



Travel consultation essentials:

for departures and arrivals

Travel consultations involve assessing the risks that may occur during a journey and helping the traveller minimise them. This may include education, planning, vaccination, prophylaxis and as-required medicines. If the patient is taking medicines for a long-term condition ensure that they will have enough for the duration of the journey and are confident in making any dose adjustments that might be required due to changes in time zones. Treatment for overseas visitors to New Zealand can be complicated by eligibility issues for subsidised healthcare and a lack of medical history.

Key practice points

- The first goal of a travel consultation is to establish the risks the traveller is likely to be exposed to
- Advance planning, education, vaccinations, malaria prophylaxis and as-required medicines are the key tools for reducing travel-associated adverse events
- Patients with long-term conditions should be provided with sufficient medicines to cover the time that they will be away and a letter outlining their medical history
- Patients taking certain long-term medicines, e.g. insulin or warfarin, who are crossing multiple time zones may need advice to temporarily adjust their treatment

Consulting with people before they travel

People who require pre-travel medical advice should visit either a general practice or travel medicine clinic ideally at least six to eight weeks before departure to manage travel-associated risks and plan any vaccination schedule. However, there is still much that can be done to facilitate safe journeys for people who present shortly before leaving. Asking patients about potential future travel encourages them to plan in advance.

The pre-travel checklist


The objectives of the first travel consultation are to:¹

1. Establish the traveller's itinerary and assess any risks that they may be exposed to
2. Provide education to minimise risk and self-manage transient illness
3. Determine any need for vaccinations, malaria prophylaxis and as-required medicines

The following factors determine what should be addressed in a travel consultation:¹

- Date of departure, length of stay and areas to be visited, e.g. rural or urban
- Activities likely to be undertaken
- Accommodation, e.g. hotel, backpackers, camping, staying with locals, cruise ship
- Immunisation history
- Relevant medical history, including previous and current conditions, medicines and allergies
- Any safety or security issues, e.g. weather or conflict
- Prior travel experience, e.g. previous high altitude exposure

Remind travellers that their insurance needs to cover pre-existing conditions and any activities that may be planned, e.g. riding a motor scooter. Policies should be checked for exclusions and to ensure they contain a medical evacuation clause if repatriation to New Zealand is required. Supplementary insurance will be required to cover pregnancy-related complications, including pre-term birth (See: "Travelling during pregnancy", Page 10).¹ Online access to medical records via a patient portal can be beneficial if patients do require medical attention while overseas.

 Safetravel is a government website that provides up-to-date information for travellers leaving New Zealand, available from: www.safetravel.govt.nz

Assessing a person's fitness to fly

As a rule, people with unstable medical conditions should not fly,² and caution is required when considering travel to destinations at altitude. A person with a condition such as cardiopulmonary disease may experience an exacerbation


due to decreased barometric pressure and partial pressure of oxygen.² The duration of the flight is also relevant when assessing a person's fitness to fly.²

International airlines have medical units that can be contacted to determine if a passenger requires a medical certificate to travel.² Conditions where this may be appropriate include:

- Cardiovascular disease, e.g. unstable angina or congestive heart failure, recent myocardial infarction or a history of venous thromboembolism (VTE)
- Respiratory conditions, e.g. unstable asthma or advanced chronic obstructive pulmonary disease
- Neurological conditions, e.g. recent transient ischemic attack, seizure or neurosurgery
- Unstable psychiatric illness

People with communicable diseases, such as measles and varicella, are not permitted to fly while they are infectious.²

Air New Zealand may require a medical fitness for air travel form (MEDA) to be submitted to their Aviation Medicine Unit for passengers with a major health condition. A MEDA is required to take medical equipment such as oxygen or continuous positive airway pressure (CPAP) machines on board a plane.

 Air New Zealand provides guidance on the submission of MEDA forms, available from: www.airnewzealand.co.nz/assets/PDFs/meda-part-3-doctor-guidelines.pdf

Travelling during pregnancy

Most airlines will allow women with an uncomplicated pregnancy to fly until 36 weeks gestation; later travel may be possible with medical clearance.¹ Evidence of the expected date of delivery may be required.¹ Women with a multiple pregnancy are advised not to fly after 32 weeks gestation.² Most cruise ships restrict travel for passengers beyond 28 weeks gestation, some as early as 24 weeks.¹ Pregnant women travelling by sea may be asked to provide a letter indicating that they are fit to sail and their expected date of delivery.

Advice for people travelling with medicines

Essential medicines should be transported in their original packaging in carry-on luggage, rather than in the cargo-hold where they may freeze or be lost. Liquid medicines over 100 mL may be permitted into the flight cabin if the passenger has documentation showing the need for the medicine to be taken during the flight. Otherwise quantities over 100 mL will need to be put in smaller containers; pharmacies should be able to supply appropriately labelled containers. People travelling with prescription medicines should carry two letters;

one for customs listing the diagnosis and treatment regimen and a second for health professionals that also includes their medical history and any other relevant information, e.g. allergies and intolerances.

If a person requiring a prescription medicine will be away for a period longer than the maximum amount that can be dispensed to them, they will need to arrange to see a health provider in their country of destination to receive a prescription for additional medicines.

Precautions for people with insulin-dependent diabetes


People with insulin-dependent diabetes should have a letter stating their need to carry pens or syringes, and carry sufficient quantities of insulin and blood glucose test strips.³ Individual urine ketone testing kits and several glucagon hypokits are recommended; these can be prescribed or purchased from pharmacies.³

Travelling across time zones may affect insulin dosing; discussion with the patient's medical advisor or an diabetologist or diabetes nurse prior to travel is helpful if there is uncertainty. Mild hypoglycaemic symptoms may be masked by disrupted sleep; testing blood glucose levels every four to six hours assists in the timing of meals and insulin administration.¹ Advise patients that their blood glucose levels may run higher than usual while travelling, but that this is acceptable provided these elevated levels (e.g. up to 16-20 mmol/L) do not persist for more than 24 hours;³ this will also help to prevent hypoglycaemia.⁴ Those with insulin-dependent diabetes should wear an alert bracelet and learn how to say key phrases, such as "I have diabetes", in the language(s) of the countries they will be visiting.³

Recommendations for travellers taking insulin include:^{3,4}

- Try to maintain regular meal times and medicine dosing while travelling
- Carry an accessible supply of carbohydrates (e.g. jelly beans, glucose tablets and muesli bars) to cover gaps in food service on the plane or delays in airports
- In-flight meals provided for people with diabetes can be low in carbohydrates and may not be appropriate for those at risk of hypoglycaemia
- After arrival, switch to local time. The next dose of intermediate-acting or pre-mixed insulin may need to be adjusted depending on the amount of time since the last dose. When flying to the east, a reduced dose may be appropriate to account for a shorter day and when flying to the west, more insulin may be needed.

- Basal-bolus insulin regimens, i.e. once daily long-acting insulin and post-prandial short-acting insulin, do not need adjustment and patients can keep taking long-acting insulin every 24 hours and bolus insulin after meals
- Insulin pumps only need to have the time on the pump changed to the local time.⁴ Ensure the safety plug (used to waterproof the pump) is not in the pump during flight as this can lead to incorrect dosing following changes in air pressure.

 Information for travellers with insulin-dependent diabetes is available from: www.diabetes.org.nz/living_well_with_diabetes/living_with_type_1_diabetes/travelling

People taking warfarin may need to adjust their doses

People taking warfarin need to adjust the timing of their dosing if they are travelling across six or more time zones, i.e. six or more hours difference in time from their departure city.⁵ The dose can be delayed by two hours per day after arrival until warfarin is being taken at a more convenient time.⁵


Travel causes changes to routines which may mean INR monitoring needs to be more frequent. Point-of-care INR testing may be available from a pharmacy in the country of destination or a health provider could be contacted in advance to arrange testing. Self-monitoring of INR levels is an option for people who are able to purchase a device and testing strips. Patients taking warfarin should be advised to seek medical assistance if they experience unusual bleeding or bruising.

Contraception advice while travelling

Travel can cause disruption to oral contraceptive dosing; if pills are missed the routine advice applies (see below) and an alternative method of contraception should be used if there are concerns. If a woman taking a combined oral contraceptive misses two or more active pills in the first or last week of her cycle or more than eight active pills during other weeks, she will need to use the seven-day rule to maintain contraceptive coverage.⁶ Progesterone-only contraceptive pills need to be taken within the same three-hour window (12 hours for desogestrel) to be effective.⁷

Women taking contraceptives pills may wish to adjust their dosing regimen prior to departure to account for the new time zone. For example, after finishing her placebo pills a woman may begin the next active cycle of pills at the time in New Zealand that corresponds to the time she plans to be taking each dose when she arrives at her destination, e.g. 10 am in New Zealand and 10 pm in England. Alternatively in this

example, she may begin taking the pill an hour earlier each day, 12 days before departure (one day for every hour of time difference).⁸ The usual schedule (at the destination time) can then be recommenced on arrival.


 Family planning provides information on how to manage missed contraceptive pills, available from: www.familyplanning.org.nz/media/172505/instruction-pad-coc-pill-sept-2014.pdf

Travelling with opioids and other controlled medicines

International law allows people prescribed narcotics (e.g. opioids) or psychotropic medicines, i.e. medicines which act on the central nervous system (e.g. antipsychotics, antidepressants, anxiolytics, sedatives), to carry one month's supply across international borders for personal use.⁹ However, there are substantial differences between how countries enforce this policy. Some countries have stricter controls and others are more lenient; Japan and the United Arab Emirates are known to be stricter than most.⁹ People needing to carry more than one month's supply of these medicines into another country can contact the Ministry of Foreign Affairs (see below) to determine if they are able to do so. A consultation with a health professional at the patient's destination may need to be arranged to ensure a continuing supply of medicines.

The dispensing rules for medicines in New Zealand do not necessarily match the laws governing transportation of medicines between countries. For example, zopiclone can be dispensed in 90-day lots in New Zealand, but some countries may only allow travellers to enter with one month's supply.

The transportation of opioids and their derivatives, e.g. codeine and morphine, is controlled by the 1961 Narcotics Convention and travellers carrying these medicines should always have a letter from a doctor.⁹ The person's name on their passport must match the name on any documentation provided by a doctor.

 The International Narcotics Control Board has information on international agreements governing the transportation of medicines across borders, available from: www.incb.org/incb/index.html



 When travelling to a country with strict drug laws, e.g. Indonesia or Thailand, or if there is uncertainty regarding the legality of a medicine in another country, further information can be requested via the Ministry of Foreign Affairs' website: www.mfat.govt.nz/Embassies/2-Foreign-representatives-to-NZ/Diplomatic-and-Consular-List.php

Table 1: Summary of vaccination recommendations prior to international travel^{7, 10–13}

Vaccination	Recommendation	Adult schedule	Comments
Influenza	For travellers who did not receive a vaccination during the previous autumn or winter	One dose given annually. The 2016 southern hemisphere influenza vaccine will provide protection against: <ul style="list-style-type: none"> ■ A/California/7/2009 (H1N1)-like virus ■ A/Hong Kong/4801/2014 (H3N2)-like virus ■ B/Brisbane/60/2008-like virus 	If arriving in the northern hemisphere winter and there are differences between southern and northern strains of influenza, advise purchasing a vaccine on arrival
Hepatitis A	For travellers to countries with elevated rates of infection, e.g. the Pacific Islands (except Hawaii), Africa, Asia (except Japan), Eastern Europe, the Middle East, South and Central America, Mexico and Greenland	Two doses at zero and six to 12 months (last dose may be given on return)	Available in monovalent formulations or in combination with either a hepatitis B or typhoid vaccine
Hepatitis B	For travellers to areas where it is endemic, e.g. Asia, or for travellers to the Pacific Islands who are at an increased risk of exposure	Three doses at zero, one and six months (last dose may be given on return)	Available in monovalent formulations or in combination with hepatitis A. Added to the New Zealand immunisation schedule in 1988.
Meningococcal	Required by Saudi Arabian authorities for people making the pilgrimage to Mecca, and recommended for travellers to sub-Saharan Africa. Backpackers, students in halls of residence, healthcare workers and long-term expatriate travellers (especially children) may benefit	One dose	The quadrivalent meningococcal conjugate vaccine (MCV4-D - Menactra) is recommended for travellers
Typhoid	May be considered for travellers at increased risk due to destination or occupation	People continually exposed to typhoid require booster doses every three years to maintain immunity	Available in monovalent formulations and in combination with hepatitis A vaccines. Protects against <i>Salmonella typhi</i> but not paratyphoid causing organisms.
Varicella	For travellers without a prior history of chickenpox	Two doses	Provides long-term, but probably not life-long immunity
Rabies	Depends on disease prevalence at destination and activities. Consider for high risk situations, e.g. veterinarians or staying in rural location. Wash all mammalian bites with soap immediately.	Five intramuscular injections over 28 days, with immunity occurring after 30 days. A course of three intradermal injections may be offered at travel clinics.	Vaccination does not prevent the disease developing but it does reduce the urgency and the complexity of post-exposure treatment
Cholera	Vaccination may be beneficial for people travelling to areas where there are known outbreaks or for people who would be severely affected by infection, e.g. those with inflammatory bowel disease	Two doses given at least one week apart; if more than six weeks between doses the schedule should be repeated	An oral formulation that provides protection against <i>Vibrio cholera</i> and the toxin the bacteria produces

Vaccination recommendations for travellers


Guidance on vaccination depends on the region the person will be travelling in, their immunisation status, general health and the length of time until departure. Six to eight weeks may be required to complete some vaccination schedules. When discussing vaccinations the lifetime risk of disease exposure should be considered, rather than the risk due to a single trip. Travel consultations are an opportunity to ensure that all routine vaccinations are up to date, e.g. the MMR vaccine. Vaccinations given to reduce the risk of travel-associated illnesses are not subsidised in New Zealand. Table 1 provides a summary of key vaccination recommendations for travellers prior to departure.

 The United States Centers for Disease Control and Prevention (CDC) provides destination-specific vaccination advice for travellers and health professionals, available from: www.cdc.gov/travel/destinations/list

Booster vaccinations may be appropriate for some patients

A combined tetanus and diphtheria (Td) booster is recommended for most travellers if it is more than ten years since their last dose.¹¹ Following immunisation with the tetanus, diphtheria and pertussis (Tdap) vaccine at age 11 years, combined tetanus and diphtheria booster doses are recommended and subsidised at ages 45 and 65 years¹¹ Diphtheria is endemic in Africa, Latin America, Asia the Middle East and parts of Europe.¹¹ A single dose of Tdap to boost pertussis immunity may be preferable to the Td booster for travellers to areas where pertussis incidence is high, particularly healthcare workers with regular exposure to infants, if it is more than ten years since their last dose.¹¹ Pregnant women are eligible for a subsidised Tdap vaccine between 28 – 38 weeks gestation.

A one-off IPV booster vaccination to increase immunity against poliomyelitis is recommended for adult travellers to countries where poliomyelitis is endemic, if more than ten years have passed since their adolescent dose.¹¹ The spread of poliomyelitis has been declared a Public Health Emergency of International Concern by the World Health Organisation (WHO).¹⁴ The fluctuating spread of poliomyelitis is closely monitored and recent outbreaks have been reported in Afghanistan and Pakistan.¹⁴ Some authorities may require proof of vaccination against poliomyelitis from travellers who have visited these countries.¹⁴

 The latest international recommendations regarding poliomyelitis are available from: www.polioeradication.org/Keycountries.aspx

Additional vaccinations that may be recommended

Consultation with a travel medicine clinician is recommended for people with a high risk of infection, e.g. disaster relief workers or those who will be living for extended periods in areas with reduced sanitation. Additional recommended vaccinations may include: Japanese encephalitis, yellow fever and Bacille Calmette-Guérin (BCG) vaccine to protect against tuberculosis.


Maintaining good health while travelling

Travel places added stress on people who are unwell, and long-term conditions need to be well managed before departure. Table 2 (over page) provides a summary of considerations for travellers with specific conditions. Travellers are recommended to check that their insurance is appropriate, e.g. coverage for neonatal care for a pregnant woman or treatment for complications in a traveller with cancer.

Avoiding insect-borne infection

The best way to prevent insect-borne infectious diseases, e.g. malaria, zika, chikungunya or dengue fever, is to avoid insect bites. Areas with stagnant water are a risk factor for mosquito bites. Recommendations for travellers in regions with high levels of insect-borne disease include:⁷

- Wear trousers and long-sleeves
- Hang mosquito nets infused with permethrin
- Use sprays containing 20–50% diethyltoluamide (DEET); apply after sunscreen
- Take malaria prophylaxis; recommendations vary depending on destination

 The New Zealand Formulary provides country-specific recommendations for malaria prophylaxis, available from: http://nzf.org.nz/nzf_70212

The risk of venous thromboembolism is increased during air travel

All forms of travel involving immobility lasting more than four hours are associated with an increased risk of VTE.² This is because popliteal venous return is reduced by approximately 40% due to compression of the lower leg veins.¹⁵ Risk factors for VTE for airplane passengers are shown in Table 3 (over page).

Periodic walking and calf muscle stretching during travel is recommended as it may reduce the likelihood of VTE in people with risk factors.¹⁶ Graduated compression stockings providing

Table 2: A summary of considerations for travellers with specific health conditions^{1,3}

Condition	Pre-travel advice and comments
Cardiovascular disease	<ul style="list-style-type: none"> ■ Discuss management of dehydration and volume overload; doses of diuretics may need to be temporarily reduced ■ Minimise the risk of VTE ■ Pack sublingual glyceryl trinitrate spray in a carry-on bag ■ Consider management of INR for patients taking warfarin ■ Consider if supplemental oxygen is required ■ Carry a pacemaker card if appropriate ■ A copy of a recent ECG may be helpful for some patients
Diabetes	<ul style="list-style-type: none"> ■ Assess the risk of hypoglycaemia and plan accordingly, e.g. carrying carbohydrates ■ If taking insulin, discuss the need for dose adjustments (Page 10) ■ Wear comfortable shoes, change socks regularly and inspect feet for blisters ■ Consider the need for anti-emetic, anti-diarrhoeal and anti-fungal medicines
Pregnancy	<ul style="list-style-type: none"> ■ If travelling during the third trimester, ensure there is a medical facility at the destination that is able to perform caesarean sections and provide neonatal care ■ Frequent movement, loose clothing and comfortable shoes are especially important for pregnant women ■ Seatbelts should be worn low, just above the pelvis; diagonal shoulder straps are preferable ■ Air conditioned rooms are recommended as air pollution or a hot climate increases the risk of respiratory problems or heat stroke
Respiratory disease	<ul style="list-style-type: none"> ■ Pack a reliever inhaler and spacer in both carry-on and checked-in luggage ■ Be prepared for exacerbations of COPD or asthma; prescriptions for short courses of antibiotics and oral corticosteroids to be taken as required may be appropriate ■ Consider if supplemental oxygen is required for patients with COPD
Gastrointestinal conditions, including recent abdominal surgery	<ul style="list-style-type: none"> ■ Emphasise the importance of consuming safe food and water ■ Consider an anti-motility medicine and prophylactic antibiotics for traveller's diarrhoea and give clear guidance if prescribed (see opposite) ■ Hypoxia during air travel may be associated with exacerbations of inflammatory bowel disease ■ Travellers with a colostomy bag may have increased output during air travel
Cancer	<ul style="list-style-type: none"> ■ Emphasise the importance of food and water safety ■ Avoid dehydration ■ Minimise the risk of VTE and consider if compression stockings are appropriate ■ Wear loose clothing to prevent worsening lymphoedema ■ Check to see if any medicines are restricted in country of destination, e.g. analgesics (Page 11)

Table 3: Risk factors for venous thromboembolism (VTE) in airplane passengers^{15, 16}

High risk factors	Moderate risk factors
<ul style="list-style-type: none"> ■ Previous VTE ■ Recent surgery or trauma ■ Congestive heart failure ■ Active cancer ■ Flights more than 10 000 km ■ Prolonged immobility ■ Multiple moderate risk factors 	<ul style="list-style-type: none"> ■ Combined oral contraceptive use ■ Obesity ■ Pregnancy ■ Inherited conditions that predispose to VTE, e.g. Factor V Leiden thrombophilia ■ Older age ■ Varicose veins ■ Short or tall stature




15 to 30 mmHg of pressure at the ankle are recommended for people with risk factors for VTE who are flying long distances;¹⁶ leg measurements should be taken to ensure that the stocking is correctly fitted and providing the right amount of pressure. There is no evidence that aspirin protects against VTE,¹⁵ and anticoagulants are generally not recommended.¹⁶ People with a previous history of VTE, active cancer or recent surgery (especially orthopaedic surgery of the lower limbs), may benefit from low molecular weight heparin,¹⁵ e.g. enoxaparin, 40 mg subcutaneously, on the morning of the flight and the following day.⁷ In other countries, newer anticoagulants, e.g. rivaroxaban and apixaban, are taken by travellers for the prevention of VTE, although this is not currently a licensed indication for these medicines in New Zealand.

Reducing the symptoms of jetlag

People with jetlag often experience daytime fatigue and sleep disturbance, as well as reduced cognitive function, dizziness, weakness and irritability.¹⁷ Adequate fluid intake and avoidance of caffeine and alcohol are recommended for travellers in transit.

There is evidence that immediate-release melatonin (unsubsidised) can reduce jetlag.¹⁷ Melatonin appears to provide greater benefit for patients travelling across five or more time zones, particularly in an easterly direction.¹⁷ Doses should be taken in the late afternoon or evening at the destination,¹⁷ and are often repeated for several days. Exposure to bright light in the morning may help adjustment to the new time zone.¹⁷ Taking melatonin prior to departure is not recommended.

 For further information see: "Melatonin: is it worth losing any sleep over?", *BPJ* 69 (Aug, 2015).

Self-managing traveller's diarrhoea

Diarrhoea may affect up to half of all travellers,¹⁰ depending on the time of year and destination. An unclean water supply, eating from street stalls and activities such as camping during summer are risk factors. Immunisation has a very limited role in protecting against traveller's diarrhoea. An oral cholera vaccine is available that provides 80 – 85% protection for at least six months for the small number of travellers who may be at risk.¹²

Fluid and electrolyte replacement is essential for treating gastrointestinal infections.¹⁸ An oral rehydration solution can be made by adding six level teaspoons of sugar and half a level teaspoon of salt to one litre of bottled water.¹⁹ Antibiotics

and loperamide can be prescribed for travellers likely to be at an increased risk to take with them, although for this purpose they are unsubsidised. Advise patients to only use antibiotics if absolutely necessary and not to use them to treat mild diarrhoea, as this can result in infections of multi-drug resistant bacteria.²⁰


For mild watery diarrhoea, oral rehydration is the key management strategy. Treatment with loperamide may be considered for the short-term control of symptoms,¹⁰ e.g. loperamide, initially 4 mg, followed by 2 mg after each loose stool, to a maximum of 16 mg, daily.⁷ However, there is a theoretical risk that this may increase the length of time that the pathogen is present and therefore the duration of the illness. Loperamide is contraindicated in children aged under 12 years.⁷

For moderate to severe diarrhoea or mild diarrhoea that does not improve after 24 hours, oral rehydration should be continued, and loperamide considered in combination with antibiotics to provide more rapid relief and shorten the symptom duration.¹⁰ Ciprofloxacin, 1000 mg taken immediately, is likely to improve symptoms.¹⁸ Azithromycin is an alternative in areas with high rates of fluoroquinolone resistance, e.g. 500 – 1000 mg, immediately.¹⁰

Consulting with people who are visiting New Zealand

A person's eligibility for subsidised healthcare in New Zealand is determined by their:

- Citizenship
- Country of permanent residence
- Age
- Partner's nationality
- Duration of stay in New Zealand

 The Ministry of Health provides FAQs on the eligibility criteria for people living overseas to access to health services in New Zealand, available from: www.health.govt.nz/new-zealand-health-system/eligibility-publicly-funded-health-services

Enquires about healthcare eligibility can be made to the Ministry of Health by phone: **0800 855 151** (option 2) or email: eligibility@moh.govt.nz


Investigating febrile illness in overseas travellers


Febrile illness in a patient who has recently visited a country with a high incidence of infectious disease is a potential red-flag.²¹ Establish the immune status of the patient and their possible exposure to infectious disease. If there is a high suspicion of an infectious disease, there should be a low threshold for contacting a medical officer of health or infectious diseases specialist; precautions should be taken to minimise the risk of transmission.²¹ Table 4 is a summary of conditions that it may be appropriate to consider when investigating febrile illness in a patient who has recently travelled overseas.

Table 4: Potential causes of febrile illness following recent overseas travel

Condition	Symptoms	Incubation period	Comments
Malaria ²²	Fever, chills, sweats, myalgia, headache, nausea and vomiting, malaise.	Seven to 30 days	A blood test is required to confirm a diagnosis of malaria.
Middle East Respiratory Syndrome-coronavirus (MERS-CoV) ²³	Limited data available; at hospital admission: fever, chills/rigors, headache, non-productive cough, dyspnoea and myalgia. Also, coryza, nausea, vomiting, diarrhoea and abdominal pain, dizziness, sputum production.	Five days (ranges from two to 14 days)	To confirm a diagnosis collect sputum samples from lower and upper respiratory tract to measure viral load and a blood sample for serology. The median time from onset to hospitalisation is four days. Pneumonia may rapidly progress.
Zika virus ^{*24}	Fever (37.8 – 38.5°C), arthralgia (notably of small joints of hands and feet) with possible swelling, myalgia, headache and retro-ocular pain, conjunctivitis, cutaneous maculopapular rash. Post-infective fatigue is common.	Three to 12 days	This is an emerging disease with cases confirmed or suspected in French Polynesia, New Caledonia, the Cook Islands and Easter Island. Spread through <i>Aedes</i> mosquito bites. One in five people infected with zika virus become ill. Virus may be detected in blood within five days of onset, antibody testing two to three weeks after onset used to confirm a diagnosis.
Dengue fever ^{*25}	Acute onset of high fever. Also, frontal headache, retro-orbital pain, myalgias, arthralgias, haemorrhage, rash. However, a high number of infections are asymptomatic, especially in children.	Three to 14 days	Spread through <i>Aedes</i> mosquito bites. Febrile seizures and dehydration may be a concern. Avoid aspirin and non-steroidal anti-inflammatory drugs due to the risk of haemorrhage. Viral RNA can be detected in blood within five days of onset, otherwise antibody testing at least six days after onset to confirm a diagnosis.
Chikungunya fever ^{*26}	Most often acute onset of fever (often > 39°C), bilateral and symmetrical polyarthralgia. Also, headache, myalgia, arthritis, conjunctivitis, nausea and vomiting, or maculopapular rash.	Three to seven days (ranges from one to 12 days)	Mainly spread through <i>Aedes</i> mosquito bites. Viral RNA may be identified in serum in first eight days of infection. Antibody testing during convalescence used to definitively exclude viral infection.
Acute HIV infection ²⁷	Fever, fatigue, myalgia, arthralgia, erythematous maculopapular rash and headache. Symptoms may persist for two to four weeks.	One to four weeks	Viral load testing used to confirm diagnosis as antibody testing is often negative during acute phase infection.

* There has been a recent increase in confirmed cases of Zika, Dengue and Chikungunya in the Pacific Islands²⁸

 The CDC provides information on common causes of fever by geographic area and incubation periods of infectious diseases, available from: www.cdc.gov/travel/yellowbook/2016/post-travel-evaluation/fever-in-returned-travelers

 The World Health Organisation provides annual data on all countries where malaria is endemic, available from: www.who.int/malaria/publications/country-profiles/en/

All visitors to New Zealand will receive essential acute care

In New Zealand, anyone who requires acute treatment will receive it.²⁹ Individual DHBs are responsible for determining which services are acute and which are elective.²⁹ In general, acute care is treatment without which:²⁹

- The patient will die
- The patient's condition could deteriorate and become life threatening or significantly debilitating
- It is not possible to tell if a patient's condition is potentially life threatening or significantly debilitating

Citizens of Australia and the United Kingdom are provided with the same funded access to urgent healthcare (but not primary care consultations) as New Zealand citizens; as are New Zealand citizens travelling to Australia or the United Kingdom.


ACC covers citizens, residents and visitors

The Accident Compensation Corporation (ACC) covers treatment due to accidents for all visitors to New Zealand, if their claim is accepted.²⁹ New Zealand residents injured overseas, who have been overseas for six months or less, are covered for treatment received upon return to New Zealand, if their claim is accepted.

 Further information about ACC eligibility is available from: www.acc.co.nz

Access to funded primary care consultations

In general, most visitors to New Zealand will not meet Primary Health Organisations (PHO) enrolment requirements and will be required to pay the "casual" rate for primary care consultations. Visitors to New Zealand will also be charged a non-PHO co-payment when medicines are dispensed.


 A PHO enrolment checklist is available from: www.health.govt.nz/system/files/documents/pages/pho-enrolment-checklist.pdf


Prescribing to patients who are visiting New Zealand

Visitors to New Zealand may run out of medicines or lose them while travelling. When this occurs it can be difficult for practitioners to comply with good prescribing practice if they do not have access to the patient's medical records or a letter from their clinician, and investigations are limited by time and cost.

Follow-up visits are not always possible. Practical steps should be taken to ensure there is continuity of care. For example, give the patient a printed copy of their consultation notes or organise a follow-up consultation in another centre if their itinerary is known.

If the medicine that the patient normally takes is available in New Zealand it can be prescribed in the usual manner, and when the prescription is dispensed they will pay either the non-subsidised cost of the medicine or a co-payment if they are eligible for subsidised care. If the medicine that the patient normally takes is unavailable a similar medicine can be prescribed or the doctor treating the patient in their home country contacted to discuss an alternative. The cost of unsubsidised medicines can be discussed with a pharmacist; costs may vary between pharmacies.

 A database containing information on medicines used in 185 countries is available from: www.drugs.com/international

 For further reading about travel medicine, see: *iProviding medical advice to travellers*, BPJ 41 (Dec, 2011).

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