Travel Immunizations & Chemoprophylaxis:

Preventing Unwanted Infectious Souvenirs

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Disclosures

The planner(s) and speaker(s) have indicated that there are no relevant financial relationships with any ineligible companies to disclose.

Learning Objectives

At the end of this session, learners should be able to:

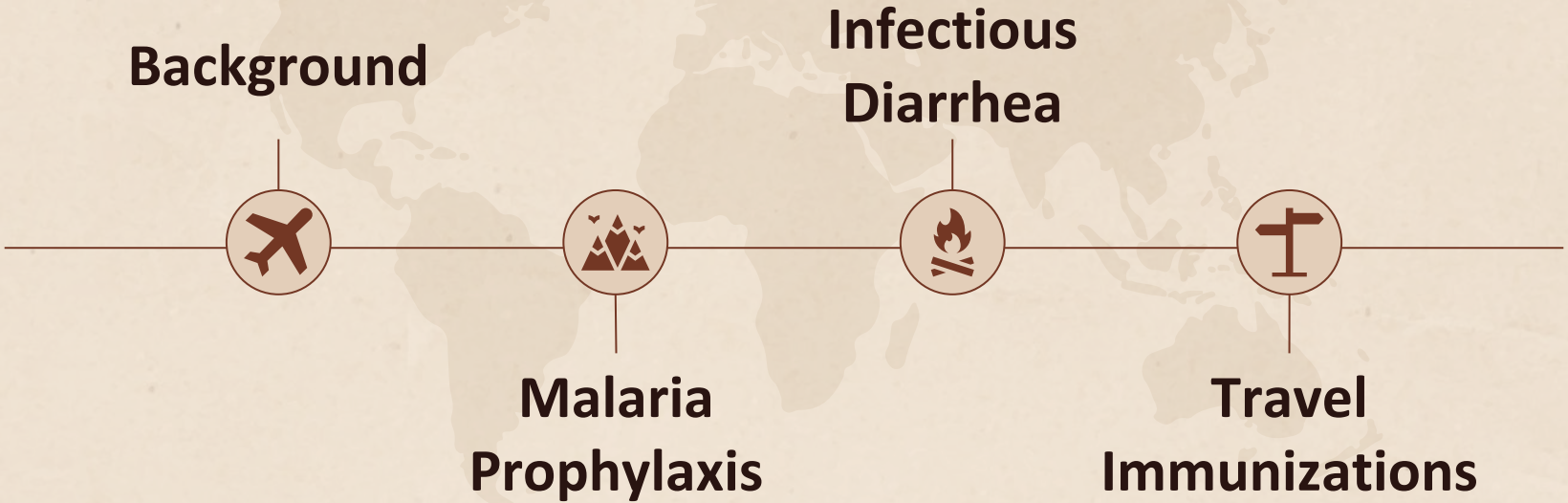
1. Outline the epidemiology and pathophysiology of vaccine-preventable travel-related diseases to provide appropriate context for immunization recommendations.

2. Identify routine and destination-specific travel immunizations recommended by the CDC Yellow Book.

3. Recall the common medications used for malaria prophylaxis and treatment options for infectious diarrhea.

4. Discuss potential interactions, contraindications, and administration considerations when developing individualized travel medicine plans.

Presentation Itinerary



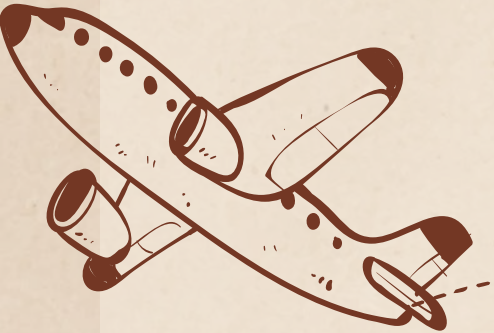
Abbreviation Key

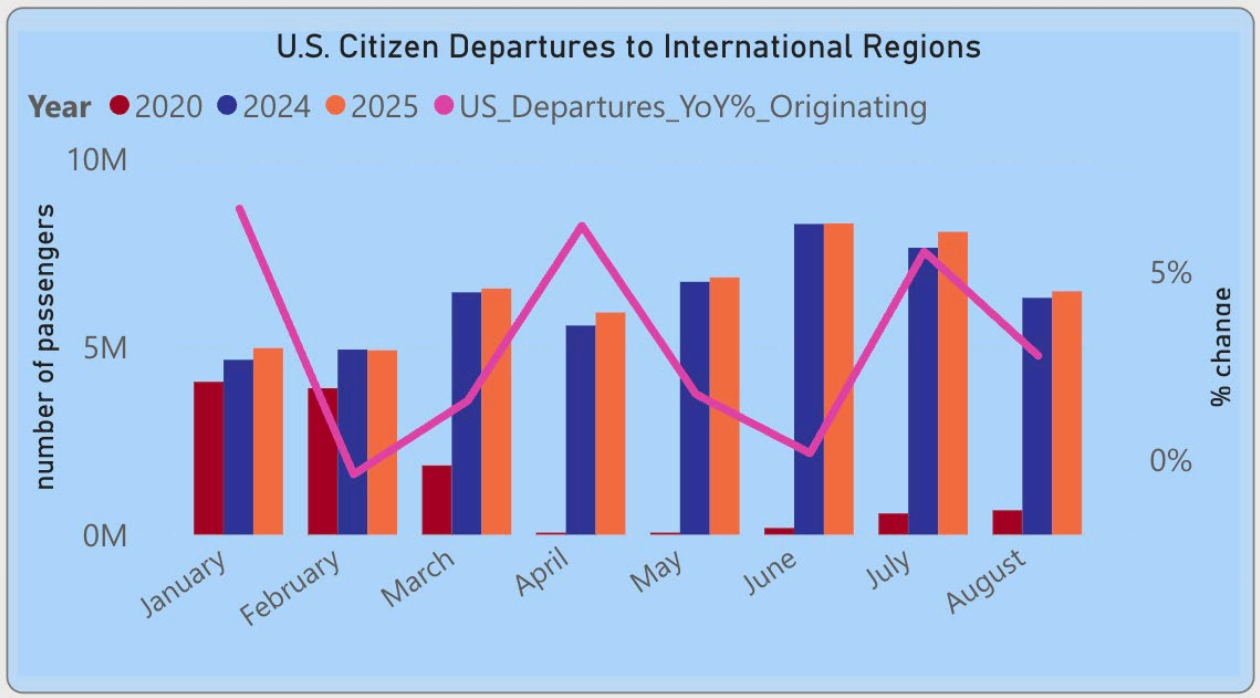
- **ADRs**: adverse drug reactions
- **AIDS**: acquired immunodeficiency syndrome
- **BBW**: black box warning
- **BID**: twice daily
- **CAR-T**: chimeric antigen receptor T-cell therapy
- **CDC**: US Centers for Disease Control and Prevention
- **CI**: contraindication
- **CrCl**: creatinine clearance
- **GVHD**: Graft-versus-host disease
- **HIV**: human immunodeficiency virus
- **HSCT**: hematopoietic stem cell transplantation
- **IM**: intramuscular
- **LFTs**: liver function tests
- **PO**: by mouth
- **TID**: three times daily

01

Background

Rates of International Travel





International Trade Administration. U.S. International Air Travel Statistics (I-92 data). 2024.

Patient Risk Assessment

WHO

- Age
- Comorbidities

WHAT

- Reason for trip
- Length of stay
- Anticipated exposures

WHEN

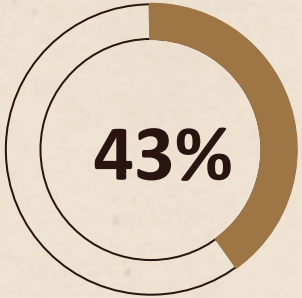
- Departure season

WHERE

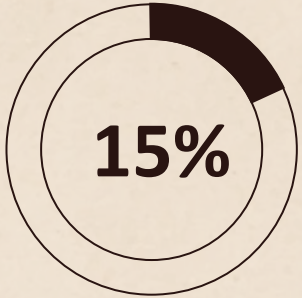
- Destination country
- Climate
- Rural vs urban

Kotton et al. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 9th ed. 2020.

Travel Medicine: Risk & Risk Reduction



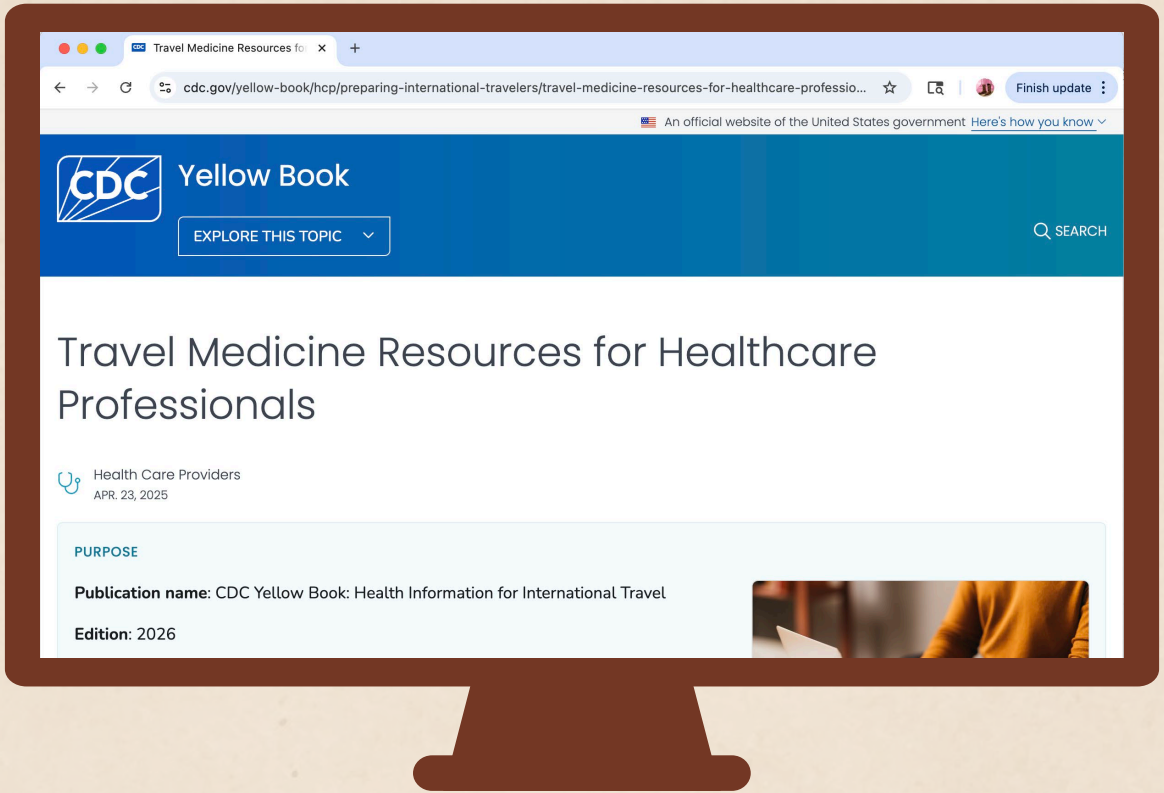
International travelers who become ill



International travelers who seek pre-departure medical advice

Angelo et al. *J Travel Med*. 2017; Raphael et al. *Am J Trop Med Hyg*. 2020.

Travel Medicine Resources



Centers for Disease Control and Prevention. *Travel Medicine Resources for Healthcare Professionals*; 2025.

02

Malaria Prophylaxis

Epidemiology

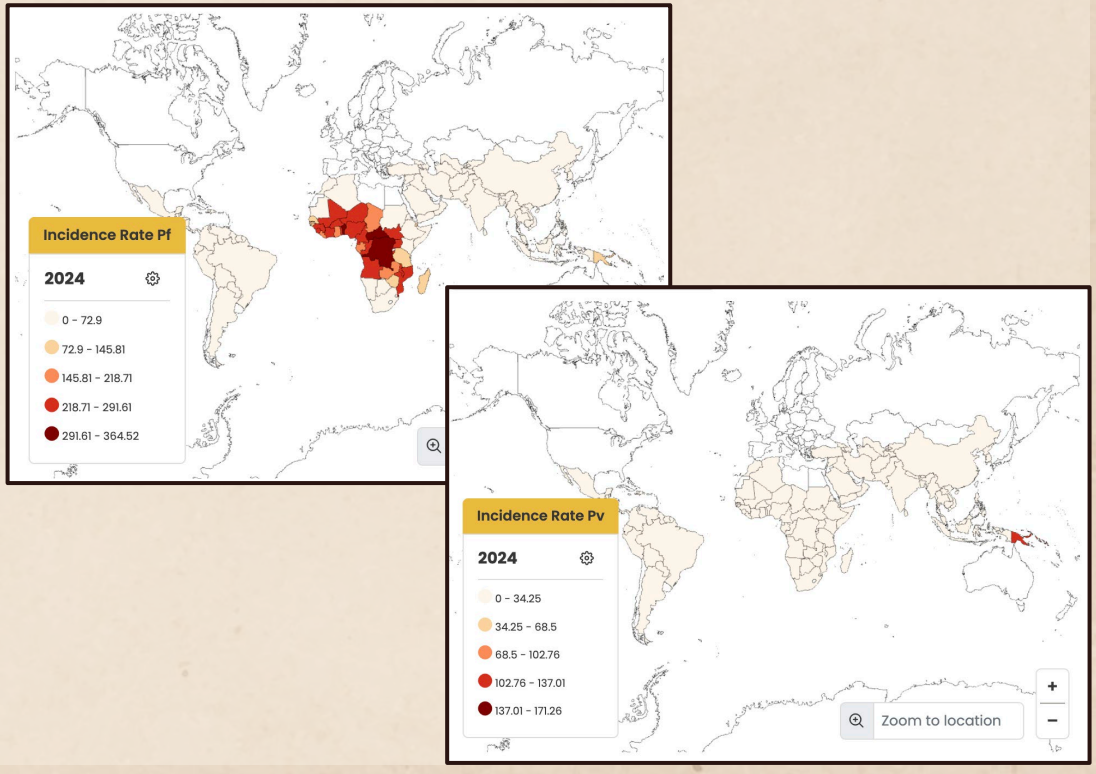
- Malaria is endemic in 90 countries
- 125 million travelers visit these countries annually
- 10,000 to 30,000 of these travelers will develop malaria
- 1% of travelers who contract malaria will die from its complications

StatPearls. *Malaria.* 2024.

Epidemiology

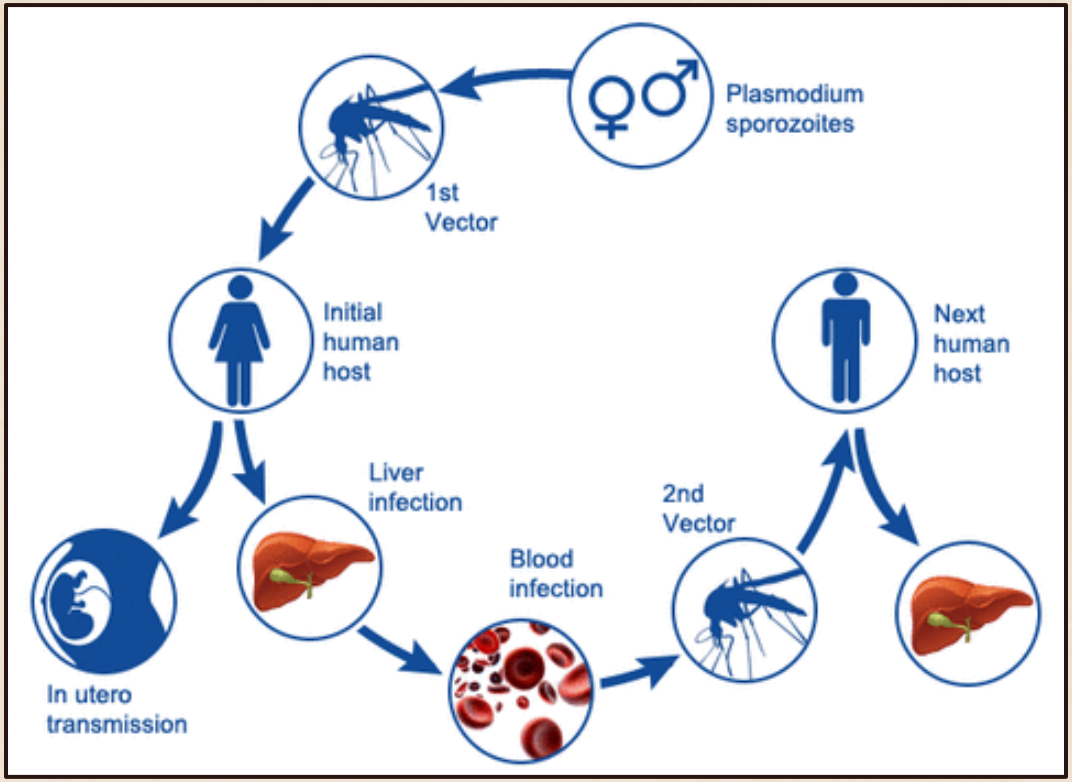
Plasmodium falciparum
- Western & sub-Saharan Africa
- Highest morbidity and mortality of *Plasmodia* species

Plasmodium vivax
- South Asia
- Western Pacific
- Central America



Malaria Atlas Project. Malaria incidence (Pf) — global 2024.

Pathophysiology



Malaria Atlas Project. Malaria incidence (Pf) — global 2024.

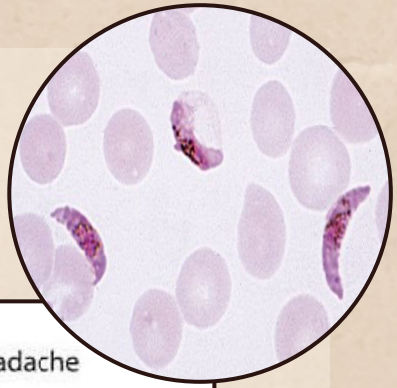
Presentation

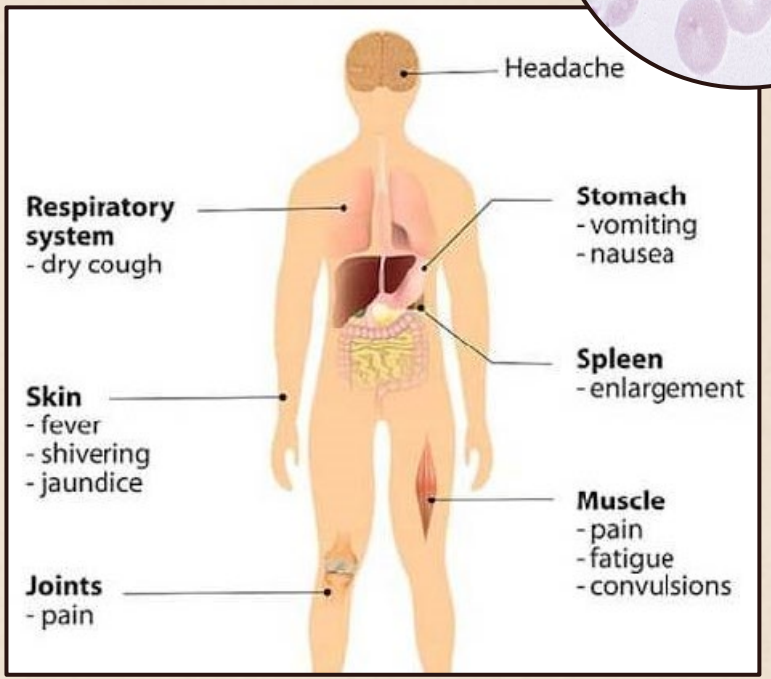
Symptom onset: 7-15 days after being bitten by an infected mosquito

High risk patient groups: infants, children <5 years old, pregnant women, travelers, people with HIV or AIDS

Laboratory signs

- Thrombocytopenia
- Anemia
- Elevated LFTs
- Electrolyte abnormalities
- Proteinuria





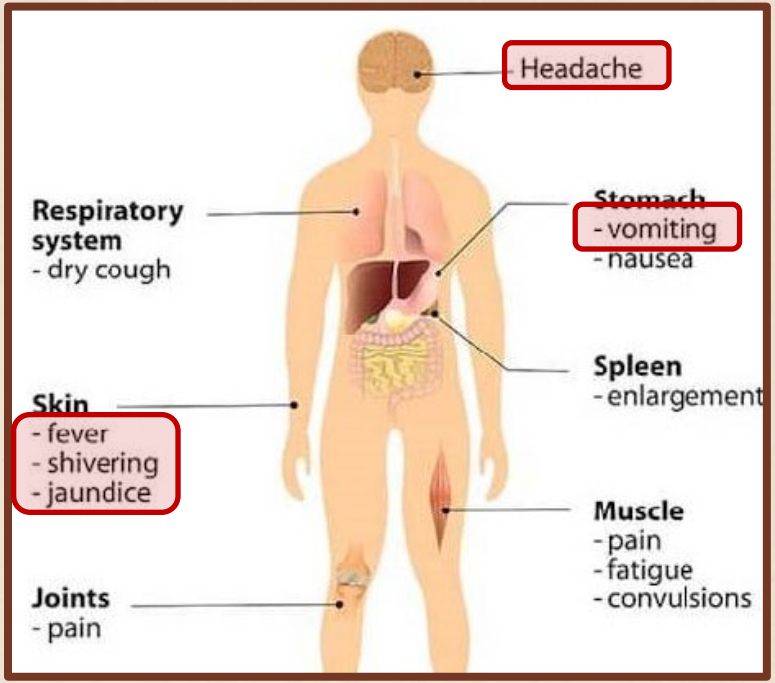
StatPearls. *Malaria.* 2024.

Patient Case: 23-year-old male

May to June 2025	College biology research trip in Uganda Provided atovaquone as malaria prophylaxis
September 30th, 2025	911 called due to disorientation on campus Rash, cyclic fevers, chills, headache, vomiting
October 9th, 2025	Seen by primary care provider, noted to have thrombocytopenia with elevated LFTs Sent to the emergency department

Patient Case

Emergency Department Labs	
Temperature	100.4 ºF
RBC, Hgb	3.77, 11.2
WBC	4
Lymphocytes	0.7
Platelets	16,000
LFTs	AST: 238 ALT: 96 Total bilirubin: 12.7



Malaria Smear	Positive for Plasmodium malariae!!
% Parasitized	1.0 ^

Patient Risk Assessment

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Kotton et al. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 9th ed. 2020.

Malaria Chemoprophylaxis Options

Agent	Dosing	Timing Considerations
Atovaquone-proguanil	250/100 mg PO daily	• **Start**: 1 to 2 days prior to exposure • **Discontinue**: 7 days after returning
Chloroquine	500 mg PO once weekly	• **Start**: 1 to 2 weeks prior to exposure • **Discontinue**: 4 weeks after returning
Doxycycline	100 mg PO daily	• **Start**: 1 to 2 days prior to exposure • **Discontinue**: 4 weeks after returning
Mefloquine	250 mg PO once weekly	• **Start**: ≥2 weeks prior to exposure • **Discontinue**: 4 weeks after returning
Primaquine *Off-label*	30 mg PO daily	• **Start**: 1 to 2 days prior to exposure • **Discontinue**: 7 days after returning
Tafenoquine	200 mg PO daily x3 days → 200 mg PO once weekly	• **Start**: loading dose 3 days prior to exposure, weekly dose starts 7 days after loading doses • **Discontinue**: 4 weeks after returning

Centers for Disease Control and Prevention. Yellow Book; 2025.

Patient Population Considerations

Pregnancy & Lactation

- Atovaquone-proguanil: CI in pregnancy and lactation
- Primaquine, Tafenoquine: CI in pregnancy and for breastfeeding mothers with a G6PD deficient infant

Children

- Atovaquone-proguanil: CI children <5 kg
- Doxycycline: CI <8 years old
- Tafenoquine: CI in children

Comorbidities

- Mefloquine: CI in seizure, psychiatric, or cardiac conduction disorders
- Tafenoquine: CI in psychiatric disorders (including depression & anxiety)
- Atovaquone-proguanil: CI CrCl <30 mL/min

Centers for Disease Control and Prevention. Yellow Book; 2025.

Adverse Drug Reaction Considerations

Required G6PD Screening	Gastrointestinal Side Effects	QT Prolongation
• Chloroquine • Primaquine • Tafenoquine	• Atovaquone-proguanil: abdominal pain, nausea • Chloroquine: nausea, diarrhea • Doxycycline: diarrhea, esophageal injury • Mefloquine: vomiting	• Chloroquine • Primaquine

Centers for Disease Control and Prevention. Yellow Book; 2025.

Agent-Specific Adverse Reactions

Doxycycline	Mefloquine	Tafenoquine
• Photosensitivity	• BBW neuropsychiatric effects • Abnormal dreams & insomnia • Vision disturbance • Seizures • Cardiac arrythmias	• Psychosis • Methemoglobinemia • Epithelial keratopathy

Centers for Disease Control and Prevention. Yellow Book; 2025.

Patient Preference Considerations

Initiation

Last minute options:

- Atovaquone-proguanil
- Doxycycline
- Primaquine
- Tafenoquine

Frequency

Once weekly dosing:

- Chloroquine
- Mefloquine
- Tafenoquine

Administration

Food not Required:

- Chloroquine
- Doxycycline
- Primaquine

Centers for Disease Control and Prevention. Yellow Book; 2025.

Drug Interactions

Atovaquone-proguanil	Chloroquine	Doxycycline	Mefloquine
• Cimetidine • Fluvoxamine • Metoclopramide • Rifabutin • Tetracycline • Warfarin	• Ampicillin • Antacids • Calcineurin inhibitors • Cimetidine • Ciprofloxacin • CYP2D6 substrates • CYP3A4 inhibitors • Digoxin • Kaolin • Methotrexate • QT-prolonging agents	• Antacids • Bismuth subsalicylate • Barbiturates • Calcineurin inhibitors • Carbamazepine • Iron • mTOR inhibitors • Penicillin • Phenytoin • Warfarin	• Antiarrhythmic agents • Anticonvulsants • Beta blockers • Calcineurin inhibitors • Calcium channel blockers • CYP3A4 inducers • CYP3A4 inhibitors • H1 receptor antagonists • Lumefantrine • mTOR inhibitors • Phenothiazines • Protease inhibitors • Tricyclic antidepressants

Centers for Disease Control and Prevention. Yellow Book; 2025.

Drug Interactions

Atovaquone-proguanil	Chloroquine	Doxycycline	Mefloquine
• Cimetidine • Fluvoxamine • Metoclopramide • Rifabutin • Tetracycline • Warfarin	• Ampicillin • Antacids • Calcineu • Cimetid • Cipro • CY • CYP • Digox • Kaoli • Meth • QT-prolon	ls subsalicylate bitors	• Antiarrhythmic agents • Anticonvulsants • Beta blockers • Calcineurin inhibitors • Calcium channel blockers • CYP3A4 inducers • CYP3A4 inhibitors • H1 receptor antagonists • Lumefantrine • mTOR inhibitors • Phenothiazines • Protease inhibitors • Tricyclic antidepressants

Check for drug-drug interactions!

Centers for Disease Control and Prevention. Yellow Book; 2025.

Assessment Question #1

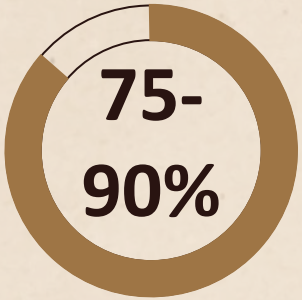
Case:
A 36-year-old man plans a trip to Cambodia. He has a history of depression treated with sertraline.

Question:
Which malaria prophylactic should be avoided?
A. Doxycycline
B. Mefloquine
C. Atovaquone-proguanil
D. Chloroquine

03

Infectious Diarrhea

Travelers' Diarrhea

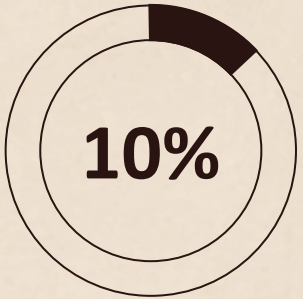


Bacteria

Enterotoxigenic *E. coli*
Campylobacter jejuni
Shigella spp.
Salmonella spp.
Aeromonas spp.
Plesiomonas spp.

Viruses

Norovirus
Astrovirus
Sapovirus
Rotavirus



Protozoa

Giardia
Cryptosporidium
Entamoeba histolytica
Dientamoeba fragilis
*Cyclospora**

Centers for Disease Control and Prevention. Yellow Book; 2025.

*Guatemala, Haiti, Nepal, Peru

Travelers' Diarrhea: Packing for Prevention

Bismuth subsalicylate

- Reduces incidence by 50%
- Generally not recommended age <12

Probiotics

- *Lactobacillus GG*
- *Saccharomyces boulardii*
- Insufficient data to recommend use

Rifaximin

- Only indicated in short term, high-risk hosts
- 200 mg by mouth 1-3 times daily x3 days

Prophylactic antibiotics are no longer recommended based on risk vs benefit analysis

Centers for Disease Control and Prevention. Yellow Book; 2025.

Travelers’ Diarrhea: Standby Treatment

Mild diarrhea: Symptomatic relief only

Moderate diarrhea: Loperamide monotherapy ± antibiotic

Severe diarrhea: Loperamide + antibiotic

Symptomatic Relief

Loperamide
Bismuth subsalicylate

Antibiotics

Azithromycin
Fluoroquinolone
Rifamycin
Rifaximin

Centers for Disease Control and Prevention. Yellow Book; 2025.

Travelers' Diarrhea: Standby Treatment

JOURNAL ARTICLE EDITOR'S CHOICE

Trial Evaluating Ambulatory Therapy of Travelers' Diarrhea (TrEAT TD) Study: A Randomized Controlled Trial Comparing 3 Single-Dose Antibiotic Regimens With Loperamide FREE

Mark S Riddle ✉, Patrick Connor, Jamie Fraser, Chad K Porter, Brett Swierczewski, Emma J Hutley, Brook Danboise, Mark P Simons, Christine Hulseberg, Tahaniyat Lalani ... Show more

Author Notes

Clinical Infectious Diseases, Volume 65, Issue 12, 15 December 2017, Pages 2008–2017, https://doi.org/10.1093/cid/cix693

Published: 23 September 2017 **Article history** ▾

Riddle et al. *Clin Infect Dis.* 2017.

Travelers' Diarrhea: Standby Treatment

Design

- Randomized, double-blind trial assessing loperamide + single dose antibiotics for acute watery travelers' diarrhea
- 4 countries: Afghanistan, Djibouti, Kenya, and Honduras
- US and UK service members deployed in 4 countries assigned to either:
    1) azithromycin 500 mg
    2) levofloxacin 500 mg
    3) rifaximin 1650 mg
- Primary outcome: clinical cure at 24 hours

Riddle et al. *Clin Infect Dis.* 2017.

Travelers' Diarrhea: Standby Treatment

Results

- **Safety**: No differences in post-dose nausea, vomiting, or other adverse events between groups
- **Conclusion**: Single-dose azithromycin, levofloxacin, and rifaximin with loperamide were comparable for treatment of acute watery diarrhea

Clinical Cure at 24 hours	
Levofloxacin	81.4%
Azithromycin	78.3%
Rifaximin	74.8%

Riddle et al. *Clin Infect Dis.* 2017.

Travelers' Diarrhea: Standby Treatment

Antibiotic	Dosing Regimen(s)
Azithromycin (1st Line)	• 1000 mg given via single or divided dose for up to 3 days • 500 mg daily x3 days
Ciprofloxacin	• 750 mg x1 dose • 500 mg BID x3 days
Levofloxacin	• 500 mg daily for up to 3 days
Rifamycin SV	• 388 mg BID x3 days
Rifaximin	• 200 mg TID x3 days

Centers for Disease Control and Prevention. Yellow Book; 2025.

Assessment Question #2

Case:
A 32-year-old man plans a 3-week trip to Kenya for a safari. He has no chronic health conditions. He asks about malaria prevention and what to do if he develops diarrhea while traveling. He leaves for Kenya in 5 days.

Question:
Which of the following is an appropriate combination of prophylaxis and empiric self-treatment?
A. Doxycycline for malaria prophylaxis and ciprofloxacin for traveler's diarrhea
B. Mefloquine for malaria prophylaxis and azithromycin for traveler's diarrhea
C. Atovaquone-proguanil for malaria prophylaxis and azithromycin for traveler's diarrhea
D. Primaquine for malaria prophylaxis and rifaximin for traveler's diarrhea

04

Travel Immunizations

Routine Pre-Travel Vaccinations

Vaccines to Update & Consider

- COVID-19
- *Haemophilus influenzae* type B
- Hepatitis A & Hepatitis B
- Measles, Mumps, & Rubella
- Meningococcal disease (serogroups A, C, W, & Y)
- Pneumococcal
- Poliovirus
- Tetanus, diphtheria, pertussis
- Respiratory syncytial virus
- Varicella
- Zoster
- Influenza

Centers for Disease Control and Prevention. Yellow Book; 2025.

Hepatitis A

Transmission: Contaminated food and water

Vaccination: 2 doses administered ≥6 months apart

Considerations: At least 1 dose should be given prior to travel

Centers for Disease Control and Prevention. Yellow Book; 2025.

Meningococcal Disease

Etiology: *Neisseria meningitidis*

Transmission: Respiratory secretions

Vaccination: If 5 or more years have passed since the most recent MenACWY vaccine, a booster dose is recommended at least 7–10 days before travel to hyperendemic countries

Centers for Disease Control and Prevention. Yellow Book; 2025.

The Meningitis Belt

Meningococci are classified into 12 serogroups based on the structure of the polysaccharide capsule

Serogroups A, C, W, and X are historically responsible for outbreaks in the meningitis belt

Serogroup B disease is extremely rare in the meningitis belt

Centers for Disease Control and Prevention. Yellow Book; 2025.

Destination-Specific Travel Vaccinations

Patient Risk Assessment

WHO

- Age
- Comorbidities

WHAT

- Reason for trip
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WHEN

- Departure season

WHERE

- Destination country
- Climate
- Rural vs urban

Kotton et al. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*. 9th ed. 2020.

Chikungunya Fever

Etiology: Enveloped, RNA arbovirus from the *Togaviridae* family

Transmission: *Aedes aegypti* and *Aedes albopictus* mosquito bites

Symptoms: High fevers, arthralgia, maculopapular rash, headache, myalgia

Centers for Disease Control and Prevention. Yellow Book; 2025.

Chikungunya Fever

- **Vaccination:** single-dose vaccine; live-attenuated (IXCHIQ) or virus-like particle (VIMKUNYA) vaccine
- **Recommendation**: All travelers going to an outbreak area; may be considered for travelers going to an elevated risk area ≥6 months
- **Considerations:**
  - Hospitalizations, cardiac events, and neurologic events have been reported with the live vaccine (IXCHIQ)

Current Outbreak Areas

- Bangladesh
- Cuba
- Guangdong Province, China
- Kenya
- Madagascar
- Somalia
- Sri Lanka

Elevated Risk Areas

- Brazil
- Colombia
- India
- Mexico
- Nigeria
- Pakistan
- Philippines
- Thailand

Centers for Disease Control and Prevention. Yellow Book; 2025.

Chikungunya Vaccine (VIMKUNYA):
Phase 3 trial safety data in ≥65-year-old patients

No vaccine-related serious adverse events or deaths were reported during the 6-month follow up period

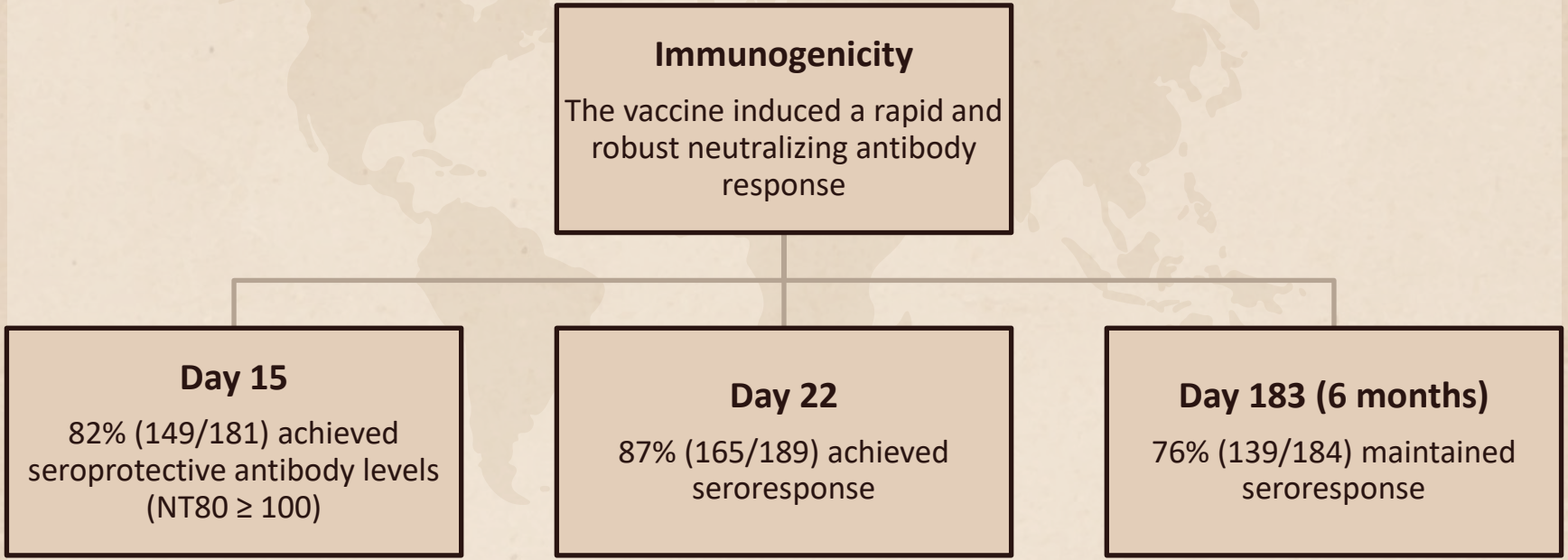
Post-authorization surveillance also found no serious adverse events in ≥65-year-olds after more than 12,500 doses administered

Data supports a favorable safety profile for the Chikungunya virus-like particle vaccine in elderly adults

Tindale et al. *Lancet*. 2025.

Chikungunya Vaccine (VIMKUNYA):

Phase 3 trial efficacy data in ≥65-year-old patients



Tindale et al. *Lancet*. 2025.

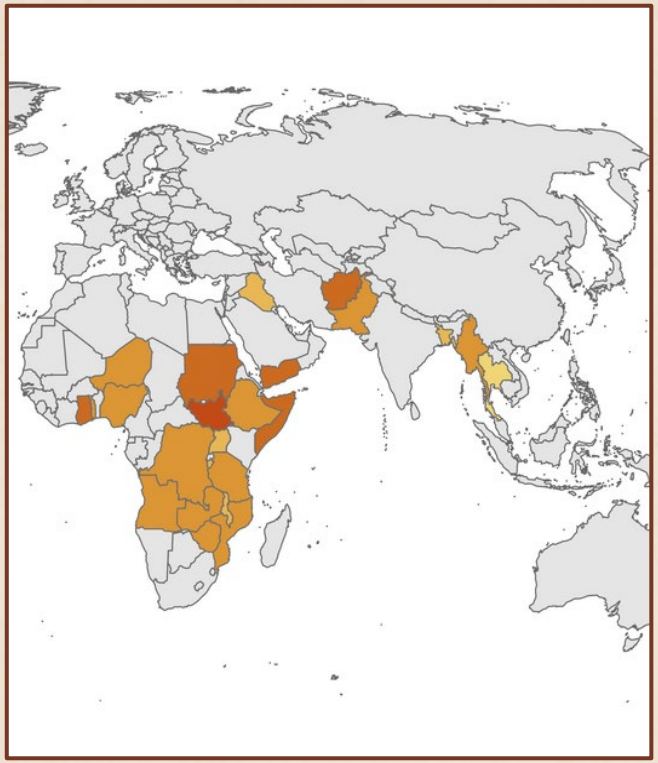
Cholera

Etiology: *Vibrio cholerae* toxin

Transmission: Contaminated food and water

Symptoms: Severe, dehydrating watery diarrhea which resembles rice water. Can rapidly progress to hypovolemic shock in a few hours

Centers for Disease Control and Prevention. Yellow Book; 2025.



Cholera

- **Vaccination:** single-dose oral vaccine (CVD 103-HgR); live, attenuated
- **Recommendation:** individuals aged 2-64 years old who are traveling to areas of active cholera transmission
- **Considerations:**
    - Must be administered ≥10 days before travel

Centers for Disease Control and Prevention. Yellow Book; 2025.

Japanese Encephalitis

Etiology: The Japanese encephalitis virus (JEV) is a single-stranded RNA arbovirus from the *Flaviviridae* family

Transmission: Bites from *Culex* mosquito species

Symptoms: Fever, headache, vomiting → disorientation, weakness, coma, and seizures

Centers for Disease Control and Prevention. Yellow Book; 2025.

Japanese Encephalitis

- **Vaccination:** 2-dose vaccine with booster dose at 1 year if ongoing exposure
- **Recommendations:**
  - Frequent or long-term travel (≥ 1 month) to an endemic area
  - Short-term travelers to an endemic area if during transmission season, the itinerary includes substantial outdoor time, or accommodations do not include air-conditioning, bed nets, or screens
- **Considerations:** complete series ≥1 week prior to travel

Centers for Disease Control and Prevention. Yellow Book; 2025.

Tick-borne Encephalitis

Etiology: The tick-borne encephalitis virus (TBE) is a single-stranded RNA arbovirus from the *Flaviviridae* family

Transmission: *Ixodes persulcatus, Ixodes ricinus, and Ixodes ovatus* tick bites or ingesting unpasteurized dairy products from infected animals

Symptoms: Fever, headache, vomiting, and weakness initially, followed by confusion, loss of coordination, difficulty speaking, weakness of the extremities, and seizures

Centers for Disease Control and Prevention. Yellow Book; 2025.

Tick-borne Encephalitis

- **Vaccination:** 3-dose series with booster dose at 3 years if ongoing exposure; inactivated, whole-virus vaccine
- **Recommendation:** travel to an endemic area + extensive outdoor activities
- **Considerations:**
    - Two vaccine formulations: children (1-15 years) and adults (≥16 years)

Centers for Disease Control and Prevention. Yellow Book; 2025.

Typhoid Fever

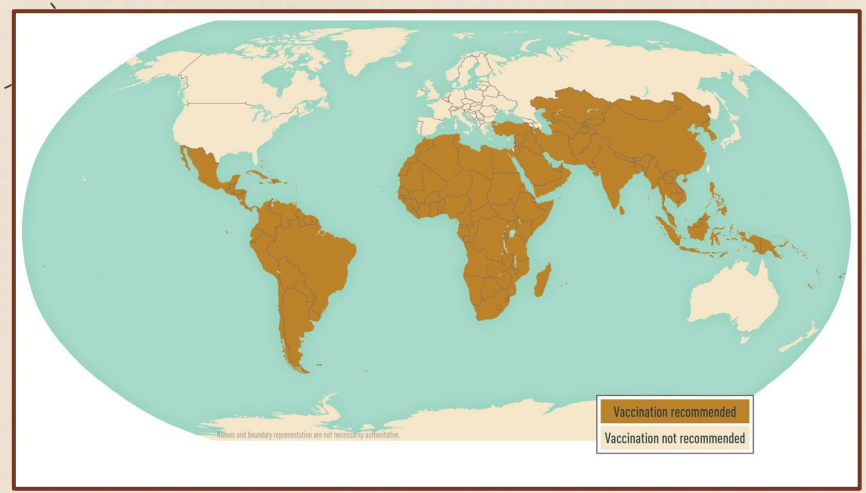
Etiology: *Salmonella enterica* Typhi and Paratyphi serotypes

Transmission: Contaminated food and water

Symptoms: Gradual onset of fever with fatigue, anorexia, headache, malaise, abdominal pain, and diarrhea; can progress to sepsis or intestinal perforation

Centers for Disease Control and Prevention. Yellow Book; 2025.

Typhoid Fever



- **Vaccination:** Intramuscular Vi polysaccharide vaccine (≥2 years old) or oral live, attenuated Ty21a vaccine (≥6 years old)
    - 43% efficacy with the oral vaccine, 61% with the intramuscular vaccine
- **Recommendation:** travel to endemic area
- **Considerations:**
    - IM: Administer ≥2 weeks before travel; booster dose every 2 years
    - PO: Complete 4 doses of oral vaccine (taken every other day) ≥10 days before travel; booster every 5 years

Centers for Disease Control and Prevention. Yellow Book; 2025.

Yellow Fever

Etiology: The yellow fever virus is a single-stranded RNA arbovirus from the *Flaviviridae* family

Transmission: Bites from infected *Aedes* or *Haemagogus* species mosquitoes

Symptoms: fever, chills, severe headache, myalgia, nausea, vomiting, fatigue, weakness → jaundice, bleeding, and shock

Centers for Disease Control and Prevention. Yellow Book; 2025.

Yellow Fever

- **Vaccination:** single-dose; live, attenuated
- **Recommendation:** travel to endemic area
- **Considerations:**
  - Administer ≥10 days before planned arrival per international requirements
  - Travelers should carry proof of vaccination (yellow card) for countries requiring yellow fever vaccination for entry

Centers for Disease Control and Prevention. Yellow Book; 2025.

Assessment Question #3

Case:
A 45-year-old man is traveling to Brazil for a 10-day eco-tourism trip in the Amazon basin. He has received standard adult vaccinations and reports a tetanus booster 6 years ago.

Question:
Which additional vaccine should be administered prior to travel based on destination-specific recommendations?
A. Yellow fever
B. Japanese encephalitis
C. Rabies
D. Cholera

Pre-travel Vaccination Scenarios

Pregnant Travelers

Routine live vaccines are contraindicated

- Measles, mumps, and rubella (MMR)
- Varicella

Destination-based vaccines may be used if benefit outweighs risk due to limited data

- Cholera
- Japanese encephalitis
- Typhoid (intramuscular formulation)
- Yellow fever

Centers for Disease Control and Prevention. Yellow Book; 2025.

Appropriate Vaccine Spacing

Most vaccines can be given at the same visit at separate injection sites

Administering multiple vaccines does not impair antibody response or increase rates of adverse reactions

There is no max number of vaccines a patient may receive at a single visit

Centers for Disease Control and Prevention. Pink Book; 2024.

Appropriate Vaccine Spacing

Live vaccines may be given simultaneously

If live vaccines are not administered on the same day, they should be separated by ≥4 weeks to avoid impaired immune response and reduced vaccine efficacy

If multiple live vaccines are not separated by ≥4 weeks, vaccines other than the original vaccine administered should be repeated

Centers for Disease Control and Prevention. Pink Book; 2024.

Appropriate Vaccine Spacing

Limited data shows reduced immunogenicity with co-administration of **yellow fever** and **MMR** live vaccines

If feasible, separate administration of yellow fever and MMR vaccines by 4 weeks

Centers for Disease Control and Prevention. Yellow Book; 2025.

Appropriate Vaccine Spacing

<table>
<tr><th>Study</th><th>Design</th><th>Results</th></tr>
<tr><td>Michel et al. J vaccine. 2015.</td><td>Compared the humoral response to yellow fever and measles in children vaccinated simultaneously or separated by 7-28 days, with the measles vaccine given first</td><td>284 children total
54 children vaccinated 7-28 days apart (test group)
91.7% positive measles serology
90.7% yellow fever antibodies</td></tr>
<tr><td>Silva et al. J vaccine. 2011</td><td>Assessed immunogenicity of the yellow fever and MMR vaccines given either simultaneously or 30+ days apart in 12-month-old children</td><td>1769 children total; seroconversion rates:<table><tr><th>Simultaneous administration</th><th>30-day separation</th></tr><tr><td>90% rubella
70% yellow fever
61% mumps
98% measles</td><td>97% rubella
87% yellow fever
71% mumps
98% measles</td></tr></table></td></tr>
</table>

Immunocompromised Travelers

Examples of travelers with limited immune deficits *not requiring* specialized precautions

- **Cancer**: Last chemotherapy ≥3 months and malignancy in remission
- **CAR-T, HSCT**: ≥2 years post-transplant, not taking immunosuppressants, no ongoing malignancy, and no GVHD
- **Autoimmune disease**: Not receiving immunosuppressive or immunomodulatory drug therapy
- **Corticosteroids**: >1 month since high-dose (≥20 mg/day of prednisone or equivalent for ≥2 weeks) steroid use

Centers for Disease Control and Prevention. Yellow Book; 2025.

Immunocompromised Travelers

Vaccines contraindicated in severely immunocompromised individuals

- Chikungunya (IXCHIQ)
- Cholera
- Measles, mumps, and rubella (MMR)
- Typhoid (live, attenuated)
- Varicella
- Yellow Fever

Centers for Disease Control and Prevention. Yellow Book; 2025.

Last-Minute Traveler Vaccination

Single-dose Protection

- Hepatitis A
- Meningococcal ACWY
- Polio booster
- Typhoid
- Tetanus-diphtheria
- Cholera

Accelerated Schedules

- Japanese encephalitis (day 0,7)
- Tick-borne encephalitis (day 0, 14)
- Hepatitis B (days 0, 7, 21)

Centers for Disease Control and Prevention. Yellow Book; 2025.

Travel Vaccinations in Development

2025-2029	2030-2034
Norovirus	Vivax Malaria
Shigella	Schistosomiasis
Inactivated Rotovirus	Hepatitis C Virus
Paratyphoid	Nontyphoidal salmonella
Zika virus	
Lyme	
Enterotoxigenic *E. coli*	

McGuinness et al. *J Travel Med*. 2025

Non-Pharm Protection

Wash hands, produce with peels, bottled water, cooked meats

>10% active ingredient bug spray & bed netting

Face mask or N95 respirator

Centers for Disease Control and Prevention. Yellow Book; 2025.

Take-Home Points

- Travel medicine consultation is a valuable yet under-utilized resource.
- Travel medicine recommendations are provided in the CDC Yellow Book.
- Malaria chemoprophylaxis regimen choice is driven by safety, tolerability, interacting medications, comorbidities, and patient preferences.
- Antibiotics may be considered for moderate to severe travelers' diarrhea, with azithromycin being the first-line agent.
- Pre-travel vaccination recommendations are patient and location specific.

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Questions?

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Travel Immunizations & Chemoprophylaxis:

Preventing Unwanted Infectious Souvenirs

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