MATERNITY UNIT

GUIDELINE: Obstetric transfers out of maternity

SCOPE: Midwives, nurses, maternity receptionists, obstetricians, paediatricians working in the maternity unit, flight Medical Director (MD) and flight nurses.

AUTHOR: Midwifery Educator and Core Midwife.

PURPOSE: To provide general guidelines for the safe transportation of mothers and their babies to and from Gisborne Maternity Unit.

DEFINITIONS: Transfer out – women with pregnancies of less than 32 weeks or where there are complex needs unable to be met at Gisborne maternity Unit, and needing transfer to a tertiary unit.

GUIDELINE

Principles

- That a woman whose pregnancy has become abnormal is transferred to the appropriate obstetric service as quickly and safely as possible.
- Where a baby is being transferred to a tertiary unit, the mother should be transported as well, as soon as her clinical condition allows.
- Any midwife who transports patients by air, should feel confident to do so and have completed the Hauora Tairāwhiti flight orientation or must be accompanied by a flight nurse.
- The final decision regarding safety for air transfer rests with the MD flight in conjunction with the treating obstetrician, who should communicate any concerns clearly to the accompanying midwife and the flight team.

Methods of transfer out

It is vital that the process is as smooth as possible once the decision to transfer has been made by the obstetrician.

The woman’s condition determines the appropriate person or team to accompany her on the flight:

1. The transferring flight team must always include a midwife or medical practitioner;
2. Every woman who is being transferred from one healthcare facility to another as an inpatient must be transported by a flight team; the Hauora Tairāwhiti flight team with an accompanying midwife or other appropriate flight team.
3. For women being transferred out who are not inpatients and will not require any care in the air, then a commercial flight may be arranged and no escort would be required.
Process
When a transfer out is likely, contact should initially be made to the CNS flight coordination Mon-Fri 0800-1630hr or the Duty Nurse Manager after hours and at weekends in the first instance.

Antenatal transfer out

All women (unless they are an outpatient and on a commercial flight) must have:
- an IV cannula in situ (16g or 18g), preferably in the right arm (in an aircraft the left side of the woman will usually be against the wall of the cabin making access to their left side difficult)
- Further cannulas may be needed at the direction of the MD flight and /or obstetrician. IV medications may be administered, but IV fluids in the air must be given via an IV pump, syringe driver or with the use of a pressure bag.
- It is not always possible for the woman’s support person to accompany her on the flight due to weight limits and aircraft space.
- A maternity transport bag is available in the maternity unit and must be taken on the flight – this should be checked weekly and following the flight.
- Before transferring a woman to another hospital, the obstetrician will have contacted the receiving hospital to ensure the woman has been accepted by the receiving obstetrician. Bed availability should be confirmed by the CNS Flight Coordination, DNM or the flight nurse. Transport to and from the airport will be arranged by the flight team.
- Photocopy all relevant documentation/print off MCIS records as near to the transfer out as possible to ensure up to date records are available.
- There will be a delay between the decision to transfer and the actual transfer time. A woman’s condition should be assessed shortly before travelling to the airport to ensure the transport can be made safely: if the woman is in labour, a vaginal assessment should be part of this overall assessment. In all cases if delivery is imminent then the transfer should be delayed until after delivery and the woman and/or baby retrieved as it is always safer to deliver in a hospital rather than during flight.
- Handover to the receiving hospital should be thorough and precise, with supporting documentation.
- If an antenatal woman is not an inpatient and considered fit to fly commercially (see below), she does not need a midwife escort. She also does not need any IV access.

NB: to fly via Air New Zealand there are recommendations that must be followed, see below;
For multiple pregnancies (e.g. twins) a pregnant woman can travel up to the end of the 31st week
If a pregnant woman is carrying one baby and the pregnancy is uncomplicated, with medical clearance from their midwife or doctor (MEDA clearance see below) she can travel up to the end of the 35th week for flights over 5 hours and to the end of the 37th week for flights under 5 hours. Travel past these timelines will only be considered if for the purpose of medical treatment. In these cases a medical clearance by Air New Zealand is required.

A medical clearance is also required by Air New Zealand if any of the following apply to the pregnant woman: (see http://www.airnewzealand.co.nz/special-assistance-travelling-when-pregnant)

- She has a complicated pregnancy such as placenta praevia or bleeding
- She has a multiple pregnancy such as twins/triplets
- She has a history of premature labour
- She is in the early stages of labour
- A Medical Fitness for Air Travel form (MEDA found at https://p-airnz.com/cms/assets/PDFs/meda-form-part1-part2-jan2016.pdf) must be completed by the treating midwife or obstetrician and sent to the Air New Zealand MEDA team at medaclearance@airnz.co.nz for approval to fly on any Air New Zealand commercial flight.
- Additional information for example a discharge summary may also be required to accompany the MEDA form.

For the flight
- IV cannula in situ in right arm (16 g or 18g) unless commercial flight
- Woman transported on air ambulance stretcher.
- Oxygen via nasal prongs to maintain oxygen saturations >97%.
- Ensure woman has sufficient perineal pads on to absorb any excess vaginal loss.
- Analgesia and anti-emetics may need to be given before flight.
- **Add to transport bag/collect prior to flight** Normal saline 1,000mls with Syntocinon 40 units ready for infusion if necessary. Ensure syntocinon/syntometrine is charted on the medication chart.
- Adult Ambu-bag and other adult resuscitation equipment is always carried by the flight team.
- On board oxygen is available on all road and air ambulances
- Sonicaid and gel
- Ecbolics - syntocinon x 5 plus syntometrine – add to the container in the top right hand corner of the flight bag
- Delivery instruments

Post flight
The pilot must be notified if any uncontained body fluids have been spilt in flight (note that urine and amniotic fluid is corrosive and a body fluid containment sheet should be placed on the stretcher under the woman before flight if available).

### Postnatal transfer out

**Before transfer:**
Any woman being transported by air, eg. helicopter or fixed wing, within 48 hours of delivery, is at increased risk of haemorrhage and must have a midwife/obstetrician and a flight nurse escort. Assess the woman’s fitness to fly. If her lochia is still heavy, or she has had a recent postpartum haemorrhage, her clinical condition may be compromised during the flight.

*If the woman needs to be transferred to a tertiary unit within 48 hours because her baby is seriously ill, there should be discussion between the CNS Flight coordination or Duty Nurse Manager, the Obstetrician, the transporting midwife and flight nurse.*

If a tertiary unit is retrieving the baby, the neonatal retrieval team will not take responsibility for the care of the mother.

There are three options for transferring the mother to be with her baby:

1. The tertiary hospital’s retrieval team may be able to provide a midwife escort for the mother. This is dependent on time of day, type of aircraft and availability of staff. Early liaison between neonatal intensive care unit (NICU), the neonatal retrieval team and the maternity unit is essential; OR
2. If the tertiary hospital is unable to provide a midwife escort for the mother, and the mother is fit to fly with her baby, a midwife from the Hauora Tairāwhiti maternity unit may go with the neonatal retrieval team. A return commercial flight will need to be booked for the midwife; OR
3. A separate air ambulance flight may be organised for the mother. She must be accompanied by a midwife or obstetrician (who may need to be booked on a return flight) and a flight nurse.

The assessment of the woman’s fitness to fly should be discussed between the MD Flight, the Obstetrician and the CNS Flight coordination or transporting flight nurse and midwife. Ensure the tertiary hospital knows the mother is coming, has a bed for her if needed, and relevant postnatal notes are sent with mother. Postnatal LMC follow up may need to be organised.

**ASSOCIATED DOCUMENTS**
- Appendix A – Pre-transfer checklist
- Appendix B – Important considerations for flying
- Appendix C – Midland Region Maternity Services: Maternity Transfer and Repatriation Standards
- Request for transport
REFERENCES
Air New Zealand, Medical Fitness for Air Travel retrieved 27 May 2016 from http://www.airnewzealand.co.nz/special-assistance-medical-condition#medaforms


Acknowledgement to Hawkes Bay transfers out guideline (2005)

Approved by:

____________________________________
HOD Obstetrics

____________________________________
Clinical Care Manager WCY

____________________________________
Date of Approval: November 2019

Next Review Date: November 2022
Appendix A

Maternity Unit

PRE-TRANSFER CHECKLIST

Please use this checklist when preparing notes for transfer to other health care providers. Place on the outside of patient’s notes and check off each item when completed. When completed leave in patient’s notes.

<table>
<thead>
<tr>
<th>TASK</th>
<th>RESPONSIBILITY</th>
<th>COMPLETED</th>
<th>SIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;G to discuss transfer with Waikato and document transfer/discharge note as appropriate in MCIS</td>
<td>O &amp; G</td>
<td></td>
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<tr>
<td>• The referring clinician rings the 1st contact - on duty ACMM directly on 0800 462 411.</td>
<td>O&amp;G</td>
<td></td>
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<tr>
<td>• If alternative contact required: phone Waikato Hospital Switchboard on (07) 839 8899 ext 23523 (can ask to stay on the line until answered); or phone 0800 462 411.</td>
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<tr>
<td>• The ACMM receiving the referral phone call takes patient details required and will proceed to communicate with the O&amp;G, and the Neonatal Intensive Care teams.</td>
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<tr>
<td>• If the referral is accepted the ACMM contacts the referrer and ascertains whether it is a transfer (organised from the referring end) or a retrieval (organised from the tertiary end). The referring clinician is to recommend mode of transfer.</td>
<td></td>
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<tr>
<td>• The referring centre faxes all the relevant information to Waikato Delivery Suite on 07 839 8820.</td>
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<tr>
<td>TASK</td>
<td>RESPONSIBILITY</td>
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<tr>
<td>Contact the CNS Flight coordination Mon-Fri 0800-1630hrs or the Duty Nurse Manager afterhours and at weekends (page 188 or ph. 0272727168) and inform them that an interhospital transfer out is imminent</td>
<td>Core midwife</td>
<td></td>
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</tr>
<tr>
<td>Contact Hauora Tairāwhiti CNS Flight coordinator or Duty Nurse Manager to contact the Waikato delivery Suite/Women’s Assessment Unit (DS/WAU) midwife coordinator/duty manager at the receiving hospital, regarding transfer of information, estimated arrival time and to confirm a bed. • Contact phone numbers in case of any problems (Waikato Hospital 07 839 8899  WAU direct line 07 839 8820 or DS/WAU coordinator 0212246906)</td>
<td>Core midwife/DNM</td>
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<tr>
<td>Flight to be arranged with an appropriate flight team as per this guideline for e.g. • Hauora Tairāwhiti flight team with accompanying midwife • Waikato obstetric retrieval team (must be requested by the treating obstetrician) • Other flight team as available with either their own midwife or a Hauora Tairāwhiti midwife</td>
<td>CNS Flight coordination, flight nurse on duty or DNM</td>
<td></td>
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</tr>
<tr>
<td>If the woman is discharged or an outpatient and will not require any care in the air a commercial flight or other transport will need to be arranged by the OPTA. <strong>NB: to travel via Air New Zealand she may require MEDA clearance, see <a href="http://www.airnewzealand.co.nz/special-assistance-travelling-when-pregnant">http://www.airnewzealand.co.nz/special-assistance-travelling-when-pregnant</a></strong></td>
<td>Core midwife to contact Outpatient Transport Administrator (OPTA) Mon to Fri 0800 – 1630 or DNM afterhours and at weekends</td>
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<tr>
<td>If a midwife is required by the flight team for the transfer then arrange a suitably qualified Hauora Tairāwhiti midwife for this. <strong>Midwife: ………………………..</strong></td>
<td>Midwife shift coordinator/ Charge Midwife Manager or deputy or DNM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete MOH National Travel Assistance Registration Form Fax forms to MOH (03) 474 8580</td>
<td>Maternity receptionist/ Midwife shift coordinator/ Midwife Unit Manager or deputy or DNM</td>
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**ADDITIONAL**
## Task Responsibility

<table>
<thead>
<tr>
<th>TASK</th>
<th>RESPONSIBILITY</th>
<th>COMPLETED</th>
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</thead>
<tbody>
<tr>
<td>Arrange accommodation for the support person via the transport office (Hauora Tairāwhiti approved booking agency)</td>
<td>Maternity receptionist/ Midwife shift coordinator/ Midwife Unit Manager or deputy or DNM</td>
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<tr>
<td><strong>NB:</strong> If a woman is being transferred as an outpatient then contact the OPTA to make any accommodation and travel arrangements</td>
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<tr>
<td>Print the woman’s maternity notes (from MCIS) and photocopy any other notes from the clinical record e.g. National medication chart (don’t send originals) for the transfer as near to the transport as possible, and place in a brown envelope with 6 labels for the transferring team.</td>
<td>Maternity receptionist/Midwife shift coordinator/Midwife Unit Manager or deputy/DNM</td>
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<td></td>
</tr>
<tr>
<td>Transfer bag and necessary equipment collected – neonatal transfer bag also if appropriate</td>
<td>Transferring midwife/obstetrician</td>
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</tr>
<tr>
<td>Warm clothing or blankets available for flight (woman and midwives). Jackets are available in sizes medium, large and xtra large Avoid scrubs if possible for the flight as the material is too thin. Water/food for midwife as flight transfer likely to be at least 3 hours duration</td>
<td>Transferring midwife/obstetrician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete the maternity transport spreadsheet (found in the Hauora Tairāwhiti Shares/Inpatient transport folder) and add the MOH NTA number once it has been received.</td>
<td>Maternity receptionist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>File copies in blue plastic envelope</td>
<td>Maternity receptionist</td>
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</table>

**NOTE:**

If Waikato is unable to accept the transfer it is the Waikato ACMM’s responsibility to source another facility (see pg4 of Appendix C).

If the Maternity Receptionist is not available at the time of transfer, please leave all transfer documentation on their desk – do not leave it in the client’s file.

Accommodation and transport for a support person may also need to be considered and should be tailored to the location of the transfer destination.
Appendix B

**Inter-hospital transfers**

**Important considerations for flying**

In Gisborne we transfer out women where there are complications such as – women with pregnancies of less than 32 weeks or with complex needs unable to be met at Gisborne maternity unit and needing transfer to a tertiary unit. Inter-hospital transfers are generally to Waikato Hospital (Hamilton) but could also be to Wellington or Auckland Hospitals.

There are many things to consider when accompanying a woman in flight, as the midwife you are part of the crew – if you do not feel happy to travel for whatever reason you must say so.

There is a transport bag in the medical store room in DU and a checklist is in the checking folder. This bag must be checked at least weekly and a signature of the checker should be recorded in the flight bag that the check has been done. The check should also be signed for following a transfer out.

The midwife accompanying the flight team is required to manage the women with limited resources and may be required to implement acute care in the isolation of the aircraft at altitude. Midwifery care is to be continued during the flight and not suspended.

**Aviation physiology**

Flying entails a degree of hypoxia both for the woman and the midwife.

The atmospheric pressure will change with altitude and the temperature outside will reduce by 2°C every 1,000ft.

Boyles Law – the volume of gas expands as the atmospheric pressure surrounding it decreases – any pockets of air in the body e.g. ears, eyes, teeth, uterus, bowels, pneumothorax, pneumocephalus or sinuses, can all be affected. If pressure is felt in the ear drums then swallowing, yawning or the valsalva manoeuver may help.

IV infusions are likely to also be affected so if an intravenous infusion is needed then a Syringe pump or pressure bag must be used (see above).

Consider not flying if you have had recent dental treatment or a recent or current URTI especially a sinus infection.

All air ambulances are heated however additional blankets for the woman may be useful if particularly cold.

Take food and water – dehydration is another side effect of flying.

**Hypoxia**

At sea level to 10,000ft ‘indifferent hypoxia’ is experienced. The person will be unaware of the symptoms of this, but may feel tired. Oxygen saturations are likely to be around 90 – 95%. Night vision is affected from 5,000ft. The heart rate will rise due to the hypoxia. At 10,000 to
15,000ft the oxygen saturations will be 80 – 90%. Night vision is reduced by 50%. **Pulse oximetry is vital and supplementary oxygen may be needed by the woman.** However maternity interhospital transfers are usually conducted on a pressurised aircraft now where the normal cabin altitude will be sea level to 3,000ft.

There are 4 different types of hypoxia: hypoxic, stagnant, anaemic and histotoxic. Patients may have more than one type and it tends to be cumulative.

Hypoxic hypoxias the result of a reduction in the oxygen tension of arterial blood due to:
- Altitude
- Hypoventilation
- Airway obstruction
- Pulmonary oedema
- Respiratory depression
- Emphysema

Stagnant hypoxia: is a reduction in blood flow through the tissues due to:
- Obstruction of arterial supply e.g. pulmonary embolus
- Cardiac failure
- Fainting
- Circulatory failure

Anaemic hypoxia is the reduction of oxygen carrying capability of blood due to:
- Anaemia
- Haemorrhage
- Carbon monoxide inhalation
- Reduced oxygen binding capability

Histotoxic hypoxia is where tissues are unable to utilise oxygen due to:
- Alcohol
- Narcotics
- Drugs

(Hawkes Bay Hospital flight physiology course, 2012 retrieved 08 June 2012 from http://hbdhb.onlearn.co.nz/file.php/44/hypoxia/html

So for example a woman with an APH will be experiencing anaemic and hypoxic hypoxia before she is even in the plane.

All women require continuous pulse oximetry during the flight and supplementary oxygen as required to maintain oxygen saturations >97%.

Signs and symptoms of hypoxia include:
- Headache or dizziness
- Visual disturbances i.e. blurred or tunnel vision
- Increased respiration rate, heart rate and blood pressure
- Personality changes i.e. euphoria or belligerence
- Restlessness or confusion
- Decreased attention span
• Impaired memory
• Delayed reaction time or poor coordination
• Poor judgment
• Tingling or numbness
• Nausea
• Fatigue or drowsiness
• Dyspnoea

Late signs may include:
• Cyanosis
• Hypotension
• Seizures and/or unconsciousness
• Death

(Hawkes Bay Hospital flight physiology course, 2012 retrieved 08 June 2012 from http://hbdhb.onlearn.co.nz/file.php/44/hypoxia/html

Factors affecting hypoxia include:
• Altitude
• Duration of exposure
• Individual tolerance
• Physical activity
• Self-imposed stress – alcohol and tiredness – do not fly if you are too tired (beware 9 hour break between shifts)
• Rate of ascent – if you have a woman with an APH the flight nurse will ask the pilot to ascend and descend slowly – discuss this pre-flight.
• Rate of decompression
• Physical fitness – the fitter you are the less it affects you
• Environmental temperature

Hypoxia symptoms can be confused with hyperventilation symptoms – the treatment for hypoxia is supplementary oxygen.
Appendix C: Midlands Maternity Transfer and Repatriation Standards 2016

Midland Maternity Transfer and Repatriation Standards 2016