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# A comprehensive guide on safe international travel medicine

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To lead a contemporary existence in today's globally linked world is to travel. Millions of individuals traverse international borders every day, whether it's for humanitarian, business, or travel-related causes. As we excitedly await the opportunity to immerse ourselves in many cultures and environments, it is crucial to recognise the significance of travel medicine in ensuring our safety and promoting global health. This article stresses the importance of travel medicine and urges readers to put their health and safety first while travelling.

As infectious illnesses have spread rapidly over the last decade, public health professionals throughout the world have had a tough time keeping up. Examples of such diseases and viruses include drug-resistant Mycobacterium tuberculosis, novel influenza strains, and severe acute respiratory syndrome virus. This astronomical number belies the fact that 200 IFMEs happen every single day on a global basis; one serious IFME impacts every 10-40,000 passengers; and around 0.35 fatalities per million incoming passengers annually. [2] In Preexisting medical issues account for about 67% of IFMEs; this proportion is rising as the population ages and more individuals enter retirement. On one hand, travellers may detect infectious diseases in underdeveloped countries, and on the other, they can transfer such diseases to other countries. To identify new infections and track changing patterns in travel-related diseases, it is advisable to visit a clinic that specialises in tropical medicine and travel medicine. 1, 3

## Medicines for Traveling to Other Continents or Vaccinations

Geographical monitoring of travel-related disorders is conducted by GeoSentinel sites, which are specialist travel medicine clinics spread across six continents. In a study of over 17,000 ill tourists, GeoSentinel found many global health risks, including typhoid in South Asia, dengue in the Caribbean, Central America, and Southeast Asia, and African tick-typus in Southern Africa.[4]

### Flu Colored Yellow

The mosquito-borne virus known as yellow fever is native to the tropics and subtropics of Africa and South America. Infectious illness vectors mostly include Aedes and Haemagogus mosquitoes. Evidence of the illness may be found by tests, symptoms, a history of immunization, contact with infected mosquitoes, and travel to an endemic area. In severe cases, fluids and aggressive supportive care are required, but there is no permanent therapy. A safe and highly efficient live-attenuated vaccine, namely the YF 17D immunization, may prevent yellow fever. In only 30 days, 99% of patients will feel the effects of the treatment, and the immunity will last a lifetime.[5]

### Prescribed Medications for Regular Travelers

Before embarking on a trip to a place with a high incidence of a particular health risk, a healthy tourist should talk to local doctors and take certain safety measures. In excellent health, travellers should make sure their normal immunisations are current and think about getting additional doses if needed, depending on their location. Vaccines protect against the flu, typhoid, diphtheria, hepatitis A and B, and t. Vaccines against yellow fever, rabies, and Japanese encephalitis may also be suggested, however this may vary depending on where you're going. No matter a traveler's overall health, a travel medical expert may provide advice and recommendations to ensure their safety and well-being while on vacation.[6]

### Patients with Long-Term Conditions Traveling

Patients with chronic diseases have an increased risk of developing additional health problems or complications as a result of their existing conditions. While malaria remains the most common infectious illness, other major avoidable causes of mortality among tourists include drowning, accidents sustained while driving, and deaths related to

tourism. People are enduring long-term diseases and seeing several healthcare providers for innovative treatments, which might result in disjointed health care. Because to changes in patient expectations, the widespread promotion of treatments for chronic conditions in recommendations, and the easier availability of effective pharmaceuticals. The prevalence of polypharmacy is rising. Numerous diagnoses given over a lengthy period of time are common among patients with multiple chronic diseases.[7]

### **Prescription Drugs for Travel**

In order to handle either short-term or long-term health difficulties, many individuals who travel overseas carry drugs with them. However, drug regulations vary from country to country. Unlike other types of medications, there is no set procedure for creating travel medications. Many drugs sold legally or prescribed for OTC use in the US may not be registered or may be considered restricted in other countries. There may be serious consequences for violating local laws, even if rules vary per country. In Table 1 you can see a few examples of common travel medications.

### **Transportation of Travel Medicines Across International Boundaries: Achieving Regulatory Acceptance**

International tourists may face challenges while trying to transport pharmaceuticals across borders. The International Narcotics Control Board is a non-governmental organization that deals with international treaties (INCB). The set of INCB standards that determine which drugs may be imported and in what quantities forms the basis of law in most jurisdictions. Table 2 displays the country-specific information that is officially available to passengers who are carrying medicines.(8, 9).

### **Global Congregation for Travel Medicine: The International Society for**

To fulfill the educational needs of both the public and specialists, the International Society of Travel Medicine (ISTM) was founded in 1991. >4000 people worldwide are members of ISTM. ISTM is a thriving, diverse, multinational association dedicated to making continuous, sustained contributions to the global progress of travel medical practice and knowledge. The ISTM promotes and facilitates teaching, service, and research initiatives in the field of travel medicine in collaboration with health-care professionals, academic institutions, the travel industry, and the media.[10,11]

**Table 1: General travel medicines**

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Medicine Analgesic Antihistamine Cold and flu Cough medicine Throat lozenges
Motion sickness tablets Diarrhea medicine Antacid
Antiseptic solution
Band-aids
Wound dressing items Insect repellent cream Mild laxative
Antifungal or antimicrobial cream
Multi-Vitamin tablet

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### **Travel Medicine for the Ocean**

Underwater travel medicine, often called hyperbaric medicine or just "underwater," is a subspecialty of general medicine that focusses on the well-being of divers and other water-based athletes. Scuba diving, underwater construction, submarine operations, and commercial diving are all part of this category. It is recommended that those planning a vacation speak with a medical professional in a facility that specialises in hyperbaric, tropical, and travel medicine.[12] The efficacy and safety of antimalarial drugs for use by travellers in hyperbaric environments is unclear.in [13] Concerns about health that arise as a result of these pursuits fall within this area of study.

These are some essential components of travel medicine for the ocean as shown in Table 3.

### **Travel Medicines for Sports Person**

Special precautions and attention to performance-enhancing elements are necessary for the health of athletes who travel for competitions or training.[14] More people attending these types of sporting events increases the risk of serious injuries, according to medical experts. The athletic event's medical personnel must be prepared to deal with any kind of emergency.References [14,15]: The country or area you choose to visit has significant decision-making implications [Table 4].

### **Travel Medicines for who Travel to High Attitude**

A common leisure activity that carries a risk of high- altitude disease is traveling to elevations exceeding 2500 m. Up to 75% of hikers who attempt to ascend Tanzania's Mount Kilimanjaro (5895 m) are afflicted with acute mountain sickness (AMS). General practitioners ought to be qualified to offer helpful guidance on avoiding high-

altitude sickness.<sup>[16]</sup> Due to pressed schedules, travelers— especially those traveling in organized groups—might

**Table 2: Carrying drugs in different nations approved by International Narcotics Control Board**

Country	Standard INCB template in use	Adherence to INCB-recommended maximum import quantities	Valid medical prescription required	Certificate endorsed by health authorities of the country of residence	Certificate issued by health authorities of the destination country	Presentation of original prescription at customs of the destination country	Government website available	Information available in English	Number of prohibited substances listed
Europe									
France	✓	✓	✓				✓		107
Spain	✓	✓	✓	✓				Unworkable	Unworkable
Italy	✓	✓	✓	✓					Unworkable
Turkey	✓					✓	✓		Unworkable
Germany	✓	✓	✓	✓					186
Asia									
China	✓	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable		Unworkable	3
Thailand	✓	✓	✓	✓*	✓*	✓-	✓		118
Japan	✓			✓-	✓*		✓	✓	7
Malaysia	✓	✓	✓	✓	✓	✓	✓	✓	7
Hong Kong	✓		✓				✓	✓	184
Americas									
USA	✓		✓			✓	✓	✓	245
Mexico	✓		✓			✓	✓		22
Canada	✓	✓					✓	✓	1547
Argentina	✓	✓	✓				✓		2
Brazil	✓		✓				✓	✓	Unworkable
Africa									
Egypt		Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable
Morocco	✓		✓	✓	✓			Unworkable	Unworkable
South Africa	✓		✓	✓	✓	✓		Unworkable	5
Tunisia	✓		✓		✓			Unworkable	Unworkable
Algeria	✓		✓	✓	✓	✓		Unworkable	Unworkable
Oceania									
Australia		Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	✓	✓	130
New Zealand	✓	✓					✓	✓	253
Fiji		Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	✓	✓	7
Papua New Guinea		Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	✓	✓	5
Samoa		Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	Unworkable	253+

\*Narcotics, - Psychotropics, and +New Zealand data is not regularly updated. INCB=International Narcotics Control Board, NA=Unworkable

**Table 3: Essential components of travel medicine for the ocean**

Essential components Pressure effects DCS

HBOT

Oxygen toxicity

Barotrauma

Medical assessments Diving regulations Emergency response

Diving and pregnancy

DCS=Decompression sickness, HBOT=Hyperbaric oxygen therapy

**Table 4: Crucial decisions for athletes to carry medical kit**

Crucial decisions

Government guidelines govern the entry of goods and medications that you are allowed to take in your bag across borders Requirements for vaccinations before entering the host nation in order to guarantee that the team and other visitors are suitable candidates for entry

A nearby supplier of medications and disposables makes it possible to top off depleted stock

pack. The creation of a post-trip follow-up process and the dissemination of information on safe travel practices to the patient are both necessary.[18] In Twenty percent to sixty percent of tourists who visit developing countries have traveler's diarrhea, according to a 2008 research on health problem prevalence.both [18,19] Immunocompromised persons should begin consultations many months before to departure in order to assess and minimize travel-related risks. Systematically considering each patient's unique immunocompromised condition improves pretravel counseling and therapies.In [20],

### The General Protocol to Follow While Assessing the Travelers is as Follows

- Examine the health of the traveler
- Identify the illness exposure risk
- Administer vaccinations and pertinent counseling
- Medical care
- Counseling food and water.

### Mobile Health Applications for Travel

The appropriate authorities should investigate the moral dilemmas posed by travel-related mobile health apps, identify major ethical voids, and provide solutions to these problems for future apps in this space.on pages 20 and 21, One strategy that has shown promise is using mobile health applications on a smartphone. This is because both the quality of mobile health technology and the use of smartphones have improved, making it easier and more reliable to gather data in real-time, monitor travelers' health behavior, and identify potential dangers. There are ethical concerns with mobile apps for travel medicine, including concerns about security and privacy, despite the fact that they provide several advantages, such access to real-time data.[22] is a With the advent of mobile health and medical apps, travel medicine will undergo a transformation.

### Future Prospects of Travel Medicine in Terms of the Pandemic

A number of variables, such as improvements in medical research, modifications in travel habits, and the worldwide reaction to infectious diseases, are expected to have an impact on the future of travel medicine in light of the pandemic. Potential trends and developments include the following

- Passports for vaccinations and health certificates
- A more thorough pretrip health screening
- Emphasis on virtual consultations and telemedicine
- Quick diagnostic equipment
- New vaccine development and research
- Early warning and public health surveillance systems.



## Conclusion

These days, no trip would be complete without travel medication. Vaccination, disease prevention, and the management of preexisting medical conditions are all part of a preventative approach to travel medicine that is necessary for a worry-free journey across the globe and the return of unforgettable memories. As a global community, we can all do our part to prevent the spread of disease by taking precautions when we travel.

## References

- Gautret P, Freedman DO. Travel medicine, a speciality on the move. *Clin Microbiol Infect* 2010;16:201-2.
- Cocks R, Liew M. Commercial aviation in-flight emergencies and the physician. *Emerg Med Australas* 2007;19:1-8.
- Silverman D, Gendreau M. Medical issues associated with commercial flights. *Lancet* 2009;373:2067-77.
- Freedman DO, Weld LH, Kozarsky PE, Fisk T, Robins R, von Sonnenburg F, *et al.* Spectrum of disease and relation to place of exposure among ill returned travelers. *N Engl J Med* 2006;354:119-30.
- Monath TP, Vasconcelos PF. Yellow fever. *J Clin Virol* 2015;64:160-73.
- Schwartz BS, Larocque RC, Ryan ET. In the clinic. Travel medicine. *Ann Intern Med* 2012;156:C6-15.
- Sørensen HT. Patients with chronic diseases who travel: Need for global access to timely health care data. *Clin Epidemiol* 2022;14:513-9.
- Kissane JR, Flaherty GT. Transportation of therapeutic and controlled drugs across international borders: A descriptive analysis of information available to travellers. *Int Health* 2023;15:104-6.
- Kozarsky PE, Keystone JS. Introduction to Travel Medicine. *Travel Medicine*. 2008:1-3. doi: 10.1016/B978-0-323-03453-1.10001-X.
- Steffen R, Amitirigala I, Mutsch M. Health risks among travelers-need for regular updates. *J Travel Med* 2008;15:145-6.
- Korzeniewski K, Krzyżak J. Travel medicine for divers. *Int Marit Health* 2017;68:215-28.
- Petersen K, Regis DP. Safety of antimalarial medications for use while scuba diving in malaria endemic regions. *Trop Dis Travel Med Vaccines* 2016;2:23.
- Derman W. Guidelines for the composition of the travelling medical kit for Sports Medicine professionals. *International SportMed Journal* 2011;12.
- Buettner CM. The team physician's bag. *Clin Sports Med* 1998;17:365-73.
- Heywood AE, Watkins RE, Iamsirithaworn S, Nilvarangkul K, MacIntyre CR. A cross-sectional study of pre-travel health-seeking practices among travelers departing Sydney and Bangkok airports. *BMC Public Health* 2012;12:321.
- Chiodini JH, Anderson E, Driver C, Field VK, Flaherty GT, Grieve AM, Green AD, Jones ME, Marra FJ, McDonald AC, Riley SF. Recommendations for the practice of travel medicine. *Travel Medicine and Infectious Disease*. 2012 May 1;10(3):109-28.
- Flaherty GT, Kennedy KM. Preparing patients for travel to high altitude: advice on travel health and chemoprophylaxis. *British Journal of General Practice*. 2016 Jan 1;66(642):e62-4.
- Kamata K, Birrer RB, Tokuda Y. Travel medicine: Part 1-the basics. *J Gen Fam Med* 2017;18:52-5.
- Patel RR, Liang SY, Koolwal P, Kuhlmann FM. Travel advice for the immunocompromised traveler: Prophylaxis, vaccination, and other preventive measures. *Ther Clin Risk Manag* 2015;11:217-28.
- Ferretti A, Hedrich N, Lovey T, Vayena E, Schlagenhauf P. Mobile apps for travel medicine and ethical considerations: A systematic review. *Travel Med Infect Dis* 2021;43:102143.
- Baroutsou V, Hatz C, Blanke U, Haile SR, Fehr J, Neumayr A, *et al.* TOURIST2 – Tracking of urgent risks in Swiss travellers to the 6 main travel destinations – Feasibility and ethical considerations of a smartphone application-based study. *Travel Med Infect Dis* 2021;39:101912.
- Lai S, Farnham A, Ruktanonchai NW, Tatem AJ. Measuring mobility, disease connectivity and individual risk: A review of using mobile phone data and mHealth for travel medicine. *J Travel Med* 2019;26:taz019.