

**Common Medical Problems Encountered
During 24th Indian Expedition to Antarctica
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Once in Antarctica, you are sure to forget the miseries in life and unhappiness, especially with the facilities provided by Govt. of India at their permanent research base at "Maitri". In fact, it is amazing-the way provisions have been made available to the expedition members. Though it will not be appropriate for me to declare on behalf of other members, it can be said without any hesitation that if asked, any of the expedition members would have replied the same, perhaps with more emphasis here and there. As far as the doctors' job is concerned they should be alert and agile always, but, usually the infrequent occasions when medical help is really needed there, it can easily be extended to the patient because of the simple reason that almost everything is available there, only thing needed is your sincerity and enthusiasm to help him/her out. Due to the unique geo-physical conditions prevailing over there, infections, per se, is nil during the nine month-long winter and almost nil during summer as well. Whatever bothers doctors mostly are the varieties of injuries, one can expect there. Yes, the doctors to participate in the Antarctic Expedition should be well prepared to handle the injury cases. During the summer period due to hectic activity, lots of minor injuries occur and during the long winter months because of darkness, high wind speed and other environmental factors along with changed psychological status account for most of the injuries. Though the serious/severe injuries are few and far apart, they may be expected and the doctors should be ready for that.

At the outset it may be mentioned that though disease profile common in Antarctica is presented here, the word disease did not come to our mind at all, as we were all engrossed with the sole idea of new things to see and encounter, to enjoy and to act on, to appreciate and to be afraid of, if any. However, after the initial enthusiasm passed away and with the onset of activity in summer camps as well as at 'Maitri' we started getting patients.

Though not many in numbers each and every case was very important to the doctors there because each patient meant an active expedition member responsible for a certain job. Secondly, physical cases as well as psychological cases are encountered there almost in equal numbers. The summary of the cases are furnished below :

Physical Problems

These are uncommonly encountered there and more easily tackled compared to some unfortunate serious type of injuries which may not be so common but are potential dangers to be on the look out for. Here, at first, the more common disease/disorders are discussed. The number of patients signifies the total of summer and winter members who attended 'Maitri Hospital' at some point of their stay here and were treated at 'Maitri Hospital' many a times with medication, but at times with counseling only. Secondly, here the number signifies the absolute number of patients without taking into account the number of spells of the same complaint by the same member.

A Little About the Serious Injuries

Cold Burn Cases: Two cases, both due to were due to negligence on the part of the members for not complying with the prescribed dresses required for venturing outside. Obviously, it was preventable on both the occasions. However, both the cases could be treated well there and there was no residual damage to the tissues.

Laceration with Deep Tissue Damage and Haemorrhage from Rt. Knee Joint

The patient was brought from Convoy as the accident took place during the wee hours in the morning and they had to bring the injured expedition member travelling all the way almost from the Antarctic shelf. The injured person, an Army contingent member went to attend the traveling generator attached with one of the convoy vehicles at dawn, when his feet slipped on the blue polar ice and his right knee hit the running alternator blade of the diesel generator set which cut the superficial as well as the deep tissues causing damage to blood-vessels as well. Due to the unique atmospheric condition of very low temperature that time, and actual contact with ice all over, actual blood loss was quite low. However, once he was brought to 'Maitri Hospital' – he could be revived in no time with I/V fluids. Immediate repairing of the damaged tissues were done under LA and the entire limb

Table 1

Sl. No.	Disease/Disorder	Number of patients	Aetiological factors	Remarks
01	Loss of Appetite	11	Monotony of foodstuff, monotony of cooking, Feeling of isolation and depression	Treated with counseling and with placebo, vitamins and minerals
02	Loss/Lack of Sleep	10	Psychological factors, Changes in Bio-Rhythm	Counseling, Advice to do physical work, Sedatives
03	Pain in Abdomen	11	Over-eating, frequent eating, more intake of certain foodstuff like groundnuts and namkeem etc., rarely summer-time infections	Counseling, H-2 blockers, Proton Pump Inhibitors, Anti-spasmodics like Dicyclomine, etc.
04	Conjunctivitis	03	Welding Arc, blown dust during summer	Rest to the affected eye, Anti Biotic Eye-drops.
05	Foreign Body Eye	02	Out-door activities by welders mainly	Removal by corneal spud/needle & Anti Biotic Eye drop
06	Vomiting and /or Diarrhoea	06	Over-eating, late night dinner, specially after a party, rarely germs from some food-stuff like prawns etc	Rest to GI tract for 8 to 12 hrs and medication with Proton Pump inhibitors and anti-emetics and/or Tinidazole and Ofloxacin
07	Chest pain/ Uneasiness	07	Commonly due to hyperacidity and belching resulting from over-eating	Counseling, medication with Antacids, H2 blockers/Proton Pump Inhibitors & sedatives
08	Headache	10	Late night sleepers, less sleep, alcohol	Proper medical advice
09	Injuries	27	Alien atmosphere, carelessness, absent-minded -ness and anxiety	Proper suturing, dressing and rarely repairing of torn/damaged tissues
10	Weight gain/loss	07	Over/less eating resulting from depression, availability of array of food, monotony & other psychological factors	Counseling and weight check-up. Rarely medication
11	Dental Caries	09	Low Mineral content in water	Proper brushing of teeth, specially before sleep. Use of Fluoridated tooth-paste
12	Hypertension	02	Labile, Psychological factors	Counseling, sedatives.

Table 2—Serious Injuries

Sl. No.	Disease/Disorder	Number of patients	Aetiological factors	Remarks
01	Cold Burn	02	Exposed Less protected/ Unprotected hands in contact with liquids & metal	Usual treatment with dipping the affected part in water at 40 deg. C
02	Laceration with Deep Tissue damage and haemorrhage- Rt. Knee joint	01	Slip on blue ice & Hit with the running alternator blade of DG set	Tissue Repair under LA, suturing the skin wound and POP cast for the limb. Medications with antibiotics, NSAIDs, sedatives etc.
03	Closed type tissue damage with hemorrhage in the damaged muscle of Lt. calf mainly	01	Lower limb run-over by track of Pisten-bulley	Injectable analgesics, Antibiotics, NSAIDs, sedatives with local application of antiseptic ointment like Mupirocin

was plastered with a POP cast. Mental support and boosting of his morale was one of our main job those days. He was made to walk without any support after about two weeks.

Closed Type Tissue Damage with Haemorrhage in the Damaged Muscle of Lt. Calf Mainly

Again this case was of one of the Army contingent members, who while working on the removal of snow from the tracks, got inadvertently under the right-side track of one of the special vehicles used in convoy called 'Pisten Bulley' and naturally his right lower limb went under the running track of the vehicle, causing injuries mainly to his calf muscles of right side. Here too, the unique atmospheric condition of deposited snow on ice and the very low temperature combined with the many layers of special polar garments prevented very severe injuries. This particular case was really an unique one as without causing a single drop of external hemorrhage, the entire calf area took the pattern of the track marks and the muscles were damaged in such a way that the those looked like pieces joined together, like thick ridges separated by gaps in between. Here the person could be handled on the spot because the station doctor himself was also a member of the convoy team. In this particular case the pain was excruciating and the person had to be sedated with tranquilizers and

analgesics in injectable form. By about ten days he was totally fit to do all kind of physical jobs. This is perhaps true only at Antarctica!

Cases Handled During the Journey Periods to and fro Antarctica

These were mostly the sea-sickness cases, that too, while sailing to Antarctica and all were well before the ship actually touched Antarctic fast ice.

Dental Treatment : A piece of advice here that though dentistry is not taught to us, the physicians, it is prudent to be acquainted with the common dental procedures like filling, extraction etc. before proceeding to Antarctica as a member-doctor, as one may expect dental patients not so uncommonly there.

Psychological Cases

It is rather common to have some amount of temporary psychological changes at Antarctica, which is true for the winter members, as they have to pass the long winter months that too specially during the 'polar night' period. Psychological impact comes from various factors like anxiety for family members back home, feeling of isolation in a confined environment during polar nights incidentally when associated with an occasion of blizzard when venturing out is not possible for days together, sometimes for may be more than a week. Some other factors like some latent personality feature not revealed hitherto, got unveiled under alien circumstances, beyond the coping ability of the individual concerned.

During this particular expedition, I had the opportunity of treating such an individual whose behavioural pattern got bizarre and harmful to others. This took place almost with the onset of the winter season there and continued almost throughout the season. Times came when he had to be restrained in his cabin too as part of therapy as well as to maintain peace in the team. However, the entire case could be handled well and the person concerned is well now once back home.