Not a Tropical Medicine Expert? Think Again: 6 Steps to Effectively Triage the Febrile Post-Travel Patient

Presented June 4, 2019 at ATHNA's NED, Washington, DC

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Julie has nothin', nada, zip

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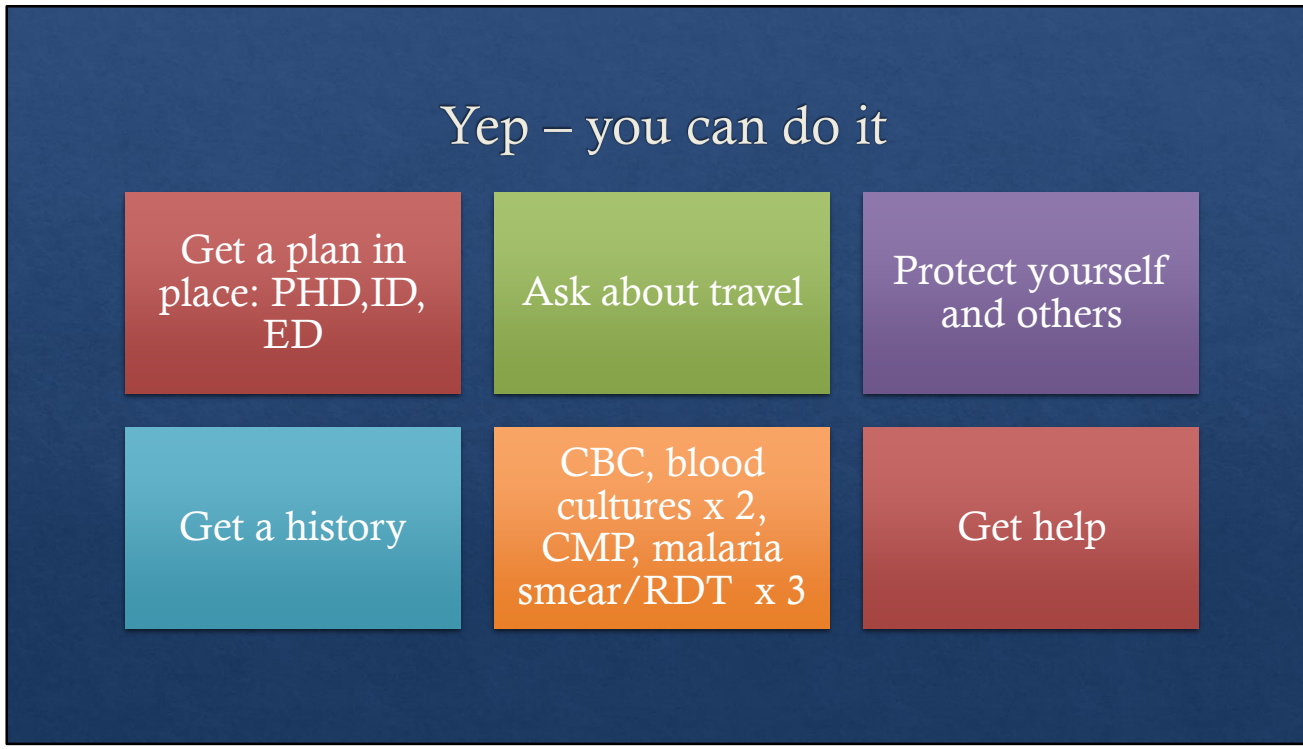
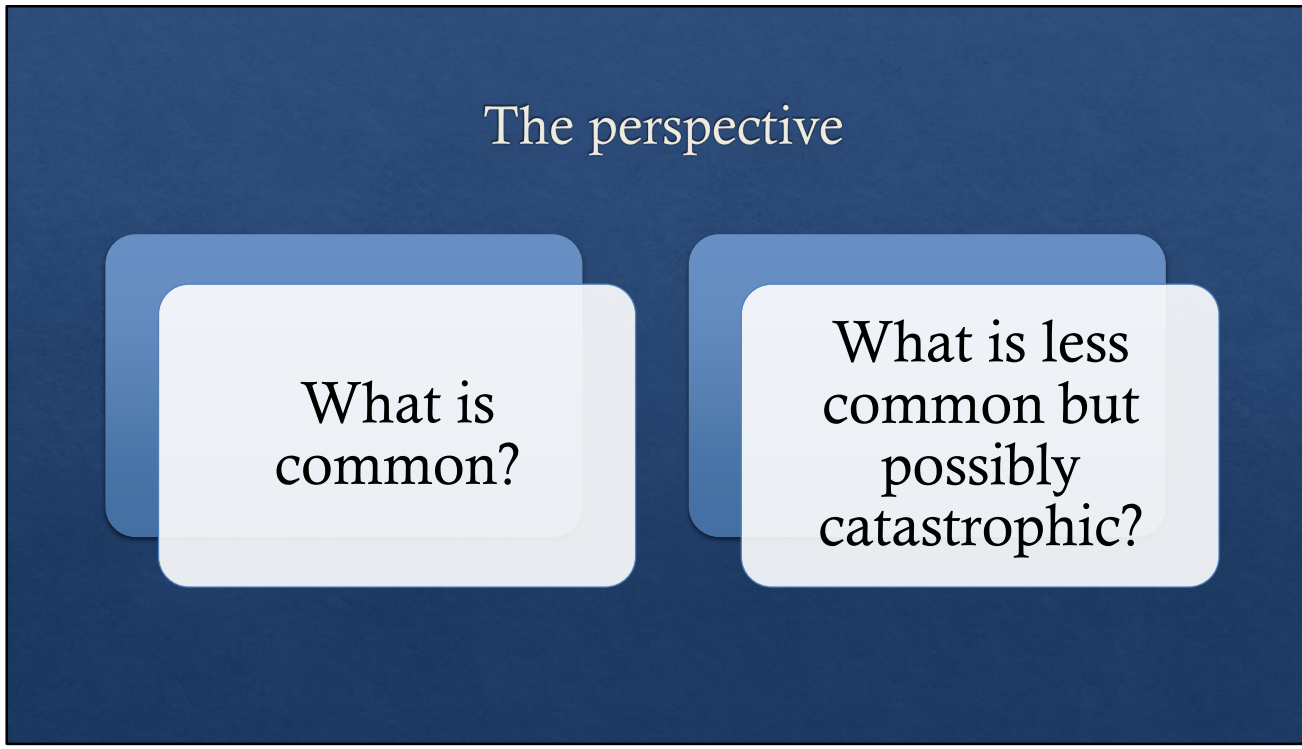


There are 6 simple steps that anyone can to do improve outcomes for post-travel patients. You don't need to be a tropical medicine expert to be an effective advocate for these patients. Planning is key. You need to reach out beyond your own clinic and identify the various stakeholders (e.g. the health department contacts, infectious disease specialists you can consult with and refer patients to, emergency room staff). You need to get a team in place with appropriate contact phone numbers especially in the off-hours. We have the backline number for an ED coordinating nurse – I always call them in advance of sending a patient to the ED explaining what my concerns are (often includes malaria) and what I would like done. Always send your notes along with the patient.



You likely already have some idea of what is common based on your current or past experience. Things like viral respiratory infections including influenza, traveler's diarrhea and insect bites or skin infections. There is a list of possibly catastrophic illnesses that you do need to familiarize yourself with.

Standard of Care: Always ask about travel

If you don't do anything else for your patients – always ask about this. Most clinicians in most settings do not do it and yet, the number of travelers have significantly increased over the last few decades. It is imperative certainly in any febrile patient.

Appreciate what you don't know…but don't let it overwhelm you.

- List is long
- Some life-threatening
- Life-threatening can appear benign
- History of fever is important

No, you can't learn everything from just "looking it up in the Yellow Book." That being said, realizing what you don't know is always a good place to start. Being over-confident and assuming someone isn't at risk is way more problematic.

Always ask

- Is this a risk for me?
- Is this a public health risk?
- How much time do I have?
- How sick is this patient?
- Malaria – yes or no?

The late Dr. Alan Magill, Gates Foundation Director of Malaria and former president of ISTM, always said the first thing he did when he encountered a post-travel patient was to try and determine if there was a risk to him. If it's a risk for him, it may also be a serious risk to your co-workers or even the entire community. The worst of these would be the viral hemorrhagic fevers such as Ebola, Avian influenza , Middle Eastern respiratory syndrome.

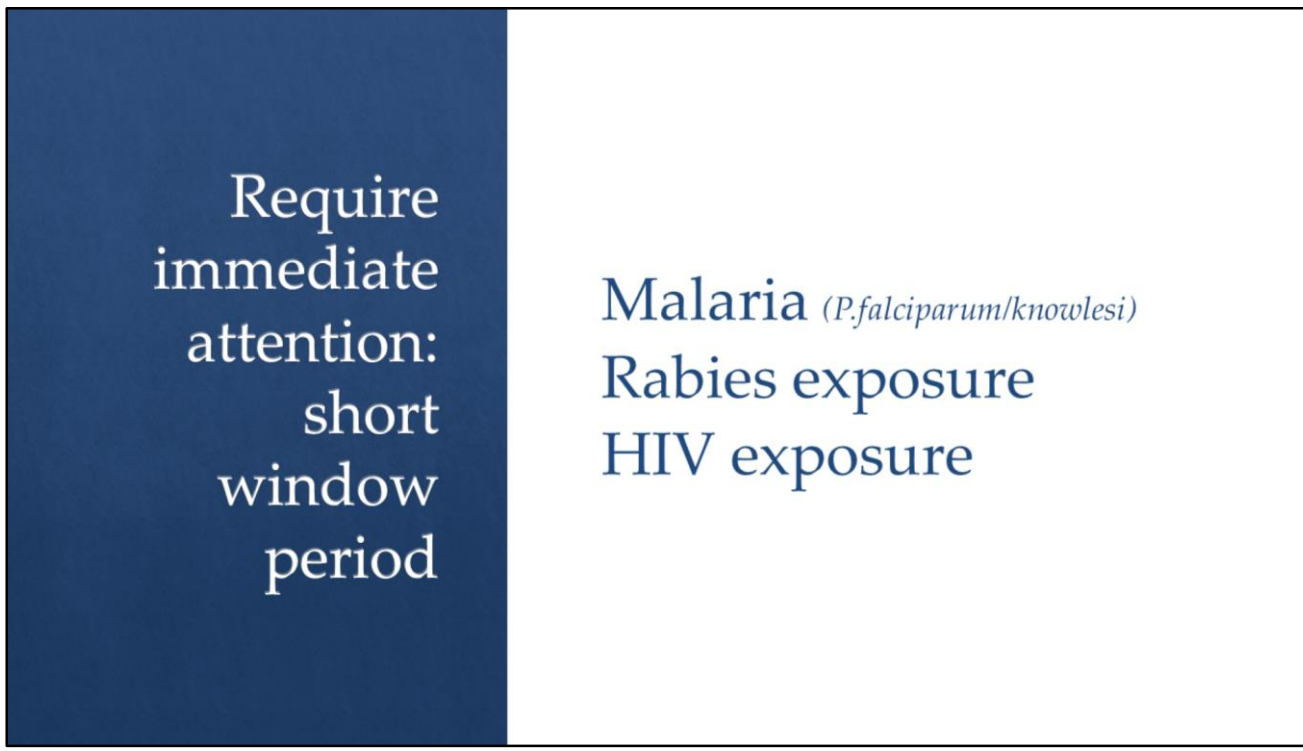
While it is true that some clinicians will need more extensive equipment and high tech containment areas for certain problems, many health care professionals don't take advantage of the personal protective equipment they do have such as masks – do not hesitate to use them for yourself as well as your patient. Try to contact any concerning patients in advance of their arrival to the clinic so you can prepare at least somewhat in advance.

Assessing Risk: Travel History

- Patient
- Destinations/dates
- Purpose of visit
- Accommodations

Anyone can get a basic history, what places did you visit? When did you leave and when did you get back? What did you do there? What was the purpose of your trip? What type of accommodations did you have? The more detail the better.

Conditions such as these are your “Do Not Miss” public health concerns that require an immediate response – do not hesitate to ask your health department for assistance.



These are 3 concerns that are fairly common among travelers and need immediate attention. All of these can have a catastrophic outcome – that can almost always be prevented.

Require immediate attention: very sick

- Confusion
- Hypotension
- Hypoxemia
- Fever/rash

Of course, these are signs of critical illness that require appropriate same day referral, often to a critical care unit. Don't be dismissive of fever and rash even if the person does not appear particularly ill at the moment. Rickettsial infections can be life-threatening if left untreated and doxycycline is usually the drug of choice. Other illnesses may have significant public health risks such as measles or chickenpox.

FEVER in a traveler is malaria until proven otherwise

Diarrhea? Don't be reassured

1,962 post-travel patients with fever – who had GI symptoms?

- 56% with Falciparum malaria
- 42% with dengue
- 47% acute schistosomiasis
- 19% with rickettsial infection

Battieau et al, Fever After a Stay in the Tropics

Health care providers have a big issue with dismissing potentially very serious conditions because their knowledge is limited and they assume the illness is benign. FEVER in a traveler is malaria until proven otherwise.

Still a big problem

"…we believe the most critical diagnostic step in the clinic is the clinician's appreciation of the high prevalence of malaria in travelers returning from malaria endemic areas." (Taylor, et al)

CDC
Malaria Hotline
770-488-7788 or
855-856-4713 M–F,
9am–5pm ET
After hours
770-488-7100

- Look for smears on SAME DAY
- Caution with oral medications
- IV Artesunate now first line for severe malaria in US
- No NSAIDS/Pepto Bismol until dengue ruled out

You have to follow-up on your labs that day, especially malaria screens. Next day review is unacceptable as overwhelming parasitemia can occur within hours. Use the CDC hotline when you have a positive result. I strongly recommend calling them in every instance even with good infectious disease clinicians involved – sometimes tropical medicine is not their focus. Moreover, ID specialists tend not to be available in the emergency department and those clinicians may have very little knowledge of malaria. IV Artesunate is only available in certain CDC quarantine centers. Other drugs are not appropriate for severe malaria which includes parasitemia levels of greater than or equal to 5%. As a general rule recommend acetaminophen as appropriate to post-travel patients with fever and avoid salicylates and NSAIDs due to a theoretical risk of severe (i.e. hemorrhagic dengue).

Summary

Screen	Screen for travel!
Get	Get help – PHD, ID, ED
Know	Know what you don't know
Get	Get a comprehensive history
Do	Do a thorough exam
Consider	Consider incubation periods
Use	Use the order set
Be	Be a patient advocate

Best yet

Thwaites, G. et al (2017). Approach to Fever in the Returning Traveler, NEJM, 376 (6): 548-560.

This is still a wonderful article and I highly recommend it. They did a beautiful job of putting together very useful, comprehensive summary tables.

Resources/References

- CDC Yellow Book 2018
- American Travel Health Nurses Association (www.ATHNA.org)
- International Institute of Education, *Open Doors Report, 2016(online)*
- Gideon/Fevertravel
- GeoSentinal Global Surveillance Network (online)
- International Society of Travel Medicine (www.ISTM.org)
- Emerging Infectious Disease Podcasts (CDC)

Resources/References

- Sanford, C. and Fung, C. (2016). Illness in the Returned International Traveler. Med Clin North Am. Mar;100(2):393-409.
- **Wilson**, M. and A. Boggild (2011) Fever and Systemic Symptoms, Chapter 130 in Tropical Infectious Diseases: Principles, Pathogens and Practice (925-938).
- Miranda, I. et al (2016). High carriage rate of ESBL-producing *Enterobacteriaceae* at presentation and follow-up among travellers with gastroinestinal complaints returning from Indian and Southeast Asia, JTM, 23 (2)
- Dupont, H. Persistent Diarrhea: A Clinical Review (2016). JAMA, 315 (24): 2712-2722.
- 2015 International Travel Health Guide, Stuart Rose, MD and Jay S. Keystone, MD (online edition)