



Nepal International Clinic

Travel and mountain medicine center

www.nepalinternationalclinic.com

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COMMON DISEASES IN NEPAL AND THEIR ACCESS ROUTES

BACTERIA:

Commonest cause of diarrhoea in Westerners in Nepal. Usually easily treated with fluids and antibiotics.

GIARDIA:

It takes at least 7 days for gastroenteritis, due to giardia to manifest, after swallowing giardia cysts. So, if you get diarrhoea on the second day of your arrival to Nepal, it sure is not giardia! Travel books love to say 'egg burps' are diagnostic for this problem. Not necessarily true. Bacteria's can also cause 'egg burps'. Responds well to tinidazole. Diagnosis in Nepal is made by history and stool tests.

AMOEBA:

Can present with malaise, lethargy, fever and diarrhoea. Can cause liver problems as a complication. Treatment is with a longer course of tinidazole followed by diloxanide furoate. Diagnosis in Nepal is made by stool test.

BLUE GREEN ALGAE:

Scientifically known as cyclospora, seen commonly from April to September, uncommon in the winter. Causes excessive tiredness and diarrhoea. Responds to bactrim, a sulpha based antibiotic.

TROPICAL SPRUE:

For those of you that continue to have diarrhoea for weeks to months with significant weight loss despite treatment against bacteria, giardia, amoeba, and the "blue green algae", a disease called TROPICAL SPRUE may be the problem. We seem to think that this disease entity may have been under diagnosed in the past. This is a problem you may get even when you go back home and you may need to alert your doctor to this possibility. Treatment with folic acid and tetracycline's may be dramatic.

HEPATITIS TYPE A:

The incubation period is 2-6 weeks. Children have relatively mild attack. Patients are significantly more infectious before malaise and jaundice set in. One attack of hepatitis A provides life long immunity and no hepatitis A vaccination is required. There is no long-term sequelae with Hepatitis A, but as an adult life can be miserable during the course of the disease.

HEPATITIS TYPE E:

This form of hepatitis in Nepal is transmitted in a fecal-oral manner just like hepatitis A. No vaccination is available for this illness although trials are in progress in Nepal. This is uncommon in travellers, unless the traveller has totally "gone native" e.g. regularly drinking tap water.

HEPATITIS B:

Transmitted by blood or body fluids, not fecal-oral transmission

TYPHOID FEVER:

Incubation period: 3-30 days. Patient looks very toxic. In Nepal, fever that persists for over four, five days has a good chance of being typhoid fever, especially if the patient has had no vaccination for typhoid fever.

Unlike malaria, there are no periods when fever returns to normal and then goes back to a high, spiking type. Treatment is with azithromycin or gatifloxacin (for young non diabetic patients). Most patients respond well to treatment, if the diagnosis is made and treatment begun soon enough. There is also paratyphoid fever that is not prevented by vaccination.

TYPHUS:

Typhoid and typhus present in the same fashion in Nepal so we think anyone being treated especially for typhoid also requires doxycycline 100mg 2 tabs per day for 10 days for typhus.

MOSQUITO BORNE TRANSMISSION

MALARIA:

Incubation period 1 to 3 weeks. There is no malaria in Kathmandu Valley or in the usual tourist trekking routes. There is malaria in the Chitwan National Park. There are four types of malaria but only one (vivax) is common in Nepal. Prophylaxis may be important for the Terai Area if exposure will take place for a prolonged period especially in the summer months. Malarone and Mefloquine are newer drugs used against chloroquin resistant malaria. They are not available in the Nepali pharmacies. Another drug used against chloroquin resistant malaria is doxycycline, which is locally available. Using insect repellents (like Odomos or DEET) and mosquito coils or tablets (locally available) in rooms is also advisable. Falciparum malaria which can be fatal is important to rule out but is much less common than vivax in South Asia unlike Africa.

JAPANESE B ENCEPHALITIS:

Found in the Terai regions although recently from 1995 onwards cases have been documented in the Kathmandu valley in people without any travel history outside of Kathmandu. This is caused by a virus carried by mosquitoes. Treatment is symptomatic. Prevention is recommended with vaccines if you plan to spend more than a month in Nepal. Use insect repellent.

DENGUE FEVER:

Not known to originate in Nepal. Incubation usually less than 1 week. Dengue fever is often seen in people who have travelled to Thailand, Rajasthan in India, or parts of Pakistan. This causes intense headaches, pain on eye movement, and high fever. It needs to be differentiated from meningitis, encephalitis etc. The treatment for dengue is symptomatic and the prognosis is very good for travellers.

LEPTOSPIROSIS:

This is an important cause of fever. It may be caused by the leptospira organism entering the body through an abrasion. Doxycycline is the drug of choice.

AEROSOL-AIRBORNE TRANSMISSION

UPPER RESPIRATORY INFECTION BRONCHITIS AND ASTHMA PNEUMONIA SINUSITIS and MIDDLE EAR INFECTION

These are common infections in Nepal, and may require antibiotics. Some people suffer from asthma problems (hyper reactive airways) more frequently in Nepal. The cough and difficulty in breathing seems to get worse at night. Treatment with a bronchodilator inhaler (locally called asthalin inhaler) may be very useful. Sinusitis is a very common problem, specially during a trek due to the cold air. With middle ear infection hearing impairment may take 2-3 weeks to come back to baseline.

MENINGITIS:

Meningococcal meningitis is also an aerosol borne bacterial infection. There was an epidemic in Nepal in 1983. Vaccination apparently has played a role in controlling this problem now. In meningitis there is inflammation of the covering of the brain (i.e. the meninges). Intravenous antibiotic may save lives but it can also be rapidly fatal.

BACTERIAL SKIN INFECTION:

(Impetigo and Cellulitis)

These can be quite painful but usually respond to antibiotics. Sometimes incision and drainage of the infection may be required. Hot soaks are always helpful.

INSECT BITE REACTIONS

Mosquitos, Bed bugs, Fleese, Lice and Tick

Besides carrying specific diseases some of these bites can sometimes causes skin reaction or tremendous itching problems. Sometimes although the bite may be in one particular area, there are similar reactions on other parts of the body where there was no apparent bite. If antihistamines and skin lotions and potions do not work effectively enough, systematic steroids may be tried by your doctor for some of these problems. However, there is also specific treatment for lice problems. The diagnosis has to be made correctly. Ticks on the skin surface are not uncommon specially after a visit to the Terai region. It is important to remove the ticks without leaving a part of it attached to the skin. No systemic diseases linked to ticks have been documented in Nepal. Using an insect repellent like odomos (DEET, if you have) for prevention of bites, especially in the summers in the Terai is prudent.

Fungal infections

Ringworm infections, vaginal yeast infections, and other fungal skin infections are common and usually respond to simple anti fungal measure.

HINTS TO STAY HEALTHY

BOILING WATER:

Water needs to brought to a rolling boil to kill all the important disease causing organisms. Good evidence is now available to show that there is no need to boil the water for over 3-4 minutes, specially with firewood and fuel shortages. Some hotels and restaurants may only filter their water. This is certainly not good enough for drinking as for example; hepatitis virus can pass through the filter.

ADDING IODINE TO YOUR WATER:

The addition of 6 drops of 4% Lugol's iodine (locally available) to 1 litre water will also kill all the important disease-causing organisms. After the addition of iodine to the water wait for 20 minutes before drinking. The mixture has to be shaken after 10 minutes.

Chlorine tablets which are also locally available do not kill giardia and amoebic cysts. Vegetables for salad should also be soaked in iodine (6 drops in 1 litre) for 20 minutes before consumption. The iodine may not kill the notorious "blue green algae" (cyclospora), which affects people in the spring and summer here in Nepal.

ALTITUDE SICKNESS:

Before going trekking to the Himalayas make sure you familiarise yourself with the common symptoms of mountain sickness so that you may be better able to help yourself and others. AMS (acute mountain sickness) causes headache and nausea at high altitude (> 2700 m). So if you are going to Lahsa, Tibet or Kailash/Mana sarover please take diamox (125 mg two times per day) for 4 days, starting on day before your trip. Make sure you have no sulpha allergy before taking this drug expect tingling of your fingers and toes. The life-threatening problems at altitude are HACE (High Altitude Cerebral Edema) and HAPE (High Altitude Pulmonary Edema) For further info, please check our website: WWW.nepalinternationalclinic.com

WASHING HANDS (WITH SOAP):

It is important to wash your hands with soap more often than you would do at home. "Handi wipes" - are used commonly but like toilet paper if you use them on treks, please make sure you burn them or bring them back to Kathmandu to dispose of them otherwise like toilet paper the trekking areas will be littered with handi wipes which are certainly not biodegradable. Liquid soap is also very useful. On treks please carry a lighter to burn your toilet paper so as not to pollute the area. Be careful not to burn the forest/out house down!!



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NEPALI DIARRHOEA

You must count yourself exceptionally blessed by all the Nepali Gods if you do not get diarrhoea in Nepal. It is indeed very common among travellers, foreign residents, and local Nepalese.

There are different causes for diarrhoea and very often even the most stringent eating habits will not ensure safety from this problem.

But never fear, don't feel you have been singled out as many foreigners (and locals) do come down with this. There is help at hand.

SOME COMMON VARIETIES OF DIARRHOEA ARE:

1. BACTERIAL:

This is the most common cause of diarrhoea. Some Western textbooks and guidebooks are forever saying this is self limiting and may not require treatment. This has not been our experience. Treatment seems warranted more often than these books would suggest. A simple stool test may confirm the finding. Remember that treatment with antibiotics can cause important side effects even 'down the line'. Try to remember the antibiotic you took, how much, how long etc.

2. GIARDIA:

From the slopes of Aspen, Colorado to the verdant hills (in summer time) of Banff, Calgary, to the valley of Kathmandu, Nepal, giardia is an omnipresent problem. It is also known as "Beaver Fever" as the faeces of beavers transmit this protozoa (single cell organism). However in Nepal the faeces of man, dogs, and yaks would be higher in the list than beavers! This may cause more protracted diarrhoea than bacteria's. Remember there is significant symptom overlap with bacterial and amoebic diarrhoea. Some travel books say "rotten egg burp" is synonymous with giardia. This is far from the truth as bacteria's very often cause the same kind of burp.

In a sense, looking for giardia in the stool under a microscope may be more difficult than looking for clumps of white cells which would be suggestive of a bacterial etiology. Hence, a good exam by an experienced lab technical is essential to rule out giardia and the treatment is obviously different from that of bacterial diarrhoea. Many times we treat empirically (i.e. just based on the history).

3. AMOEBA:

Another treatable cause of diarrhoea (in this land of diarrhoea) requires more diligent observation under the microscope as they are more difficult to detect. There is also the problem of a wrong diagnosis as certain other protozoa bear a strong resemblance. It is important to make the right diagnosis of this mass of protoplasm because, if left untreated, it may invade the liver causing pockets of pus. Believe it or not these are easily and effectively treated (both amoebiasis and the pockets of pus in the liver) but the diagnosis must be made. We usually do not treat this empirically but seek laboratory confirmation.

4. CYCLOSPORA:

Probably better known by its more colourful name, "the blue green algae," this is a very seasonal, common cause of diarrhoea (April-Sept.). Not often seen in winter. The presenting symptom is tiredness out of proportion to the amount of diarrhoea, which may go on for weeks to months if untreated.

SOME BASIC TREATMENT SCHEMES:

1. FOR BACTERIA:

Azithromycin 500mg 1 tablet daily for 3 days.

2. GIARDIA:

Tinidazole 2 grams after the evening meal, for one, sometimes 2 days. No alcohol. Be prepared for a feeling of a "whack on the head" as a side effect of this drug.

3. FOR AMOEBAS:

Tinidazole 2 grams for 3 nights followed by Diloxanide Furoate 500 mgs, 3 tabs daily for 10 days.

4. FOR CYCLOSPORA (BLUE -GREEN ALGAE):

Bactrim D.S. 1 tab 2 times per day for 10 days.

This 'bug' does not respond to the newer antibiotics.

We advise caution with these medicines. Remember all medicines may have potential side-effects, some very dangerous.

There are plenty of other causes of diarrhoea which are either less treatable or a difficult diagnosis to make. For example: Cryptosporidium, blastocysts, antibiotic induced diarrhoea, tropical sprue, and so on. Remember the single most important treatment in any kind of diarrhoea is not drug therapy but plenty of fluids. An average adult traveller would need about 4 litres of water to cope with moderate diarrhoea. Then there are packets of electrolytes (Jeevan Jal) that you need to add to the water as you lose a lot of essential electrolytes, e.g. potassium, with the diarrhoea. Just drinking sweet syrupy stuff like coca cola is not a good idea.

Sometimes you may get a high fever for a day before you get the runs: this is not uncommon at all. When you go back home to N. American, Europe, and Japan or wherever, you may have to clue your doctor in: Tell him/her amoebas and giardias were possibilities where you travelled to. You will be surprised how many cases of simple giardiasis become the talk of the town (e.g. important case presentations in a Western hospital)

In brief: Nepali diarrhoea has to be treated with due respect (water, electrolytes, drug therapy) but in most cases there would be no reason to cut short your trip on account of this problem.

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IMMUNIZATIONS RECOMMENDED FOR NEPAL

Note: Just like advice for prevention of malaria, there are many conflicting issues regarding vaccinations from nation to nation. We have followed the Atlanta based Centres for Disease Control, The Ontario based International Association for Medical Assistance to Travellers and our own experience in making these recommendations. Talk to us at the Nepal International Clinic if you have questions.

TETANUS-DIPHTHERIA:

One Intramuscular injection booster needed every 10 years.

COMMENT: The combined vaccine is preferred in all instances. Diphtheria is not uncommon in Nepal. Tetanus is significantly more common in the Terai region of Nepal than in Kathmandu.

ORAL POLIO VACCINE (LIVE):

For previously immunised adults entering an area where polio is endemic one oral booster gives life long immunity. Injections are not available.

COMMENT: The risk of naturally acquired polio outweighs the risk of oral vaccine induced polio. However, in some one who is immune compromised (cancer, removal of spleen) oral polio booster should not be given.

HEPATITIS A:

The "shot" to prevent Hepatitis A would be at the top of the list of "must take" vaccines for Nepal. Depending on the vaccine strength may require 2 vaccinations. Manufactures claim vaccine protection for 10 years.

JAPANESE B ENCEPHALITIS:

3 doses on day 0,7 and 28. Booster every year.

COMMENTS: Japanese B Encephalitis found in the Terai region of Nepal. Disease also prevalent in Kathmandu. Good idea to take this if staying in Nepal more than a month

TYPHOID VACCINE: TYPHIM VI

Injection: 1 injection is good for 3 years

Oral: 3 doses on day 1,3 and 5.

COMMENTS: Common cause of fever in Nepal is typhoid. Sometimes the parenteral (injection) kind causes fever, chills and soreness in the injection site although this newer TYPHIM vi (typhoid vaccine) does this less often. Aspirin or Paracetamol may help significantly. Efficacy rate: about 70%. Oral vaccine as good as parenteral with obviously fewer side effects.

MENINGOCOCCAL A AND C:

Single dose, good for 2 years. **COMMENTS:** Pain at injection site. There is antibiotic treatment for meningococcal meningitis but it may also be rapidly fatal. Although CDC took this out from the list of vaccine for Nepal for tourist, we still recommend this because it is endemic here. We do not know of the presence if any of Y and W-135 types of the bacteria here. The vaccines we have do not cover for the latter types.

RABIES (Human diploid cell):

Rabies is an important problem in Nepal and preexposure vaccinations can be very useful for visits over 1 month. There is no cure for rabies.

PRE EXPOSURE (i.e. before a bite): Intramuscular, 3 injection on day 0,7 and day 28. Then, booster after 1 year, then every 3-year.

COMMENTS: Pre exposure "shots" eliminates needs for rabies immune globulin (serum) in the event of a bite by a rabid animal (e.g. dog or monkey-at the 'Monkey Temple'). (The rabies immune globulin is very expensive. It may easily cost US\$ 600-700). In addition, fewer post exposure vaccines required after pre exposure vaccinations taken.

POSTEXPOSURE (i.e. after a bite): 5 Intramuscular injections of human diploid cell vaccine in addition to human rabies immune globulin serum in most cases, if pre exposure shots not taken.

COMMENTS: Please note the difference between rabies immune globulin (serum) which is ready made antibodies (passive immunization) and the human diploid cell vaccine which stimulates antibody production in your body and may take about eight to ten days for the vaccine to produce immunoglobulin.

HEPATITIS B:

Injections in day 0, after 1 month and after 6 months. Gives good immunity. COMMENTS: Recommended for health workers who come in contact with blood and body fluids. Hepatitis B infection can cause long-term liver complications. In America now given to newborns, with other standard vaccines.

CHOLERA:

Not recommended.

COMMENTS: Very low efficacy of the vaccine. Foreigners hardly ever get cholera in Nepal. The disease is treatable with fluids and electrolyte. This vaccine has been dropped by the WHO in 1988. However, because poorly informed border officials may argue about this may be prudent for travellers to have a validated cholera certificate.

MEASLES-MUMPS-RUBELLA (MMR):

Primary Vaccination: Two dosages of MMR at least one month apart.

COMMENTS: Measles and mumps are commonly seen in Nepal. If not vaccinated previously this is recommended for Nepal. However, rubella vaccine should not be given to women planning to be pregnant at least within the next three months.

DPT:

Make sure you had all your primary vaccines like DPT as these disease like diphtheria are manyfold more prevalent in Nepal than in the west.

INFLUENZA:

This vaccine is recommended to all travellers.

PNEUMOCOCCAL VACCINE:

This vaccine is beneficial to travellers over 50 years.

Varicella (Chickenpox)

If you have not had chickenpox as a child, it is a very good idea to take this vaccine if living or travelling to South Asia.

YELLOW FEVER:

0.5 ml given sub cutaneously. Vaccine good for 10 years.

COMMENTS: Yellow fever is limited to Africa, South America. Not necessary in Nepal. Yellow fever is the only WHO required vaccine for entry into certain countries. Not always available in the Clinic.

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