated with dirt, poop (feces), or spit (saliva), Wounds caused by an object puncturing the skin (puncture wounds), like a nail or needle, burns, Crush injuries, any injuries to hands used for cleaning oneself after using the toilet, and sometimes by needles overseas, surgical instruments, including dental instruments.

Symptoms

Tetanus, also known as *lockjaw*, is an infection frequented by muscle spasms. Spasms usually begin in the jaw and then progress to the rest of the body, usually last a few minutes each time and occur for three to four weeks. Other symptoms may include fever, sweating, headache, trouble swallowing, high blood pressure, a fast heart rate, and difficulty breathing, possibly leading to death (10-20% of cases are fatal).

The incubation period — time from exposure to illness — is usually between 3 and 21 days (average 10 days), although it may range up to several months, depending on the kind of wound. This is why it is important to make sure wounds have been properly cleaned at the time of injury and that vaccinations are up to date.

Prevention and Treatment:

Tetanus is completely preventable through vaccination. If injured abroad, a doctor should evaluate and clean your wound and decide if you need a tetanus booster shot.

CDC recommends a tetanus vaccine before you travel, especially if you are going to an area where it may be difficult to access health care services. Vaccination is recommended throughout your life, every 10 years.

Notes:

16 countries where MNT is still a public health problem: Afghanistan, Angola, Central African Republic, Chad, DRC, Guinea, Kenya, Mali, Nigeria, Pakistan, Papua New Guinea, Philippines, Somalia, Sudan, South, Sudan and Yemen

More Info:
http://www.who.int/immunization/diseases/tetanus/en/
https://ecdc.europa.eu/en/tetanus
https://en.wikipedia.org/wiki/Tetanus

Tuberculosis

One of the top 10 causes of death worldwide

TB is a serious infectious disease that primarily attacks the lungs.

TB occurs in every part of the world.
Over 95% of TB deaths occur in low- and middle-income countries.

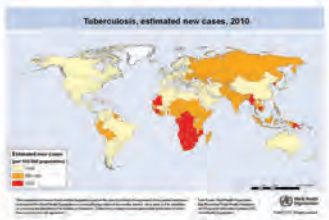
Many strains of tuberculosis are now resistant to the drugs most used to treat the disease. Not everyone infected with TB bacteria becomes sick. As a result, two TB conditions exist: *Latent TB infection* and *TB disease*.
It is estimated that 1/3 of the world's population has latent TB.

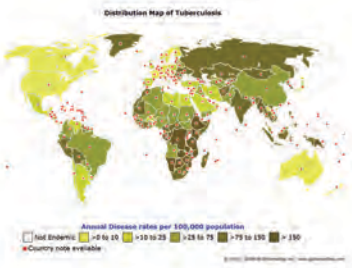
Latent TB bacteria can live in the body without making you sick. People with *latent TB infection* do not feel sick and do not have any symptoms. They are not infectious. However, TB bacteria may become active (*TB disease*) when the immune system can no longer stop them from growing. Then, active TB carriers can also spread TB to other people. Some people may not get sick years until later.

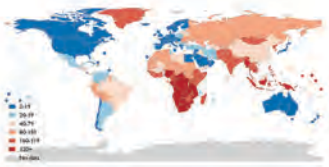
Aka: **TB or consumption**
MDR-TB, XDR-TB

Where is it found?

WORLDWIDE, ASIA
SUBSAHARA AFRICA
CENTRAL AMERICA
SOUTH AMERICA







Notes:

Worldwide. Areas of sub-Saharan Africa, Asia, and parts of Central and South America are at greatest risk.

Transmission

The bacteria that cause tuberculosis are spread from one person to another through tiny droplets released into the air via coughs and sneezes. Air travel itself carries a relatively low risk of infection with TB (for more, search for "Tuberculosis and air travel : Guidelines for prevention and control, 2nd ed., World Health Organization")

Symptoms

Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats. A cough lasting 3 weeks or longer is a symptom of TB disease. Any fever lasting a week or more should be considered a possible manifestation of TB, malaria or typhoid in the developing world. Neglected TB can be fatal in both adults and children, and chronic coughs should never be ignored.

Prevention and Treatment:

Active, drug-susceptible TB disease is treated with a standard 6-month course of 4 antimicrobial drugs provided under doctor supervision or by a healthcare worker. The vast majority of TB cases can be cured when medicines are provided and taken properly.

Rifampicin is the most important TB medicine. Diagnosing *multi-drug resistant (MDR-TB)* and *extensively drug-resistant TB (XDR-TB)* can be complex and expensive overseas.
A TB skin test, called a *PPD*, is a must for everyone returning to the U.S. after spending time in an endemic area.

More Info: http://www.who.int/tb/en/
https://wwwnc.cdc.gov/travel/diseases/tuberculosis
https://www.cdc.gov/tb/publications/factsheets/drtb/xdrtb.htm

Typhoid

Some people recover from typhoid fever but still carry the bacteria

Typhoid fever is a life-threatening illness caused by the bacterium *Salmonella Typhi* and is common in most parts of the world. Sanitation and hygiene are important to prevent typhoid, because typhoid does not affect animals other than humans, and is only spread by humans. It occurs predominantly where there is poor sanitation and a lack of clean drinking water. The disease is most common in India. The risk of death may be as high as 20% without treatment. With treatment it is between 1 and 4%.

The challenge with typhoid is that symptoms are often "non-specific" and non-distinguishable from other illnesses that cause a fever. Some people do not experience symptoms at all but may be infectious.

Aka: **Typhoid Fever, Enteric Fever, Salmonella typhi, Paratyphoid Fever**

Where is it found?

SOUTHEAST ASIA
INDIA BANGLADESH
AFRICA SLUMS
POOR SANITATION

Transmission

Persons with typhoid fever carry the bacteria in their bloodstream and intestinal tract. It is spread through poop and infected water/food.

You can get typhoid fever if you eat food or drink beverages that have been handled by a person who has Salmonella Typhi or if sewage is contaminated with Salmonella Typhi and gets into the water you use for drinking or for cleaning food. Therefore, typhoid fever is more common where handwashing is less frequent and water is unsafe.

Symptoms

Persons with typhoid fever usually have a sustained fever as high as 103° to 104° F (39° to 40° C). They may also feel weak, or have stomach pains, headache, or loss of appetite. In some cases, patients have a rash of flat, rose-colored spots. Other exhibit no symptoms at all. The only way to know for sure if an illness is typhoid fever is to have samples of stool or blood tested.

Prevention and Treatment:

Two basic actions can protect you from typhoid fever:
1. Avoid risky foods and drinks. 2. Get vaccinated
Care over what you eat and drink is as important as being vaccinated - Vaccines are not completely effective. Avoiding risky foods will also help protect you from other illnesses, including travelers' diarrhea. Drink only bottled water. Order drinks without ice. Only eat vegetables and fruits that have been peeled or boiled.

Two typhoid vaccines prevent typhoid. Courses of common antibiotics have been used to treat typhoid fever as well as rehydration therapy to treat diarrhea. *Multidrug-resistant typhoid (MDR typhoid)* has developed a resistance to some antibiotics. Make sure to check the CDC for recent outbreaks of typhoid in the country where you're going.

More Info: https://en.wikipedia.org/wiki/Typhoid_fever
http://www.who.int/immunization/diseases/typhoid/en/
https://www.webmd.com/a-to-z-guides/typhoid-fever

Notes:

Prevalent in areas with lack of safe drinking water, sanitation.
Travelers to the Indian Subcontinent, Southeast Asia, Asia, Africa, Eastern Europe, and Latin America are especially at risk

Yellow Fever

Spread by mosquito, yellow fever has no cure and can be deadly

The World Health Organization estimates there are 200,000 cases of Yellow Fever worldwide each year, resulting in 30,000 deaths.

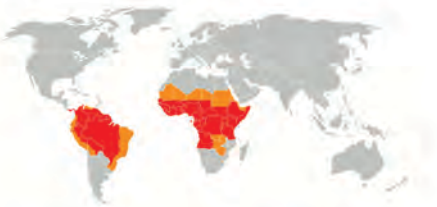
The virus is found in tropical and subtropical areas in South and Central America and Africa. The CDC has identified 47 counties in Africa and Central and South America with a risk of yellow fever transmission, many of them with tropical climates. However, yellow fever is a very rare cause of illness in U.S. travelers.

Occasionally travelers who visit yellow fever endemic countries may bring the disease to countries free from yellow fever. In order to prevent such importation of the disease, many countries require proof of vaccination against yellow fever before they will issue a visa, particularly if travelers come from, or have visited yellow fever endemic areas.

Aka: **Yellow fever,**

Where is it found?

SOUTH AMERICA
TROPICAL REGIONS
AFRICA



Notes:

Argentina, Brazil, Nigeria, Peru, Suriname, Uganda
An estimated 90% of the infections occur on the African continent

Transmission

Via mosquito bite. Large epidemics of yellow fever occur when infected people introduce the virus into heavily populated areas with high mosquito density and where most people have little or no immunity, due to lack of an extremely effective vaccine, which is both safe and affordable.

Humans infected with yellow fever virus are infectious to mosquitoes shortly before the onset of fever, and for 3–5 days after onset.

Symptoms

Yellow fever is difficult to diagnose, especially during the early stages. The yellow fever virus incubates in the body for 3 to 6 days. Many people do not experience symptoms, however some people experience fever, muscle pain with prominent backache, chills, severe headache, loss of appetite, and nausea or vomiting. Symptoms disappear after 3 to 4 days.

A small percentage of patients enter a second, more toxic phase within 24 hours of recovering from initial symptoms. High fever returns and several body systems are affected, usually the liver and the kidneys. People may develop *jaundice* (yellowing of the skin and eyes, hence the name *'yellow fever'*), dark urine and abdominal pain with vomiting. Bleeding can occur from the mouth, nose, eyes or stomach. Half of the patients who enter the toxic phase die within 7 - 10 days.

Prevention and Treatment:

Steps to prevent yellow fever include using insect repellent, wearing protective clothing, using mosquito nets, and getting vaccinated.
There is no specific treatment for yellow fever; care is based on symptoms.

More Info:
https://www.cdc.gov/yellowfever/index.html
http://www.who.int/mediacentre/factsheets/fs100/en/

Zika

Spreads easily, many of those infected may not even know it

Many people infected with Zika won't have symptoms or will only have mild symptoms. However, a pregnant woman (even one without symptoms), can pass Zika to her developing fetus. Zika infection during pregnancy can cause serious birth defects.

Zika has seen recent major outbreaks in many nations worlwide (See https://wwwnc.cdc.gov/travel/page/world-map-areas-with-zika).

Transmission

Zika virus is transmitted to people primarily through the bite of an infected *Aedes* species mosquito *(Ae. aegypti and Ae. albopictus)*. Mosquitoes become infected when they feed on a person already infected with the virus. Infected mosquitoes can then spread the virus to other people through bites.

A pregnant woman can pass Zika virus to her fetus during pregnancy. Zika is a cause of *microcephaly* and other severe fetal brain defects. To date, there are no reports of infants getting Zika virus through breastfeeding. Zika can also be passed through sex from a person who has Zika to his or her partners, and through blood transfusions in some countries.

Symptoms

People with Zika virus disease may have symptoms including mild fever, skin rash, conjunctivitis, muscle and joint pain, malaise or headache. Symptoms can appear anywhere from 3 to 4 days after a bite from an infected mosquito, according to the CDC. They can last from several days to about a week. Only about 1 in 5 people with the virus will exhibit symptoms. The vast majority have no symptoms at all.

The Zika virus is a cause of *microcephaly* and *Guillain-Barré syndrome*. Links to other neurological complications are being investigated.

Prevention and Treatment:

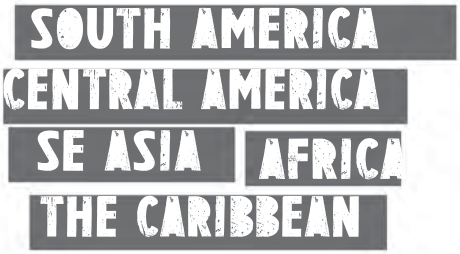
Zika virus disease is usually mild and requires no specific treatment. The CDC recommends infected people get plenty of rest, drink fluids to prevent dehydration, and take acetaminophen for fever and pain. If symptoms worsen, they should seek medical care and advice. There is currently no vaccine available.

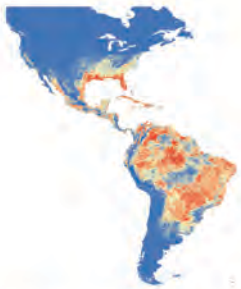
Pregnant women should avoid travel to areas with high incidence of zika. Protection against mosquito bites is a key measure to prevent Zika virus infection.

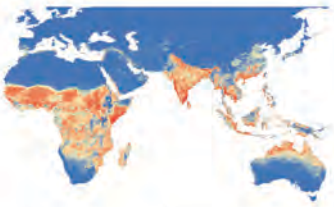
More Info:
https://www.cdc.gov/zika/index.html
http://www.who.int/mediacentre/factsheets/zika/en/
https://www.webmd.com/a-to-z-guides/zika-virus-symptoms-prevention

Aka: **Zika fever or Zika virus disease**

Where is it found?







Notes:

Worldwide transmission
Outbreaks reported in Colombia, the Dominican Republic, Puerto Rico, Ecuador, El Salvador, Brazil and Jamaica.
Southeast Asia & Africa.

MEDICAL RESOURCES & BOOK LIST

- **The Merck Manual of Diagnosis and Therapy**
  R Berkow and A J Fletcher editors. Merck & Co.
  Revised every 5-6 years, The most widely used medical text in the world covers all but the most obscure disorders.
- **The Travel and Tropical Medicine Manual**
  Edited by Jon, EC and McMullen, R.
- **First Aid—Responding to Emergencies**
  American Red Cross, Mosby, published yearly
- **American Medical Association Encyclopedia of Medicine**
  Random House,
- **Where There Is No Doctor**,
  D Werner, Hesperian Foundation in Palo Alto, an inexpensive helpful handbook (Complete and Free Online)
- **Where There Is No Dentist**
  M Dickson, Hesperian Foundation (Complete and Free Online)
- **Where Women Have No Doctor**
  Edited by Burns, Lovich, Maxwell, Shapiro, Nieman & Metcalf, Hesperian Foundation (Complete and Free Online)
- **The Yellow Book:** Health Information for International Travel
  By the Center of Disease Control and updated yearly.
- **Caring for Your Baby and Young Child** + others in the series
  Edited by SP Shelov and R E Hannemann, Bantam Books

Additional Books that are Helpful

- **Hunter's Tropical Medicine and Emerging...**
  Ed, Alan J. Magill, G T Strickland, W B Saunders – ***My favorite!***
- **Village Medical Manual**
  M Vanderkooi, William Carey Library, Pasadena
- **International Travel and Health,** Latest update in 2012
  World Health Organization, Geneva Switzerland
- **Current Diagnosis and Treatment**
  By Appleton and Lange has a series for pediatrics, obstetrics, internal medicine, etc.

WEBSITES

1.) **Center for Disease Control**: www.cdc.gov
Specific recommendations re: health in the country you are going to. Also get **The Yellow Book** (both in print & online).
2.) **World Health Organization**: www.who.int
3.) **Shoreland Travel Medicine**: www.shoreland.com
4.) **Travel Clinics of America**:
www.travelclinicsofamerica.com/travelhealth/

There are many valid "alternative medicine" concepts, but much of it is not scientifically proven by ***evidence-based medicine***. A book I can strongly recommend, since I know both authors is **Alternative Medicine: The Christian Handbook** by Donal O'Mathuna, Ph.D. and Walt Larimore, M.D. It has some valid points in terms of alternative medicine. Published by Zondervan, 2001.

MEDICAL APPS FOR TRAVEL OR LIVING OVERSEAS

Top medical apps (Find links to all of them at ***https://www.gninsurance.com/medical_apps_for_travel/****)*

1. HealthTAP.com and app for iOS and Android
HealthTap gives you answers and tips from 50,000 U.S. doctors free! The best and fastest way to quickly get trusted answers.
– Need to talk to Doctors? – The verbal (rather than typing) sister of HealthTap is also available. *(Not available in the USA.)*

2. WebMD.com
First aid mobile access 24/7 to mobile-optimized health information without having to be connected wirelessly – critical if you don't have Internet access in the time of need.

3. CareZone app
Manage your medications/prescriptions, keep track of any instructions the doctor may have given you, and assign permissions to loved ones to have access to this same information. Highly recommended.

4. Ask A Doctor app
Instant answers from doctors 24×7. Post picture of your latest lab report to 15,000+ doctor network spread across time zones.

5. iTriage—https://www.itriagehealth.com/
A well-known and comprehensive program created by two ER doctors, iTriage gives a plethora of health care information.

6. The Yellow Book (CDC)
This trusted travel medical resource is NOW AVAILABLE for purchase as an app for your Android or iOS mobile device!

8. ICE Standard with Smart911
Your phone as a backup location for all your emergency medical information, as in an accident it can provide health information for emergency personnel.

9. TravelSmart App
– A comprehensive list of hospitals, with contact details, by country
– A hospital location facility, via GPS
– An easy to use medicine translator providing you and pharmacists with the local name of a drug.

10. WikiHOW survival guide
Packed with more than 120,000 articles, the wikiHow app will surely have the answer you need.

FOR DOCTORS:

1. Medscape App for WebMD
The leading medical resource used by physicians, medical students, nurses and other healthcare professionals for clinical information.

2. Epocrates App at http://www.epocrates.com/products
50% of doctors currently have this medical application downloaded on their Android, iPhone, or iPad.

Medical advice for travelers and expatriates

+ Basic Overseas Health
+ Creating a Travel Medical Kit
+ How to Use Travel Medical Insurance
+ The Risks of Air Travel
+ The 10 Commandments of Travel Medicine
+ What To Do in an Emergency?
+ Pages on 20+ Travel-Related Illnesses
+ Water treatment and purification
+ Protecting toddlers and children

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