

Tan Tock Seng Hospital (TTSH) Palliative Medicine Repatriation Guide

Preparation by Dr Lim Kang Le, Supervised by Dr Tricia Yung, with thanks to Dr Charles Johnson

Introduction

Medical repatriation refers to the transport of individuals back to their country of origin. It involves foreign travel. There are different reasons for medical repatriation, and each medical repatriation process is uniquely complex with its own set of challenges and requirements. The following checklist is not all-inclusive but aims at helping us prepare for a medical repatriation. The rule of thumb is to “do more than less” in preparation for a case of medical repatriation.

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Proposed checklist

- Clarify the intention / purpose:** *transferring our patient to spend time with their loved ones during end of life, or for further treatment and recovery*
- Is medical repatriation the best option here:** *would it be more feasible to bring home to the patient rather than bring patient home?*
- Ensure that communication is done / expectations aligned:** *internally within the local team(s), repatriation company (if involved), patient, patient’s family / relative, receiving team, transport company (i.e. airline or ambulance company); to include discussion on resuscitation and goals of care; to include discussion related to expectations*
- Optimize symptom control before departure**
- Have you accessed all the help you can get:** *MSW / repatriation companies (refer to list for some examples) / experienced colleagues?*
- Determine need for medical escort:** *doctor, nurse, both, a non-medical caregiver or none*
- Determine the mode of transport:** *air / land / sea; whether or not it will be private or commercial; and consequently the number of transit / handover points*
- Establish the receiving facility / team:** *refer to networking resources available; identify effective method of communication; list contacts*
- Create a timeline / sequence of events that will take place:** *and how handover will take place*
- Anticipate challenges:** *patient factors / flight factors / coordination difficulties / immigration issues at destination point*
- List requirements:** *patient requirements / travel requirements / medications or nursing items to be prepared and brought along the transfer journey*

- **Estimate cost / mode of funding / requirement for donor:** refer to below *Repatriation Guide* for calculating estimation of cost

Mode of transport

Type of transport	<ul style="list-style-type: none"> • Private vs. commercial • Mode of transport <ul style="list-style-type: none"> ○ Land: road ambulance vs. commercial drive ○ Air: air ambulance vs. commercial flight vs. helicopter ○ Sea: sea ambulance vs. commercial ferry / ship
Factors to consider	<ul style="list-style-type: none"> • Level of medical support required – <i>including need for escort</i> • Destination country • Duration of transfer • Time taken to organize transfer – <i>commercial modes of transport will generally be faster to organize compared to private modes of transport as more resources need to be organized for the latter e.g. vehicle availability, arranging for pilot / driver / captain, permits etc.</i> • Number of transit points during the transfer • Cost – <i>see below for cost estimation; in general commercial transport cheaper compared to private vehicles</i>

Ideal mode of transport: cheap, quick to organize, few or no transit points/handovers, to ensure tolerable/safer journey for patient during transfer

Factors to consider in the repatriation process

Patient	<ul style="list-style-type: none"> • Functional status – <i>ability to sit / care for self; also includes anticipated trajectory of patient condition e.g. is the patient likely to deteriorate further during the transfer process</i> • Medications required – <i>consider medications required throughout the entire repatriation process until care is handed over to receiving facility / team; is there a need for pre-prepared medications e.g. pre-filled syringes; prepare more rather than less</i> • Level of support needed – <i>critical care, need for ventilator, fluids, oxygen, IV access?</i> • Other nursing needs – <i>lines, tubing, drains</i> • Need for isolation? • Level of caregiving needed – <i>escort vs. non-medical caregiver</i>
Flight	<ul style="list-style-type: none"> • Aviation environment – <i>confined space, limited manpower, limited resource, temperature, humidity, turbulence, engine noise, delays etc.</i> • Transit requirement • Visa / immigration • Any other requirements/potential problems upon arrival at destination country – <i>e.g. quarantine requirements</i> <p>Air ambulance (private) vs. commercial flights:</p> <ul style="list-style-type: none"> • Cost: commercial flights are generally (1/3 to 1/2 times) cheaper compared to air ambulances • Time to organize: commercial flights run on a regular basis, but travel by air ambulances require time to prepare (including arrangements for personnel, equipment, permit)

	<ul style="list-style-type: none"> • Aviation environment: the amount of space in air ambulances is likely to be more confined compared to in a commercial flight • Need for transit/layovers: depends on the country of departure / arrival, the time of flight and flight distance (for air ambulance, re-fueling stops may need to be considered for long distance travel) <p>Additional consideration for commercial flights:</p> <ul style="list-style-type: none"> • If patient able to tolerate sitting position, then economy / business class tickers may be suitable • If patient requires stretcher, then need to use up at least 12 economy seats to create space for stretcher (therefore cost will become more expensive than business class ticker) • If patient can only tolerate sitting for a limited period of time and is considering a business class ticket on flight, then he/she needs to be able to tolerate at least 2 hours being in a seated position (for take-off/landing; for safety considerations)
Coordination	<ul style="list-style-type: none"> • Meeting points • Identifying and communicating with receiving teams • Communication with family/relatives/caregivers • Providing relevant information during handovers
Other potential challenges	<ul style="list-style-type: none"> • Language barrier – affecting coordination efforts / communication of plans and preferences upon arrival at destination country • Civil/political unrest • Environmental / terrain factors • Lack of medical equipment / capability to match treatment standards in home country – <i>especially for developing countries / rural areas</i>

Estimating cost for repatriation

General rules

1. Land travel (if feasible) is generally cheaper than travel by flight or by sea – it is also likely easier to arrange and involves less transit/handover points e.g. a patient simply needs to be loaded onto an ambulance/private vehicle and subsequently be transported safely to the chosen destination
2. Commercial flights are generally 1/3 to 1/2 times cheaper than travel by air ambulance (private)
3. If travelling by commercial airplane
4. The further the distance travelled, the more expensive it will be
5. Once decision is made for medical repatriation of a patient, try to reduce further healthcare costs as much as possible by minimizing unnecessary/less important investigations and treatment

Estimated calculation of air ambulance

- For a chartered air ambulance flight: approximately USD 5,000 per hour
- Cost of flight is calculated both ways to and from chosen destination
- Need to factor in another 10-20% for miscellaneous fees e.g. navigation fee, landing fee etc.

Example:

- A. Repatriating a patient back to Canada from Singapore by air ambulance (estimated 15hour flight time, excluding need for pit stops/re-fueling) = USD 5,000 x 15 x 2 = USD 150,000
- B. Repatriating a patient back to Malaysia (Kuala Lumpur) from Singapore by air ambulance = USD 5,000 x 1 x 2 = USD 10,000
 - Alternatively, if repatriation back to Malaysia (Kuala Lumpur) from Singapore was done via road ambulance, the cost may be approx. USD 3,000-4,000 (cross border ambulance)
 - The number of transit points will be significantly less for ambulance travel compared to air travel

MOM FAQ on expatriation of migrant workers

<p>1. What is the medical insurance requirement for migrant workers?</p> <ul style="list-style-type: none"> ➤ Maintain <u>at least \$15,000 per year</u> for each work permit holder ➤ The coverage includes inpatient care, day surgery, and hospital bills for conditions which may not be work related ➤ Offending employers may face up to \$10,000 fine, 12 months' jail term, and may be barred from hiring migrant workers
<p>2. Are employers required to bear the costs of migrant workers' repatriation?</p> <ul style="list-style-type: none"> ➤ <u>Yes</u> ➤ Employers are responsible to pay for their migrant workers' repatriation costs, such as flight ticket, pre-departure tests, transport arrangement to the airport and if any, connecting transport cost to the international port of entry in the workers' home country/region nearest to their hometown
<p>3. Employers are responsible to bear all costs of migrant workers' repatriation. Does this include home country public health related expenses, such as quarantine and swab tests?</p> <ul style="list-style-type: none"> ➤ <u>No</u> ➤ However, if there are requests from workers a discussion should be had to come to a mutual agreement
<p>4. I want to repatriate my workers but the air fare is very expensive now. Can I wait for the fares to be cheaper?</p> <ul style="list-style-type: none"> ➤ <u>No</u> ➤ You should repatriate your workers as soon as possible ➤ Employers remain responsible for their employees' upkeep and maintenance as long as they are in Singapore

The importance of managing communication / expectation

Ensure that the involved individuals/groups are in consensus about the following matters (as far as possible):

- A. Diagnosis / prognosis
- B. Intention / purpose of repatriation
- C. Goals of care – including resuscitation status, extent of treatment
- D. Potential problems arising during transfer process
- E. Anticipated patient trajectory – including risk of deterioration/demise during transfer
- F. Management of patient care at destination country

Tips for writing a good memo for medical repatriation companies

1. Emphasize on information relevant to the repatriation process – not just the latest vitals or examination findings

2. Include more information about the patient's current functional status and current state – this will be helpful in determining the best mode of transport for patient
3. Document route, dose and number of breakthrough doses, pre-filled syringes, vials and other medications before departure
4. Supply a doctor's memo stating the necessity of controlled drugs (if any) for medical use
5. To highlight in the memo / handover if patient is unstable / at risk of deterioration / demise during the transfer process
6. Document any important communication with patient / family / receiving team
7. Nursing information is also useful e.g. turning, dressing needs, lines, tubes, drains etc.

Asia Pacific Hospice and Palliative Care Network (APHN)

- Promotes development of hospice and palliative care in the region
- Provides platform for networking
- Provides resources for education and training

Website: <https://aphn.org> Number: 62355166

List of medical repatriation companies

Cross border ambulance companies (Singapore to Malaysia/South Thailand)		
Company	Website	Number
Hope Ambulance	https://www.hopeambulance.com	61001911
Medlink Healthcare Group (MHG)	https://www.mhg.sg	69093202
Singapore Emergency Ambulance Services (SEAS)	https://www.sgambulance.com.sg	61006995
Comfort Ambulance and Services	https://comfortambulance.com	64457300
Goodwill Ambulance Services	https://goodwillambulance.com	62876829
Lentor ambulance	https://lentorambulance.sg	61001777
Ambulance Medical Service Pte. Ltd. (AMS)	https://ambulanceservice.com.sg	62818111
Aris Integrated Medical	https://aris-im.com/	64624043

Air repatriation companies (International destinations with SG office)		
Company	Website	Number
Hope Ambulance	https://www.hopeambulance.com	61001911
Comfort Ambulance and Services	https://comfortambulance.com	64457300
EMA Global	https://www.emaglobal.com.sg	65702552
Medical Air Service	https://www.medical-air-service.com	+6531635446
International SOS	https://my.internationalsos.com	63387800
Air ambulance SG	https://www.airambulance.com.sg	96384580

Other useful links / resource:

1. Introduction to aviation physiology by the Federal Aviation Administration (FAA):
https://www.faa.gov/pilots/training/airman_education/media/IntroAviationPhys.pdf
2. International Travel & Health Insurance Journal:
<http://www.itij.com>
3. Care in the air: the highs and realities of air medical transport:

<https://www.sma.org.sg/news/2021/December/Care-in-the-Air-The-Highs-and-Realities-of-Air-Medical-Transport>