

Guiding the consultation: the informatics of travellers' health in a check-list

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Summary Points

- The travel health consultation involves wholistic and individualised risk assessment (this traveller, this trip and this time)
- The issues are much wider than infectious diseases
- Resources such as a pre-consultation questionnaires, checklists and travel health data sources can improve the quality of the consultation



The Pre-Travel Consultation



The Pre-Travel Consultation – Risk Assessment

- Itinerary
- Reason for travel
- Duration, style and season of travel
- Medical history
- Immunization history
- Allergies
- Special health needs



The Pre-Travel Consultation – Risk Management Topics

- Food and water precautions
- Insect bite prevention
- Immunizations
- Malaria Prevention
- STIs
- Travel medical insurance
- Air transportation issues, e.g. DVT
- Environmental risks
- Safety and security
- Travellers with special needs
- Cultural issues



UNIVERSITY HEALTH SERVICE QUESTIONNAIRE
Please also bring to your appointment: Your University Record & Childhood Travel and Travel History

Surname _____ First Name _____		D.O.B. ____/____/____ BMMH(0000)	
Locality of birth _____ in which country did you spend your childhood?			
Did you complete your Childhood immunisation? YES <input type="checkbox"/> NO <input type="checkbox"/> unsure <input type="checkbox"/>			

Date of Departure _____ Date of Return _____ BMMH(0000)

Passport for Trip		Date of Departure _____ Date of Return _____ BMMH(0000)	
Destination: France <input type="checkbox"/>	China: Tibet <input type="checkbox"/>	Destination: Myanmar <input type="checkbox"/>	Visiting Foreigners: <input type="checkbox"/>

Activities planned during travel:

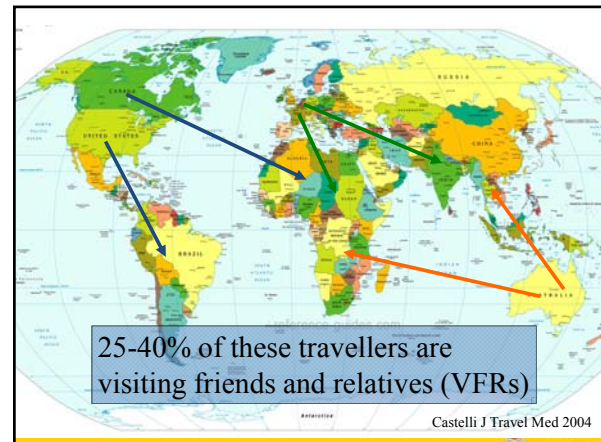
Work - Remote <input type="checkbox"/>	Working <input type="checkbox"/>	High altitude <input type="checkbox"/>	Climbing <input type="checkbox"/>	Caveing <input type="checkbox"/>
Adventurous <input type="checkbox"/>	Overlanding <input type="checkbox"/>	Paragliding <input type="checkbox"/>		

Complete your travel history chronologically in chronological order

Country	Region	Length of stay	Month of stay	Type of visit	Type of accommodation

Recent Medical Conditions: Under ☐ 50 ☐ 50+ **Indicate Severity** ☐ Absence **Indicate the following periods of hospitalisation**

Yes	No	Yes	No
Heart Condition: Atherosclerotic / Coronary	Stroke: Ischaemic	Stroke: Ischaemic	Stroke: Ischaemic
High Cholesterol	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease
High Blood Pressure	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease
Diabetes	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease
Angina pectoris	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease
Valvular	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease	Myocardial Ischemia / Coronary Artery Disease
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Visiting friends and relatives

- Less likely to seek pre-travel advice
- Longer stays overseas, often in resource poor settings
- Live like “the locals”
- Higher risk for malaria¹, influenza², typhoid³, hepatitis A⁴
- Opportunistically educate, where possible

1. Leder. *Clin Infect Dis*. 2004 39:1104-12.
2. Leder. *Clin Infect Dis*. 2003 36:399-406.
3. Mermin. *Arch Internal Med*. 1998;158:633-8.
4. Behrens. *BMJ* 1995;311:193.



The Older or Chronically Traveller

- Older people and those with chronic illnesses are travelling more than ever before
- Doctors, especially general practitioners are called on to assess fitness for travel and provide travel health advice to these patients



General advice for the older or chronically ill traveller

- Prepare for travel by being well rested and plan itinerary to minimise stress
- Health summary and medication list
- Travel Insurance - may be higher premium for pre-existing conditions and some policies exclude psychiatric illness



The elderly and air travel

- Must be mobile, able to eat, drink and manage own medication and get to toilet
- Avoid dehydration as this increases hypoxia and likelihood of confusion in older people
- Take sufficient medication supplies for entire trip, carried in hand luggage
- Assessing fitness to fly guidelines www.caa.co.uk
- MEDIF form to provide information to airlines - available from travel agents and medical departments of airlines



Recommended medical exclusions from international air travel

Myocardial Infarction	Not within 7 days. Medical information form required within 21 days
Stroke or transient ischaemic attack	Not within 3 days. Medical information form required within 10 days.
Congestive cardiac failure	Individual assessment – need to be controlled
Arrhythmia	Must be stable
Deep vein thrombosis	Individual assessment – patient needs to be stabilised on anticoagulants
Anaemia	Not fit if Hb < 7.5 g/dl. Medical information form for Hb 7.5 – 10.5 g/dl. Not within 10 days of sickling crisis
Pneumothorax	Not within 2 weeks following full inflation of lung
After surgery	Not within 5-7 days depending on circumstances Appendectomy, five days; angioplasty, not within 3 days, with stents 5 days; coronary bypass, not within 10 days

Diabetes

- Increase fluid intake, avoid alcohol and arrange appropriate meals
- Increase frequency of blood glucose monitoring
- Take hypoglycaemics as prescribed according to local time
- Have snacks on hand in case of delays in meal times



Diabetics on Insulin

- Insulin may need adjustment if time zone changes > 4 hours
- Insulin can be in hand luggage - does not need to be refrigerated
- call airline in advance
- carry NDSS registration card
- carry copy of insulin prescription
- only sufficient insulin and injecting equipment for flight and following 24 hours in cabin luggage



Chronic lung disease

- At cruising height cabin air has PaO₂ of oxygen 20-25% less than sea level
- Exercise tolerance is a good guide to ability to cope with decreased oxygen tension
- Dyspnoea at rest is a contraindication
- If can climb a flight of 15 stairs and walk 50 metres without symptoms then should not experience problems in flight
- Further assessment may be needed - ABGs, respiratory function tests and referral



Cardiovascular disease

- Exercise tolerance (15 stairs and 50 metres) is again a good guide to ability to cope with reduced PaO₂
- People with angina or congestive failure who are symptomatic on minimal exertion are likely to need supplementary oxygen (usually 2L or 4 L per minute)
- Consider cardiology referral
- Letter summarising medical problems and copy of recent ECG



The 3 Rs of vaccinations

- Routine
 - Review lifetime vaccination/illness history – no need to repeat doses
- Required
 - To cross international borders
- Recommended
 - To prevent trip-specific risks





Original Research

Sustained outbreak of measles in New South Wales, 2012: risks for measles elimination in Australia

Zaina Hagan,* Emily Hoque,* Penelope Clark,* Cath Higgins,* Alexander Russell* and Stephen Conroy*

Objective: On 7 April 2012, a newly reported measles case (Hospital in Australia) was confirmed to have measles. An outbreak of measles subsequently occurred in the state of New South Wales, comprising a sustained and sustained outbreak in public health facilities. The outbreak was prolonged on 29 November 2012. This report describes the outbreak and its characteristics.

Results: Cases were managed following Australian protocols, including case interview and assessment of contacts for measles. Cases were managed following Australian protocols, including case interview and assessment of contacts for measles. Cases were managed following Australian protocols, including case interview and assessment of contacts for measles. Cases were managed following Australian protocols, including case interview and assessment of contacts for measles.

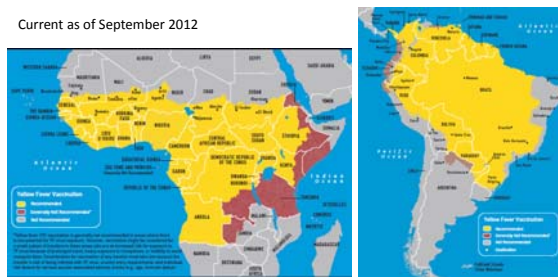
Measles is a highly infectious disease caused by a paramyxovirus of the genus *Measlovirus*. It is the most important cause of vaccine-preventable death.¹ In Australia, two doses of measles-mumps-rubella (MMR) vaccine were introduced to the routine childhood vaccination schedule in 1988 for all children at 12 months and four years of age and for all adults born after 1986 who were not immune or had one dose of MMR.² Since July 2013, the second dose has been administered at 18 months of age as the measles-mumps-rubella (MMR) vaccine.³

A measles control campaign was also initiated in 1988, targeting children aged five to 12 years, resulting in high two-dose vaccination rates for this group. A national serological survey in 2002 estimated that the current herd immunity level for measles was 92–94% in 2012, with lower immunity levels in certain populations. A large measles outbreak began in April 2012, with the virus being identified as a new genotype of the virus found in Australia since the early 1990s.^{4,5}

However, measles cases acquired immunity are still observed in Australia which occasionally results in small outbreaks with ongoing transmission occurring in underimmunized populations. A large measles outbreak began in April 2012, with the virus being identified as a new genotype of the virus found in Australia since the early 1990s.^{4,5}

Yellow Fever Vaccine Recommendations in Africa and the Americas

Current as of September 2012



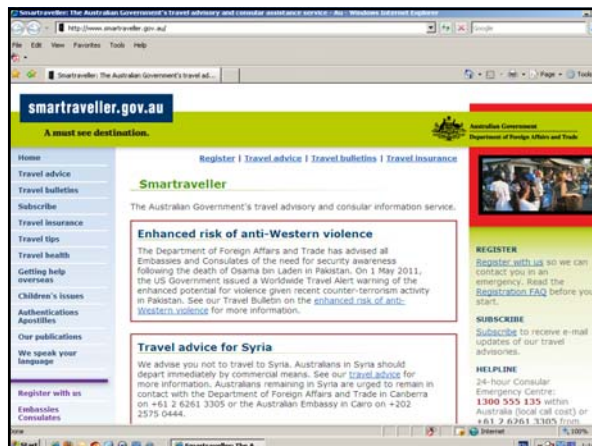
Source: CDC Yellow Book 2014, Yellow Fever; updated Aug 2013 cited Oct 2013; <http://www.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/yellow-fever>

Travel Medicine Resources

Internet Resources

- www.who.int World Health Organization. International travel and health book available online. Also interactive map for malaria and yellow fever risk
- www.cdc.gov/travel US Centres for Disease Control – comprehensive disease and country information
- www.welltogo.com.au Australian website from Travel Health Advisory Group
- www.tripprep.com Shoreland's travel health online
- <http://www.travelhealthadvisor.com.au/> New name and website for MASTA in Australia and New Zealand.
- Travellers Medical and Vaccination Centre - www.traveldoctor.com.au
- www.smarttraveller.gov.au This Australian Government site provides travel warning and information on consular services





Internet Resources - Malaria

- CDC Malaria site including malaria maps
 - www.cdc.gov/malaria/map/
- WHO malaria map
 - http://www.who.int/malaria/publications/world_malaria_report/global_malaria_mapper/en/



Travel Medicine Decision Support Tools

- www.masta.edu.au/
- www.rovertravelscript.com.au/
- <http://www.shoreland.com/>
- <https://www.travax.com/>
- <https://www.travax.com/scripts/Login/Login.asp?ReturnUri=%2f>



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