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27th Linzer Conference on Travel Medicine Annual Meeting of the Upper Austrian Society for Travel Medicine (Oberösterreichische Gesellschaft für Reisemedizin) Linz, Austria, 26 April 2025

Martin Haditsch

Congress President

Conference reports

About the Meeting

As usual, the meeting took place at Linz, the beautiful town with its baroque buildings halfway between Vienna and Salzburg (Austria). The topics were sorted according to the following headlines:

1. Heights and depths.
2. Cause for concern.
3. Time is life.
4. Exceptional...

The abstracts presented here are sorted alphabetically by names of the lecturers.

Keywords

- travel medicine
- Upper Austrian Society for Travel Medicine
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Corresponding authors

Prof. Dr. Martin Haditsch, PhD, MD
e-mail: leonding@travelmed.at
TravelMedCenter Leondin
Hochstrasse 6a, 4060 Leonding
Austria

Prof. Thomas Küpper, PhD, MD, FISTM, FFTM RCPS (Glasg.)
e-mail: tkuepper@ukaachen.de
RWTH Aachen Technical University
Institute for Occupational, Social and Environmental Medicine
Pauwelsstraße 30, 52074 Aachen
Germany

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Sick in India

Santanu Chatterjee

KPC Medical College & Hospitals, Kolkata, India (Visiting Lecturer)

Travelers to developing regions experience illnesses during their travel. Previous studies have estimated that around 22–64% of international travelers become ill during or after travel. However, this information was based on limited data and on specific traveler population. Subsequently, four studies among travelers from United States and Europe travelling to India, Tanzania and Kenya found that 43–79 % travelers reported a travel-related illness. While most of the illnesses are mild, some can be serious, especially in developing countries, and arise as a direct result of acute travel-related illness or from exacerbations of pre-existing conditions. Factors like destination, duration of travel, and individual behavior and susceptibility to infection influence such risk.

It is estimated that approximately 8% of travelers reporting travel illness require medical attention, with 0.3% requiring hospital admission either during their trip or upon their return from a developing country. What is important is how and when does our traveler seek medical help abroad. The most common illness among travelers to Indian subcontinent is travelers diarrhea followed by respiratory ailments. However, road traffic accidents or animal bites still remain the main cause of seeking urgent medical assistance.

In the post-Covid era, a paradigm shift in health care access has occurred with increasing use of telemedicine and supportive digital tools. Moreover, such platforms like travel assistance services are offering comprehensive programs designed to support travelers before, during and after their travels. These services provide both medical evacuation and security assistance and therefore provide a proactive approach to help mitigate common health and logistical challenges. Increasing use of mobile apps, AI and predictive analytics and real time remote patient monitoring will revolutionize future travel health by making healthcare more accessible and providing timely medical intervention.

Update vaccinations

Bernd Haditsch

Travel Med Center Graz (Prophy Docs Ärztezentrum)

(Long-distance) travelers are confronted with infectious diseases in the countries they visit that no longer exist or do not (yet) exist in our country. Epidemiological and geomedical issues, as well as individual and travel-related questions, should be taken into account in individual vaccination counselling and ultimately in informed decision-making.

Data, networks and information platforms on the occurrence, incidence and frequency of infectious diseases facilitate this decision-making process, but personal and individual consultation with the traveler(s), taking into account their respective protection needs, remains crucial in order to be able to put together a tailor-made travel vaccination programme.

1. This presentation will focus on the latest developments in the field of travel vaccinations, in particular dengue, chikungunya and M-pox. This will be supplemented by updated data on established travel vaccinations (typhoid, hepatitis A, Japanese encephalitis). For information on rabies, please refer to the special presentation (M. Haditsch).

   At this point in time, no general vaccination recommendation can be given for travelers to endemic areas with regard to dengue. In individual cases, vaccination may be indicated, according to STIKO only in cases of dengue infection. TAK-003 (Qdenga®) shows good or acceptable efficacy against DENV2 and DENV1, whereas its efficacy against DENV3 and DENV4 is (too) weak. The second approved vaccine, CYD-TDV (Dengvaxia®), is currently not available in Austria (and its use is very limited due to potential ADE).

   The chikungunya vaccine IXCHIQ® was approved by the FDA in November 2023 and by the EMA in July 2024. The seroresponse rate after 6 months is 96.3%. Currently, the recommendation applies to travelers to endemic areas with a corresponding epidemiological risk (from the age of 18), and the limitations are the same as for other live vaccines.

   Vaccination against mpox (Imvanex®) is only indicated in special situations; it is not a classic travel vaccination. Vaccination is recommended as a high priority for people after exposure (post-exposure prophylaxis).
2. This is followed by a brief overview of which travel-related vaccinations are at which stage of development – in particular malaria, HIV, Shigella and schistosomiasis.

   Although not yet relevant for travelers, there are two vaccines for malaria that have already been added to the WHO list of prequalified vaccines: the RTS,S/AS01 (Mosquirix®) vaccine, added in 2022, initially showed 56% efficacy in the approval study, but this declined rapidly. In a phase III RCT, R21/

Matrix-M shows a (1-year) efficacy of 75% (*Lancet*, 2024).

For schistosomiasis, there are two vaccine candidates in phase I and two in phase II, and one in phase III (Sh28 GST Vaccine); for Shigella, there are five candidates in phase I, three in phase IIa and one vaccine candidate in phase III (ZF0901). For HIV, there are 31 vaccine candidates in phase I and two in phase II. No reliable data on the development status of a Zika vaccine is currently available.

3. Finally, the vaccinations listed as 'generally recommended' in the current Austrian vaccination schedule for 2024/25 are reviewed for any new information relevant to travel advice.

Rabies is deadly

Martin Haditsch[1,2]

[1]TravelMedCenter Leonding, Austria
[2]Labor Hannover MVZ GmbH, Germany

The title of the lecture says it all: Rabies is considered the only absolutely (i.e. practically 100%) fatal infectious disease. This is not contradicted by (rather anecdotal) reports of extremely rare cases involving possible receptor defects that prevent the virus from attaching to (nerve) cells, or reports of individual cases, including a girl who (allegedly – scant evidence!) survived rabies after being treated with a specific protocol (Milwaukee protocol).

The typical source of these infections is animals, whereby a distinction should be made between sylvatic and urban rabies, as this is not only, but also relevant to travel medicine: sylvatic rabies, for example, rarely poses a risk to travelers even in rabies-endemic areas, whereas urban rabies often leads to (potential) risk exposure for travelers.

In addition to information on how to behave (in principle, any mammal can transmit rabies, but stray dogs are by far the most common carriers), travelers should also be advised that any form of contact with animal saliva, i.e. not only bites but also scratches and licking, carries a significant risk.

Preventive measures pursue different strategies:

d) a reduction in the number of potential sources of infection (e.g. by reducing the reproductive capacity of stray dogs);
e) a reduction in the incidence of rabies in animals (through [bait] vaccination);
f) a reduction in potential contact with rabid animals (conscious behaviour);
g) preventing infection in travelers (through PrEP);
h) preventing the onset of the disease (through PEP).

While proven cases of rabies (and therefore deaths) are rare, travelers should consider the potential risk of rabies exposure to be approximately 1/5000 per month of stay. The extent to which this ultimately leads to a decision to vaccinate before travel should depend on travel variables (such as duration, destination and style), compliance (ability to comply; children?), personal safety needs and, ultimately, the medical care available locally. The often limited availability of rabies immunoglobulin in particular restricts the possibility of PEP in many countries.

There are now different protocols / vaccination schedules for vaccination before travel, which will be explained in the presentation.

Additional note: The value of a sufficiently tested and decades-long re-evaluated protective vaccination is particularly impressive in the case of the low-side-effect and highly effective rabies vaccination against the deadly disease.

For the sake of completeness, laboratory infections and those caused by organ transplants should also be mentioned here. The significance of the latter transmission route has just been confirmed once again by a tragic case of death from rabies in the USA.

Sick child = emergency?

Reinhold Kerbl

LKH Hochsteiermark, Department for Children and Young People, Leoben, Austria

Even experienced (emergency) doctors often have a lot of respect, and sometimes even fear, when treating sick children. This applies to both diagnosis and treatment, with the latter often lacking the knowledge and experience to determine the appropriate medication dosage. This article and presentation are intended to help achieve a certain level of confidence when dealing with children.

Physiological characteristics: Depending on their age, children not only have a different weight, height and body surface area than adults, but also a (relatively) higher fluid requirement and turnover, (relatively) higher calorie requirements, higher heart and respiratory rates, lower blood pressure, higher sleep requirements, higher thermolability and, finally, a different metabolism (including for medications).

Additional risks: When traveling, additional risks arise, among other things, because children are often unable to recognise dangers sufficiently (traffic, animals), 'touch everything' and put their hands in their

mouths, have incomplete immunity in early childhood, and prophylactic measures (repellents, sun protection, vaccinations) can only be used to a limited extent.

Fever when traveling: Fever is a common symptom in children and can have numerous causes. Depending on the travel destination, specific causes such as malaria, leishmaniasis and others may be added to the 'usual' (mainly viral or bacterial) infections. Medical history, clinical presentation, type of fever and, if necessary, laboratory test result values can provide clues as to the cause and thus help to select the right treatment (e.g. the right antibiotic). Rapid treatment is essential, especially in cases of sepsis.

Dehydration: Fluid loss (especially through vomiting and diarrhea) can quickly lead to life-threatening dehydration in young children. Rehydration (preferably oral) is therefore one of the most important measures (also) for traveler's diarrhea; if necessary, it can or must also be administered via a tube, intravenously or intraosseously.

Respiratory diseases, allergies, skin diseases: There are also numerous causes and forms of these diseases. Appropriate medication should be carried in the first-aid kit (see abstract volume *Travel Medicine*, 2023, or publication in the *Monthly Journal of Paediatrics,* doi: 10.1007/s00112-017-0430-x).

Assistance systems: Professional (child-oriented) assistance systems can provide support both during travel preparations and (by telephone or via the Internet) during the trip (e.g. contact with local practitioners). In extreme cases, repatriation can be arranged.

Dental care on the Himalayan trek

Thomas Küpper[1,2]

[1]RWTH Aachen Technical University, Institute of Occupational, Social and Environmental Medicine, Aachen, Germany
[2]Royal College of Physicians and Surgeons, Faculty of Travel Medicine, Glasgow, Scottland

When was the last time you heard anything about teeth? Probably in histology class. And dental emergencies? Probably not. And emergencies of this kind far from civilisation? Probably never! Do they not occur, or is the topic ignored in travel medicine?

Dental problems and emergencies are surprisingly common: some kind of dental problem occurs on 1 in 23.7 trekking days; bleeding gums on 1 in 37.7 trekking days; toothache on 1 in 145.2 trekking days; lost fillings on 1 in 339 trekking days; broken teeth on 1 in 509 trekking days. Based on the number of travelers, this means that every season in the Annapurna region alone, a large village or small town is affected. Due to a lack of alternatives, the majority will turn to doctors who are also trekkers.

An overview of the risk factors and the numerous options for effective first aid measures to bridge the time until dental expertise can be obtained is provided. A molecular biological outlook for the future is also given, as a prospective study to validate the results of our field study could make it possible to identify and specifically educate people at risk before they travel.

Update on epidemics — a danger for travelers

Thomas Ly

Bangkok Hospital, Bangkok, Thailand

An un-FEAR reflection and an un-FEAR review: Years ago, especially when it came to long-distance travel, the saying was 'the journey is the destination.' However, during the coronavirus pandemic, each of us experienced what travel and movement restrictions, quarantine and mandatory measures can really mean.

In the first part, we look at the 'measures'. During the height of the pandemic, hardly anyone was traveling internationally. Let's take a brief look at the reality of the Hanover–Bangkok–Hanover route during the lockdown. We will also look at the problems faced by a couple who suddenly fell ill (non-COVID) while in isolation in a quarantine hotel in Bangkok.

In the second part, we look at two 'past outbreaks':

1. Filovirus: On 8 August 2014, the WHO declared a PHEIC due to an Ebola outbreak in West Africa.
2. Flavivirus: Before the Ebola PHEIC in August 2014, we had the issue of 'dengue' in relation to the 2014 World Cup in Brazil. On 1 February 2016, the WHO then declared a PHEIC due to a Zika outbreak in South America (originating in the Pacific Islands in 2013 and spreading across Latin America in 2014).

How was this handled and what ultimately happened?

The Bangkok General Hospital

Thomas Ly

Bangkok Hospital, Bangkok, Thailand

Will you always wander?
Look, the good is so close.
(J.W.v. Goethe)

Reasons why a doctor living in Germany works in a hospital 8,800 km away in Thailand. In Bangkok, he also treats infectious disease patients from Germany as an infectious disease specialist. An insight into his everyday working life with case presentations of German patients (non-expats), including:

1. Myiasis (not endemic in Thailand).
2. Synanceiidae intoxication-induced hepatitis (not acquired in Thailand).
3. Open and infected shoulder joint after joint replacement surgery (performed in Germany).
4. Lacaziosis (not acquired in Thailand).

Contact with poisonous animals and first aid

Dietrich Mebs

University of Frankfurt, Main, Germany

It's not uncommon for travel medical advice to raise the question of what to do if you're stung or bitten by a poisonous animal. However, the options for taking precautions are very limited. In the case of poisonous animal accidents, rapid transport to the nearest doctor is usually paramount and often life-saving.

When traveling to the sea, painful injuries following contact with jellyfish are particularly common. Dousing the affected area of skin with white wine vinegar at least prevents further discharge of stinging cells. However, freshwater should never be used. If sudden cardiovascular symptoms occur, seek medical help immediately. Especially in tropical waters, there is a risk of encountering dangerous jellyfish species such as the sea wasp, Chironex fleckeri, with serious, even fatal consequences.

Recently, encounters with stingrays in shallow water have been offered as a special experience, allowing you to come into contact with the fish. A risky undertaking, as rays have a stinger on their tail with which they can cause serious, even fatal, injuries.

Snakebites are always considered potentially life-threatening. All measures often recommended, such as incising the bite wound, applying a tourniquet, or alternative treatments by local healers and shamans, are counterproductive and should be avoided. The intravenous administration of an antiserum, which is fraught with complications (anaphylaxis), is the only specific treatment. Antisera should therefore be administered exclusively by a physician. Any self-administration is life-threatening. Since antisera must be stored at 4°C, carrying them in your luggage is prohibited. Furthermore, they are difficult to obtain and, at best, only available in the countries concerned.

People who are allergic to bee and wasp stings are strongly advised to carry their first aid kit with them.