



Operation
Wallacea

Conservation research through academic partnerships

Medical and Evacuation Procedures for
South Africa and Mozambique 2011

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1. Introduction

Medical screening

As with all expeditions careful planning is essential to ensure that all individuals enjoy a safe successful trip. Some members of the expedition team (including all volunteers and staff) may have significant pre-existing health problems or disabilities, which in the field, could potentially lead to problems.

Medical questionnaire

All participants are required to complete a medical questionnaire prior to their departure. These forms are then taken to a pre-expedition meeting so the medics are able to discuss any implications to the site medical kit or the individual's itinerary.

PADI

All those who are diving during the expedition will be required to complete a PADI (Professional Association of Dive Instructors) medical questionnaire according to the rules and regulations set out by PADI. All volunteers are required to get their GP to sign the declaration on the reverse of the PADI form if they have answered yes to any of the questions. The forms are returned to the administrator at the UK, US or Canadian office.

Screening

All medical forms are assessed and discussed at a pre-expedition medical meeting. The team of medics will discuss any potential medical issues, advise anyone if a further consultation with a medic is required and will also suggest additions to the medical kits in light of any pre-existing health problems highlighted. Forms need to be photocopied twice. The original will be taken by the volunteer or staff member to site, one copy kept in their staff or volunteer file and the other passed to the medical coordinator to be placed with the medical questionnaire for the medical meeting and sent to the field.

All staff and volunteers are covered by insurance purchased by Operation Wallacea which includes medical costs and repatriation of £1million. Operation Wallacea staff have met with CEGA insurance providers to agree evacuation routes from each site including overland and by air, the western standard hospitals that will be used and the costs so that if evacuation is required there is no delay in the insurance company approving the evacuation and medical costs.

Roles in the event of an emergency

Carefully planned evacuation protocols are in place in all of the sites in South Africa. All staff will have training on the evacuation procedures and protocols.

Because of the high variability of influential factors such as weather conditions and nature of potential injuries, a number of different evacuation scenarios must be

prepared for prior to the season. All staff are fully briefed in these scenarios, and this report describes the most commonly used and available evacuation options.

It is the responsibility of the Medical Officer at the relevant site to determine if an emergency scenario exists and to ensure the patient is stabilised ready for evacuation. The Medical Officer on site with the casualty will decide the level of emergency evacuation required for the patient in consultation by phone with doctors from the target hospital. These should be classified as *Medium Priority, High Priority or Emergency*.

Medium Priority

Cases in which the patient is in no immediate danger but the onsite facilities and local facilities are unable to cope were their condition to deteriorate or where the condition cannot be assessed on site. This requires the patient to be moved as quickly as possible without the need to hire special vehicles to the nearest appropriate suitable local facilities.

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High Priority

Cases where the patient's health is at risk if immediate action is not taken. An example of this is a broken bone. This requires the patient to be moved as quickly as possible by ambulance to the nearest appropriate suitable local facilities.

Emergency

Cases where the patients' life is at risk if immediate action is not taken. An example of this is a snakebite. This requires the fastest possible transfer by vehicle or air to a western standard hospital.

The Incident Coordinator at each of the sites is also responsible for ensuring that all relevant staff are aware of the ongoing emergency and follow up actions. All staff involved in the major accident or emergency procedure should keep detailed notes of times, actions taken, contacts made, costs incurred etc. After the incident has been closed it is the responsibility of the Incident Coordinator to compile a detailed report and submit this to the relevant insurance company.

2. Medical facilities in country

This information has been checked prior to the 2011 season senior Operation Wallacea staff.

Netcare 911 (International Assistance Division)

Netcare 911 is responsible for all air ambulance and emergency evacuations from the various sites, within South Africa as well as southern Mozambique. They will

arrange prior approvals with the Op Wall insurers in order to avoid any delays in the event of an emergency. They have already been provided with comprehensive details of the Operation Wallacea / WEI expeditions including dates, volunteer numbers, site locations, potential threats and expected types of incidences as well as identified medical care facilities and hospitals in the various regions. Netcare 911 has two fixed wing jets (Hawker Siddely 700 and Citation S2) which they use in combination with 2 helicopters based in Johannesburg (BO 105 Twin Engine) and Durban (350 Squirrel) to provide the required air ambulance service to the nearest hospital. Netcare 911 also has access to The Red Cross helicopters based in Nelspruit and Richards Bay if needed. Netcare 911 has an extensive range of over 150 ambulance vehicles around the country.

The Aero Medical Flight Desk will coordinate all medical emergencies including incidences where road ambulances are required for Operation Wallacea / WEI expeditions.

Aero Medical Flight Desk Manager: Jacques Pienaar

(Jacques.pienaar@netcare.co.za)

Emergency Call Reporting (Direct) 010 209 8392

Alternative Emergency Call Reporting 082 911 (also functional for Mozambique)

Facilities for KwaZulu Natal incidents

Netcare The Bay Hospital, Kruger Rand Road, CBD, Richards Bay 3900

Tel: 035 780 6111; Emergency or Casualty Service +27 35 780 6202

Facilities include helipad, operating theatres, X-ray, intensive care unit, laboratories and a 24-hour accident and emergency unit, snake anti-venom. The Casualty Manager will be our main contact at the hospital and will ensure all other relevant staff are informed in advance of the expedition season.

Casualty Manager: Delia Schultze Office tel: (035) 780 6334

Email: tber@thebay.netcare.co.za

Pongola Hospital, 82 Hansdon Street, Pongola, 3170

Tel: 034 413 1372

Main Contact: Trudie Theron 082 945 7903

Additional Doctors: Dr Du Plessis 034 524 9209; Dr Germishuys 034 413 2135

This high quality private hospital is capable of treating most incidents. They have a trauma unit, casualty, high care unit, along with X ray machines, snake- and scorpion anti-venom. If intensive care is needed the patient would be stabilised and then flown down to Richard Bay or Durban depending on the nature of care required.

Pongola Ambulance and Emergency Service Tel: 034 413 1323. Emergency number for ambulance: 10177

Facilities for Mdluli incidents

Nelspruit Medi-Clinic, 1 Louise Street, Sonheuwel Nelspruit, 1200

Tel: +27 13 759 0500; Emergency tel: +27 13 759 0645; Ambulance Service 084 124 (ER 24)

This 240 bed high quality private hospital has ambulance services, an emergency centre, helipad landing facility, intensive care unit, high care unit, cardio unit, operating theatres, along with X ray machines, snake- and scorpion anti-venom.

Patient Care to be handled by the Medical Doctor and Nursing Sisters on duty

Patient Administration Manager: Cecile Strumpher Office tel: (013) 759 0658 or 082 307 9627

Netcare 911 Nelspruit Coordinator: Lance Bogart 24 Hour tel nu: (013) 741 1620

Emergency Center Unit Manager: Ilse Smith or Dr Edileen Smith

Email: ilse_smith@mediclinic.co.za

Facilities for Manyeleti incidents

Tzaneen Medi-Clinic, Wolkberg Avenue R71, Tzaneen, 0850

Tel +27 15 306 8500; Email hospmngrtzane@mediclinic.co.za, 24 Hour Emergency Centre+27 15 306 8526

This hospital has a 24-hr emergency centre, an intensive high care unit, CT scanner, Radiology unit and renal dialysis

Military Hospital - Airforce Base Hoedspruit, Military Base Health Center, Troupant Weg, Drakensig, Hoedspruit

Tel: 015 799 2065

This hospital is suitable for routine treatments (eg drips, additional medical advice) but for serious issues then the patient would be taken to the Tzaneen Medi-Clinic.

Facilities for Welgevonden incidents

St Vincent's Private Hospital, Quagga Rd, Bela Bela, 0480

24 Hour Emergency Number: +27 14 736 2310

Emergency Contact a/hours: Head Matron (Sister Georgette)

This 80 bed high quality private hospital has an emergency centre, trauma unit, operating theatres, X ray machines, as well as snake- and scorpion anti-venom.

Head Administrative Dept: Mrs Tilla van Staden Email: admin2@stvincents.co.za to review medical insurance from insurers. Note - medical doctors only work on a cash payment basis!

Life Wilgers Hospital, Denneboom Ave., Lynnwood Ridge 0041, Pretoria

Tel: +27 (12) 807 8100 or Trauma Unit +27 12 807 8285

This high quality 300 bed private hospital has ambulance services, a 24 hour emergency centre and a general intensive care unit, cardio ICU, operating theatres, along with X ray machines, snake- and scorpion anti-venom.

Patient Services Manager: Mrs Anita Botha

Tel: (012) 807 8233 Email: anita.botha@lifehealthcare.co.za

Recompression facilities for all marine sites

Transnet National Ports Authority (Portnet)

Diving Section Richards Bay;

Office tel: +27 035 905 3420

General Contact: Mr Quinton Gower (Dive Supervisor) 082 321 4420 or

Mr Doug Searl (Assistant Dive Supervisor) 083 561 8298 or

Dr Daan Struwig (Medical Emergency) 082 551 5372 or Office tel: (035) 797 3102.

Dr Struwig requires a Letter of Guarantee from the Insurance Company to cover all costs in respect of any services rendered.

Email: struwig@iafrica.com

This hyperbaric chamber is used by all the dive organisations north of Richards Bay and up into Mozambique.

3. Medical cover at each site

There are 7 sites that are being run in the 2011 season in South Africa and Mozambique:

- bush training courses and research projects in the Thanda Private Game Reserve;
- elephant research dissertation students in Pongola Game Reserve;
- bush training, research assistant and schools groups in the Mdluli Concession in the Kruger National Park;

- school groups in the Manyeleti Game Reserve;
- bush training and dissertation students in Welgevonden Reserve in the Waterberg mountains;
- dive training and reef ecology for school groups in Sodwana Bay;
- Malongane Dive Camp in Ponta do Ouro, Mozambique, for dive training, reef ecology and marine research.

Thanda and Pongola

All the Field Guides used for safety cover at Thanda and Pongola have First Aid as part of their Field Guide Association of South Africa (FGASA) qualifications. The Pongola hospital is only 40 minutes away by road from the Pongola site, and is within 1 ½ hours from the Thanda site, whilst if an accident requiring serious medical attention occurred patients could be transferred to The Bay Hospital in Richards Bay which is only 2.5 hours away by road.

Mdluli and Manyeleti

The Mdluli site is only 1 hour from excellent medical facilities in Nelspruit. However, there are also extensive First Aid facilities at the camp and all the rangers have First Aid training as part of their FGASA qualifications. The Manyeleti Military and Airforce Hospital which is about 30 minutes from the camp is used for all general medical advice and interventions such as drips. More serious issues are taken to the Tzaneen Medi-Clinic (2 hours).

Welgevonden

The Welgevonden site is 1 hour from St Vincent's Private Hospital in Bela Bela with an emergency and trauma unit. In the event of more extensive medical care which may be required, patients will be evacuated to The Life Wilgers Hospital in Pretoria East which is 2.5 hours from Welgevonden. This hospital has excellent medical care facilities to cover any emergency or trauma. The Field Guides used at Welgevonden all have First Aid certification as part of their FGASA qualifications.

Sodwana Bay and Malongane

All the Dive Instructors at Sodwana and Malongane have First Aid training as part of their PADI qualifications. As Malongane is 5 hours from the western standard hospital at Richards Bay, there will be a medic based at this site throughout the survey period.

All sites

For all sites an air ambulance evacuation operated by Netcare 911 and funded by the Op Wall insurance policy is in position, so that response times to the hospitals can be even quicker. Air ambulances will be used in all cases where there is a potential

spinal injury and in cases where there is a potential threat to life, loss of limb or eyesight and the travel time to meet the patient with ambulance facilities will be faster than transfers overland.

At camps where the First Aiders are providing the initial medical cover, a male and female Medical Officer will be identified as the main contact for the students to discuss any medical issues. These staff will be provided with the medical forms completed by all volunteers and staff on site under their care and the forms will be forwarded by these staff to the next location for anyone moving to the marine site or between bush camps. Any care beyond First Aid at sites where there is not a qualified medic will require the patient to be transferred to hospital so that they have the highest medical care possible.

At each site and for each group going into the field from those sites, the contents of the First Aid kits have been prescribed by a UK based doctor with extensive expedition medicine experience to account for the level of First Aid care available and the distance to hospital to access high quality medical facilities.

All Field Guides and Game Rangers accompanying our volunteers hold (at least) a Level 1 Wilderness First Aid qualification which covers the following:

Wilderness First Aid and Basic Life Support Intervention - Level 1 Course Content (as per Department of Labour)

- Principles of First Aid and Safety/Emergency Scene Management
- Artificial Respiration
- One-Rescuer CPR
- Choking
- Wounds and Bleeding
- Shock, Unconsciousness and Fainting
- Fractures
- Burns
- Head and Spinal Injuries

4. Evacuation procedures

It is the responsibility of the Medical Officer at the relevant site to determine if an emergency scenario exists and to ensure the patient is stabilised ready for evacuation. Once a major incident or emergency at any of the South African sites is identified the South Africa Emergency Co-ordinator, Johan Scholtz must be notified. Johan Scholtz will be in telephone contact 24/7 throughout the expedition period, either in the field or in WEI headquarters in Cape Town. He will then take overall control as Incident Coordinator. If the major incident or emergency occurs at the Mozambique site then the Mozambique Emergency Coordinator will take control. Peter Herbst is the Mozambique Emergency Coordinator and will be either in the field with the teams or in Pretoria and in 24/7 contact. The Medical Officer on site with the casualty will decide the level of emergency evacuation required for the patient in consultation by phone with doctors from the target hospital. These should be classified as **Emergency** (requiring the fastest possible transfer by air to hospital facilities in Richards Bay, Nelspruit or Pretoria), **High Priority** (requiring the patient to be moved at the fastest speed possible by to hospital facilities in Richards Bay, Hoedspruit, Nelspruit, Pongola, Bela Bela or Pretoria) or **Medium Priority** (requiring the patient to be moved as quickly as possible without the need to hire special vehicles to the nearest appropriate medical facilities).

In all Emergency or High Priority cases where a patient is being transferred to medical facilities they should be accompanied by the relevant Medical Officer or someone appointed by the Medical Officer as fit to accompany the patients. The absence of the Medical Officer from the site whilst the patient is accompanied to the hospital will require the temporary appointment of another Medical Officer at the site (most sites have multiple Field Guides, Camp Managers or Safety Rangers with the required First Aid qualifications) or if this is not possible the suspension of all high risk activities at the site until the Medical Officer is back on site. In the case of a Medium Priority evacuation (e.g. transfer to a hospital for a confirmatory X-ray) another staff member other than the Medical Officer may be nominated to accompany the patient.

All staff involved in the major accident or emergency procedure should keep detailed notes of times, actions taken, contacts made, costs incurred etc. After the incident has been closed it is the responsibility of the Incident Coordinator to compile a detailed report and submit this to the relevant insurance company.

Thanda and Pongola

In an emergency incident the ambulance from the hospital will be called to site, whilst in high and medium priority cases the transfers to the hospital will be done by vehicle from the site.

Mdluli and Manyeleti

For all levels of emergency except spinal injuries at Mdluli and Manyeleti the patient would be evacuated to the hospital in Nelspruit or Hoedspruit by vehicle from the site. For spinal injuries an air ambulance would be called.

Welgevonden

For all levels of incidents except spinal injuries, the patient would be driven overland to the St Vincent's Hospital in Bela Bela, and if further medical care is required to the Life Wilgers Hospital in Pretoria. In emergency cases the air ambulance would be despatched from the Life Wilgers Hospital to meet the patient part way. In spinal injury cases the air ambulance would fly to the Welgevonden reserve.

Sodwana Bay

For all levels of incident except spinal injuries the patient would be driven to the hospital in Richards Bay. In cases of potential spinal injury the patient would be taken to hospital by air ambulance from the dive centre or lodge in Sodwana Bay.

Malongane

For all levels of incidents except potential spinal injuries, it is faster to drive the patient across the border into South Africa at Kosi Bay, which takes about 45 minutes. In an emergency situation an air ambulance would meet the patient at the border and fly them to Richards Bay. If it was a spinal injury then the air ambulance would meet the patient at Malongane. High Priority incidents are likely to be recompression problems and would require being driven with the patient on oxygen to the Richards Bay recompression facilities. For other high priority incidents the patient would similarly be transferred by road to Richards Bay hospital. The doctor on site would be able to deal with most Medium Priority incidents.

6. Reporting and Logging

During evacuations it is crucial that a log is kept on site by the Medical Officer and by the Emergency Coordinator detailing times, personnel involved and all relevant details of each step of the evacuation process.

All medium priority evacuations must be logged by the Medical Officer and included in the post-season report. For high priority and emergency evacuations the Medical Officer and Emergency Coordinator and any other staff involved in the incident must make a report immediately following the incident. A full safety assessment must be carried out after all evacuations and if a similar incident is likely all activities must be stopped until the situation has been rectified.

The Emergency Coordinator will collate the reports of all high priority and emergency evacuations and will submit the final report to the UK office. The Emergency Coordinator will also submit the costs and report to the insurance company for re-imbursment of costs.

7. Mass Evacuations and Disaster Management

There is the possibility, albeit incredibly small, that a large scale incident could occur which would require a large number of Operation Wallacea volunteers and staff being repatriated. Such incidents could include political unrest, natural disaster and terrorist attacks. These incidents can be broken into two types, those with prior warning and those without.

Major Incident With Prior Warning

Some major incidents come with a degree of prior warning. A good example of this is political unrest resulting in violence, which would have a build up period. We constantly monitor the political situation of the area we work in and if our experienced field operatives decide that the political situation has become unsafe they would order a full evacuation.

In such an incident the Emergency Coordinator would liaise with the insurance company and relevant embassies to agree the best route for repatriation.

Major Incident With No Prior Warning

Some incidents, such as a terrorist attack or natural disaster, would have no prior warning. In cases such as these the field staff would get all volunteers and staff to a place they deemed safe by which ever means they decide best. From here the Emergency Coordinator would contact the volunteers' embassies to coordinate an evacuation strategy. The details of such an evacuation would vary dramatically depending on the situation and as such it is impossible to produce more detailed procedures than this.