



Operation Wallacea

Conservation research through academic partnerships

Medical and evacuation procedures for Indonesia 2011

These evacuation procedures were last updated on: 11 May 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 will be required to complete a medical questionnaire prior to their departure. will be included in the expedition confirmation pack that is set out to all volunteers. These forms will then be taken to the medical meeting so the medics are able to discuss any implications to the site medical kit or the individuals 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 offices.

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.

Operation Wallacea has purchased Medical and Repatriation insurance cover to a value of £1 million for all volunteers and staff.

Roles in the event of an emergency

Carefully planned evacuation protocols are in place in all of the sites in Indonesia. 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.

Once a major incident or emergency is identified the Site Manager responsible at both Hoga Base and Labundo Bundo Forest site will advise the Indonesian Project Manager and Travel Co-ordinator at Losari Tours. The specific site manager will take overall control as Incident Coordinator in conjunction with the Project Manager if they are in a position to assist. The Medical Officer and Site Manager on site with the Casualty will decide the level of emergency evacuation required for the patient. 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 are unable to cope were their condition to deteriorate. An example of this would be dehydration due to sickness. This requires the patient to be moved as quickly as possible without the need to hire special vehicles or boats to the nearest appropriate suitable facilities normally in Bau Bau or Makassar.

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 a scheduled flight from Bau Bau or Wanci to Makassar (alternatively the hospital facilities on the PELNI ships can be used to transfer the patient to Makassar if this is going to be faster)

Emergency

Cases where the patients' life is at risk if immediate action is not taken. This requires the fastest possible transfer usually by air from Wanci or Bau Bau airports.

In all evacuation 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 patient. The absence of the Medical Officer from the site whilst the patient is accompanied to the hospital will require the suspension of all activities at the site until the Medical Officer is back on site, unless other appropriate medical cover is available at the site.

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 stabilized ready for evacuation.

Operation Wallacea has purchased Medical and Evacuation cover for all expedition participants and the insurance company has agreed routes and costs for evacuation in advance so that evacuations can be expedited quickly. The Incident Co-ordinator will be responsible for contacting the insurance company and informing them of the need for a Medivac plane from Bau Bau or Wanci airfields. Once this is approved then the flight will be arranged CEGA using Air Bali. They will be using a Piper Cherokee with long range fuel tanks operated by Air Bali from Denpasar and this will

be in the air within 2 hours of being authorised. Flight times to Wanci are 2 hours and to Bau Bau are 2.5 hours. Patients will be flown to Makassar or Bali for treatment.

The incident coordinator 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.

Facilities in Wanci

Wanci services the area with a recompression chamber where any decompression incidents will be taken to in the first instance. This will enable treatment to take place within an hour of the incident occurring. A speedboat remains on standby for evacuations. There are limited facilities on Wanci for non dive-related incidents.

Facilities in Bau Bau

These facilities can be used for evacuations from Hoga or Labundo. Whilst the medical facilities in Bau Bau are not as extensive as those in Makassar, there are several good clinics and a well-equipped public hospital. Additionally, since Bau Bau is much closer to our project sites than Makassar, the majority of medical evacuations will head here.

Klinik Murhum (Clinic)
Address: Jl, Murhum No.69, Bau Bau
Telephone: 0402 2822650

Operation Wallacea has used this small clinic in the past. It is clean and has quiet, air-conditioned, private rooms. There is a small operating theatre suitable for minor operations, and oxygen is available here.

Klinik Zafira (Clinic)
Address: Jl, Budi Utomo No.5, Bau Bau
Telephone: 0402 2824832

This new, modern clinic is predominantly a maternity clinic, but they do take other patients. This clinic offers a good alternative to Klinik Murhum. It is clean, sterile and comfortable and features private rooms with air conditioning and a small operating theatre. Oxygen is available here if needed.

Rumah Sakit Umum Buton (Hospital)
Address: Jl, Jend. Sudirman No.20, Bau Bau
Telephone: 0402 2821803

This is Bau Bau's main hospital and has intensive care facilities should a patient need stabilising.

Facilities in Makassar

These facilities can be used for evacuations from Hoga or Labundo. Where there is a serious illness or incident where a patient may require non-minor surgery, the patient will be taken to Makassar, which is the home of the best medical facilities in the region. Here there are plenty of western standard hospitals and all the facilities you would expect from a major city. Most medical situations can be handled here. There are also two decompression chambers in the city, one at the general hospital (RS Wahidin Makassar) and another at the Navy hospital. Makassar would therefore be the backup for any decompression accidents should the facilities at Wanci be unavailable.

Rumah Sakit Akademis
Address: Jl, Bulusaraung No.57, Makassar
Telephone: 0411 317343

This large private hospital is to western standards. It is very clean and has highly qualified doctors and surgeons, mostly educated in Europe and the US. It is equipped to a high specification and is ideal for all non-specialist treatment and operations.

Rumah Sakit Wahidin Makassar
Address: Jl, Perintis Kemerdekaan No.11, Makassar
Telephone: 0411 583333

This is the main hospital for the whole of Sulawesi and as such contains all the equipment you would associate with a major hospital including a decompression chamber. There is a range of specialist doctors capable of dealing with most conditions, highly trained surgeons and proper intensive care facilities.

Facilities in Kendari

These facilities can be used for evacuations from Hoga or Labundo. There are facilities available in Kendari should they be required. These include a small hospital and a number of medics with specialist knowledge in certain areas of medicine, so in the event of a volunteer falling ill and our on-site medics requesting further investigation, the patient could be evacuated to Kendari.

Rumah Sakit Santa Anna (Hospital)
Address: Jl, Dr Moh Hatta No.65, Kendari
Telephone: 0401 323092

The facilities are similar to those of Klinik Murhum in Bau Bau, and include a small operating theatre, oxygen, and air conditioned private rooms.

Facilities in Bali

Recompression facilities are also available in Bali, and these can also be accessed if required.

RSUP SANGLAH, Jl Diponegoro – Denpasar – Bali
Emergency Phone: +62361226363
Switchboard Operator: +62 361 227911 – 227915
Fax +62 361 224206 or +62316 226363
a. +62818511318 (Dr Etty Herawati– Head of Hyperbaric Unit RSLP SANGLAH)
b. +628124672923 (Dr Kadek Sosiawati) Hyperbaric Doctor
c. +62361 227911 - 62 361 227915 (connects to Operator)
d. +628124655281 (Peter Manz – Hyperbaric Health Representative)

The air evacuation company, Air Bali is also based in Denpasar
24 Hour Emergency Numbers: +62 8133 8769 756 or +62 812 3836 321
Office Contact
Dewa Ruci Building No 2
Jalan By Pass Ngurah Rai
Simpang Siur,
Kuta Denpasar
Tel : 62 361 767 466 Fax: 62 361 766 581
Mobile: 62 812 3836 321
E-Mail: mars@airbali.com Web: www.airbali.com
Currently operate a Bell 206B turbine helicopter, a Piper Chieftain PA31-250 twin engine aircraft and a twin turbine Cheyenne 400LS.

3. Medical cover at each site

Five forest sites and one marine site will be operational in 2011: Labundo, Lapago, Lawele, Bala and Anoa will be running at any one point in the forest, and Hoga Island will be operational as a marine site. A qualified medic will be based at each site, with two on Hoga (one Indonesian and one Western). The qualified medic will be a medical professional such as a doctor, paramedic, or nurse with accident and emergency experience, or an appointed medical officer who has wilderness first aid training. A spinal board will be with the Canopy Access team at the site where they are operating, either Labundo or Bala.

A medical kit is provided at each site, the content of which is agreed prior to the season in consultation with professional medics. These kits are designed to deal with as many non-emergency medical eventualities as reasonably possible onsite, and also to support emergency incidents and stabilize a casualty for transfer to more extensive medical facilities where needed.

4. Evacuation from the forest sites

Overview

There is no possibility of an air evacuation from Labundo or any of the other forest sites so all evacuations, irrespective of the level of evacuation required follow roughly the same pattern. The key is to get the patient to Bau Bau as quickly as is safely possible. On arrival in Bau Bau the patient can be stabilised in the hospital there before air or sea evacuation to better medical facilities if necessary.

The main difficulty with all evacuations from the forest is getting the patient out of the forest and to a vehicle. At each camp there is a team of Indonesian staff with a stretcher that can transport the patient overland to the nearest access point for a vehicle. At Labundo a vehicle can be accessed immediately if the incident occurs in the village whilst it would be less than 1 hour if it occurred on one of the transects. The jungle training group is 1 to 2 hours carrying time to the nearest vehicle. At Lapago a vehicle can be accessed in 1.5 hours from the camp or the transects. Anoa and Bala camps are a little more remote and evacuation can take from 1 - 4 hours to reach the vehicle. The camp medic will stabilise the patient whilst the evacuation occurs.

Medium and High priority evacuations

Medium or High priority evacuations will be evacuated to Klinik Murham in Bau Bau for treatment or to be stabilised until an air evacuation can be arranged to better medical facilities. The procedure is as follows:

- The medical officer in the Labundo/node camp will assess the patient. Once the decision has been made to evacuate the Labundo Manager will be notified immediately who in turn will notify the Indonesian Project Manager
- The Indonesian Project Manager will contact the insurance company to inform them of the situation.
- The patient will be taken to the nearest road as quickly as is possible. Here they will be picked up by a suitable vehicle and driven to Bau Bau. The transfer from virtually any of the road points that are the nearest to the various forest camps would take from 1 – 4 hours depending on the camp. There are always a large number of very fit and disciplined guides trained to carry a stretcher and the transfer times from any of the camps would not exceed 4 hours and for most camps would be closer to 1 hour.
- A medical officer will accompany the patient to Bau Bau in all High Priority cases but alternative staff members can be used for Medium Priority cases.
- The Indonesian Project Manager will ensure that preparation for the patients arrival is undertaken and that a room is ready in Klinik Murhum and an appointment has been made to see a doctor as soon as the patient arrives.
- The Indonesian Project Manager will contact the UK office 24 hour number to inform them of the situation and the UK office will liaise with the contacts listed on the database for each volunteer and staff member.
- Onward travel to Makassar will be arranged using scheduled flights; there are two scheduled flights a day between Bau Bau and Makassar. It is also possible to get the twice daily speedboats to Kendari, and then scheduled flights to Makassar. PELNI boats are also available, there are 6 boats at irregular intervals every two weeks and these boats have hospital facilities on board that can be used to stabilise the patient. The PELNI takes between 13 and 17 hours depending on the boat to get to Makassar.

Emergency evacuations

- The medical officer in the Labundo/node camp will assess the patient. Once the decision has been made to evacuate, the Labundo Manager will be notified immediately who in turn will notify the Indonesian Project Manager.
- The Indonesian Project Manager will contact the insurance company to inform them of the situation and once approval has been given they will contact CEGA to organise a Medivac plane from Bali. This should arrive in Bau Bau around 4 hours after being called but there could be a delay since the plane can only land in daylight. Flight time to Makassar would be around 1 hour. If there is a delay then the patient will be stabilised in Klinik Murhum until the flight can land.
- The patient will be taken to the nearest road as quickly as is possible. Here they will be picked up by a suitable vehicle and driven to Bau Bau. The transfer from virtually any of the road points that are the nearest to the various forest camps would take from 1 – 4 hours depending on the camp. There are always a large number of very fit and disciplined guides trained to

carry a stretcher and the transfer times from any of the camps would not exceed 4 hours and for most camps would be closer to 1 hour.

- A medical officer will accompany the patient to Bau Bau.
- The Indonesian Project Manager will contact the UK office 24 hour number to inform them of the situation and the UK office will liaise with the contacts listed on the database for each volunteer and staff member.
- The medical officer will remain with the patient until the Medivac doctors arrive.

Evacuation times from each camp to Bau Bau

Labundo:	Approximately 2 ½ hours by motor vehicle
Lawele:	Approximately 3 hours by motor vehicle
Lapago:	Approximately 1 ½ hours by stretcher, 2 ½ by motor vehicle. Total 4 hours
Bala:	Approximately 3 hours by stretcher, 3 hours by motor vehicle. Total 6 hours
Anoa:	Approximately 3 hours by stretcher, 3 hours by motor vehicle. Total 6 hours
Jungle training:	Approximately 1 ½ hours by stretcher, 2 ½ by motor vehicle. Total 4 hours

5. Evacuation from the marine sites

Overview

The nature of the Wakatobi means that there are a wide variety of options for evacuations that need to be assessed on a case-by-case basis. These evacuation procedures outline the most likely route for evacuations. However, details of other options that are available are also listed. These will be considered by the staff on site in the event of an evacuation and may be used if they offer a better alternative to the procedures outlined below.

Medium priority evacuations

Medium priority evacuations will be evacuated to Klinik Murhum in Bau Bau for treatment. The procedure is as follows:

- The medical officer on Hoga will assess the patient. Once the decision has been made to evacuate the Hoga manager will be notified immediately.
- The Hoga manager will inform the Indonesian Project Manager immediately and he in turn will inform the insurance company and the UK office of the ongoing evacuation.

- A member of Opwall staff will prepare for the patients arrival and ensure that a room is ready in the clinic and an appointment has been made to see a doctor as soon as the patient arrives.
- The patient will be taken to Wanci by speedboat (approximately 30 minutes), catching the Wanci to Bau Bau ferry which leaves at 21:00hrs arriving into Bau Bau at 06:00hrs the next day.
- A member of staff will accompany the patient to Bau Bau. The Hoga manager and the medical officer will decide who this will be on a case-by-case basis.
- The accompanying staff member will remain with the patient until they are ready to return to Hoga.

High priority evacuations

- High priority evacuations will be evacuated to **Rumah Sakit Akademis** In Makassar. The following route will be used:
- The patient will be taken to Wanci by speedboat, and if timings coincide the patient can be evacuated on the one daily commercial flight from Wanci to Makassar. If this is not possible the following procedure would be followed:
- The evacuation speedboat will be prepared with all necessary medical equipment and a satellite telephone. As soon as all safety checks have been completed the boat will leave for Pasarwajo with a medical officer accompanying the patient (1 hour)
- The Indonesian Project Manager will arrange for a car to meet the boat at Pasarwajo and drive the patient to the Klinik Murhum (1.5 hours).
- Radio, satellite phone and cell phone communications between all sites should be made regularly and often whilst the evacuation is in process.
- The timescale for this evacuation is approximately 3.5 hours. This consists of half an hour to prepare the patient and speedboat, one-and-a-half hours from Hoga to Pasarwajo and 1.5 hours from Pasarwajo to Bau Bau. The speedboat can only travel in the daytime so the latest that this evacuation route could be utilised in 16:30 from Hoga.
- From Bau Bau the patient will be evacuated to Makassar using scheduled flights, PELNI ships or via scheduled speedboat to Kendari and onward flights. There are flights twice daily from Bau Bau directly to Makassar. There are 6 PELNI boats at irregular intervals every two weeks but these boats have hospital facilities on board that can be used to stabilise the patient. The PELNI takes between 13 and 17 hours depending on the boat. A third alternative is to use the twice daily scheduled speedboat to Kendari and then a scheduled flight to Makassar. There are twice daily speedboats to Kendari and four daily flights between Kendari and Makassar. The medical officer will accompany the patient to the medical facilities in Makassar.

Emergency evacuations

Emergency evacuations will require speedboat evacuations to Wanci Airport

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(approximately one hour) accompanied by the Hoga medical officer. Once the decision has been made to evacuate the Hoga manager will be notified immediately. The Hoga manager will inform the Indonesian Project Manager immediately and he in turn will inform the insurance company and obtain permission for the Medivac plane to be sent from Bali. Air Bali will then be contacted to organise the plane which should arrive approximately four hours after authorisation at Wanci and be in Makassar one hour later. If the evacuation is for a recompression issue then the patient will be taken to Bali. The patient would be stabilised on Hoga and would leave one hour before the plane was due to arrive. The Opwall UK emergency office also needs to be informed so they can keep the contacts of the patient listed on the database up to date. The Wanci runway can only be used in daylight hours so if the incident occurs after 1pm the fastest route out would be to use the multi-engined speedboat going straight to Kendari (four hours) and from there to the airport (one hour) to liaise with the incoming evacuation plane and onward transfer to Makassar (one hour). Note the Wanci route is to be preferred whenever possible because of the much shorter and less dangerous sea passage.

Scheduled flights are operated by Express Air from Wanci to Bau Bau. Should it be possible and suitable for the emergency to use one of these flights for evacuation they will be used. Flights operate once a day except Mondays, and fly to Bau Bau and then onto Jakarta and Surabaya, leaving at 10.50 am.

Alternative evacuation routes

All evacuations will be assessed on a case-by-case basis. Occasionally the most suitable route may not be one of the routes outlined above. One option is to evacuate using the landing strip on Tomia. Wakatobi Divers is a tourist resort on the island of Tomia. They have their own private airstrip which Operation Wallacea has permission to use in case of Emergency. However, due to availability of fuel, restrictions on the pilots flight times and the unsuitability of the runway for night-time take-offs and landings it is not viable for evacuations arranged through a medical evacuation company. However, if there is a chartered flight scheduled Wakatobi Divers have given Operation Wallacea assurances that they would allow a patient to be evacuated from their airstrip. This means that this evacuation route is only an option if there is a plane scheduled to leave Tomia on the day of the evacuation.

6. Reporting and logging

During evacuations it is crucial that a log is kept in Hoga or Labundo and by the Indonesia Project Manager 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, Labundo Manager, and Indonesian Project Manager 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 Indonesia Project Manager will collate the reports of all high priority and emergency evacuations and will submit the final report to the UK office. The Indonesian Project Manager will also submit the costs and report to the insurance company for re-imburement 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 Indonesian Project Manager 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 Indonesian Project Manager 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

8. Useful numbers

<i>Name</i>	<i>Position</i>	<i>Number</i>
Air Bali	Air evacuation company contracted by CEGA	+62 8133 8769 756 or +62 812 3836 321

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Wakatobi Divers	N/A	+62 (0)812 3811084 (Crispin) +62 (0)361 759699 (Office)
WWF Wanci	N/A	+62 (0)811 403803 (Weda) +62 (0)404 21880 (Office)
Air Bali (Medivac)	N/A	+62 (0)812 3836 321 +62 (0)361 767 466
Global Assistance (Medivac)	N/A	+62(0)21 7258115
Bali International Medical Centre (Medivac)	N/A	+62(0)361 761 263
Tim Sar Kendari (Coastguard)	N/A	+62(0)401396557
KPPP Bau Bau (Coastguard)	N/A	+62(0)4022821801
Intel Polres (Police) Bau Bau	N/A	+62(0)81341860311 (La lzu)
Bau Bau Airport	N/A	+62(0)4022823675 +62(0)85232376985 (Pak Mustafa)
British Embassy Jakarta	N/A	+62(0)21 23565200
US Embassy Jakarta	N/A	+62(0)21 34359000
Canadian Embassy Jakarta	N/A	+62(0)21 25507800
Irish Embassy Singapore	N/A	+65(0)62 387616
Australian Embassy Jakarta	N/A	+62(0)21 25505555
Makassar Recompression Chamber Dr.H.Abdul Muis Sp.S (K)	Specialist in Neurobehaviour	Praktek: 446 921 Tel: (0411) 584577 HP: 0812 421 5732

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