



Paediatric Infant Perinatal Emergency Retrieval (PIPER) – PERINATAL

Perinatal Referrals, Bed Finding & Defined Transfer Process

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1. Related documents

- [PIPER Perinatal - CTG Review](#)
- [PIPER Perinatal - Maternal Fetal Medicine \(MFM\) referrals to PIPER](#)
- [PIPER General - Referring Hospital Capability Levels & Catchment Hospitals](#)
- [PIPER Neonatal - Newborn Capability Level Description](#)

2. Definition of Terms

PIPER	Paediatric Infant Perinatal Emergency Retrieval
ARV	Adult Retrieval Victoria
AV	Ambulance Victoria
AAV	Air Ambulance Victoria
CTG	Cardiotocography
ICU	Intensive Care Unit

3. Background

PIPER Perinatal coordinates more than 1200 referrals per year resulting in approximately 800 transfers. Extremely preterm babies born outside (“outborns”) a maternity service with a neonatal ICU have increased risk of dying compared to their “inborn” peers. This makes balancing the risk of harm versus benefit from transfer critical.

The interhospital transfer of high-risk pregnant women must be supported by robust processes that consider and evaluate the risks associated with a decision to transfer. PIPER supports a collaborative referral and triage process that involves experienced referring clinicians, PIPER Consultant Obstetricians and senior Ambulance personnel.

Referrals to PIPER Perinatal are:

- To access specialist advice regarding decisions for transfer
- For a second opinion from another specialist where the referrer, including ambulance clinicians, feels the clinical/logistic issue is outside their scope
- To facilitate transfer where the woman requires transfer

The Paediatric Infant Perinatal Emergency Retrieval (PIPER) service works collaboratively with health services as part of the critical care service system to ensure that women, newborns, infants and children have access to the most appropriate level of care for their individual needs. PIPER is responsible for negotiating bed access to receiving health services. In consultation with the Royal Children’s Hospital executive, PIPER is responsible for leading statewide escalation processes for urgent maternal transfers when bed allocation under the standard process is delayed. PIPER and level 6 services have a joint responsibility to ensure that patients requiring urgent access to level 6 services are exposed to minimum risk, particularly risks associated with delayed transfer.

4. Referral, triage, and decision making

The PIPER Perinatal referral and triage process is as follows:

- The referring clinician and PIPER Obstetrician assess the clinical and logistic circumstances and determine the need for transfer, and the safety of transfer. PIPER encourages the most senior clinician available to make these referrals.
- If transfer is required, and a safe window for transfer exists, stabilising treatment is discussed

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e.g. antenatal steroid, antibiotics, tocolysis, analgesia and magnesium sulphate loading.

- If transfer is not required, the consultation should include a discussion of the ongoing plan for care, and triggers for re-referral. For some women, an urgent outpatient MFM appointment is the most appropriate pathway for care. PIPER will assist referring clinicians to contact the relevant MFM service. See [PIPER Perinatal - Maternal Fetal Medicine \(MFM\) referrals to PIPER](#)
- If birth appears imminent, or the fetal or maternal condition is not safe for transfer, then delivery at the referring hospital with subsequent neonatal retrieval may be the preferred action after consultation. PIPER neonatologists and paediatric providers at the referring hospital will be involved in the consultation.
- The senior clinicians involved should maintain an awareness for re-evaluating the initial plan if circumstances change. There have been many examples where in utero transfer has not been deemed safe at the time of initial referral but has been safely carried out at a later point when circumstances evolved that led to re-triage and a different decision.

5. Bed Finding Process

If the PIPER Obstetrician and the referring clinician agree that a transfer is required, the PIPER Obstetrician indicates the urgency (with an approximate timeframe) and discusses with the PIPER Coordinator nominal receiving hospitals. Bed finding is expected to be confirmed within 30 minutes unless the transfer is considered non urgent by clinical staff. The PIPER Obstetrician assigns the transfer as “Delivery likelihood uncertain”, “Likely to deliver in 24 hours”, “Unlikely to deliver with 24 hours” or “Not applicable” See [Appendix 1](#)

5.1 Receiving Health Service

The receiving unit decision is based on consideration of the following:

- The clinical requirements of the mother and baby i.e. level of Maternity/Newborn capability required.
- Previous care at a health service
- Degree of clinical urgency (determined at time of referral)
- Known or anticipated maternity/newborn critical care system demands
- Geographic location of the referring health service
- Social needs and considerations of the patient/family.
- Risk of the referral triggering an “overflow” neonatal transfer from the accepting L6.

PIPER usually approaches the geographically closest service of appropriate capability and if the

If the referral is not accepted due to capacity constraints, either maternal or neonatal, PIPER will contact further suitable hospitals.

For transfers defined as “Likely to deliver in 24 hours”, a neonatal and maternal bed will be sought

For transfers defined as “Delivery likelihood uncertain”, only a maternal bed will be sought

See “[Appendix 2](#) Referring hospital capability levels and catchment hospitals” to determine which hospital to contact.

Level 6 Hospital contact details

RWH: Access manager 8345 2020

MHW: Maternity bed manager 8458 4126

MMC: Birth suite ANUM 9594 5279

JKH: Birthing midwife in charge 9055 3036

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Contact details for other hospital are within ADTEC system, and is usually the OG registrar
The PIPER Coordinator notifies the receiving hospital of patient details.

5.2 **Bed finding difficulties.**

If no bed is available within 30 minutes

- Consider the appropriate time frame for transfer
- Involve the Perinatal consultant

5.2.1 ***Non tertiary:***

It is an expectation that subregional-regional relationships will provide the default solution whenever possible. It is expected that a L4/5 regional/metropolitan service will only decline a referral after escalating to senior management.

Generally, no more than 3 non tertiary hospitals should be contacted before escalating to the PIPER Director or PIPER Perinatal Clinical Lead.

5.2.2 ***Tertiary:***

Use the **defined transfer** pathway ([Appendix 3](#)) when routine bed finding at tertiary hospitals has been unsuccessful.

6. Defined transfer

When the Standard bed allocation process has not been successful in identifying a receiving unit, the tertiary hospitals have agreed to a Defined Transfer process that enables a L6 Maternity bed to be allocated by PIPER for cases with clinical need for transfer (previously described as “urgent” or “time critical”). See [Appendix 4](#)

7. Handover

The PIPER coordinator notifies the clinician at the referring hospital of the destination and provides contact details of the receiving hospital. The clinician at the referring hospital must provide a clinical handover by phone and in writing to the clinician at the receiving hospital, and verbally to the ambulance team.

The chain of responsibility must be clear throughout transfer with formal handover from referring team to the AV paramedics, and the paramedics to the receiving team. AV paramedics should communicate with the PIPER Obstetrician if the clinical condition of the patient changes en route.

8. Ambulance

Most emergency interhospital maternal transfers referred to PIPER Perinatal are undertaken by AV ALS paramedics. Occasionally, transfer by private car may be appropriate.

8.1 **Activating Ambulance Victoria to undertake the transfer**

Where a decision to transfer is agreed, the PIPER coordinator specifically asks the referrer to contact AV directly as they would for any patient from their health service requiring an ambulance. PIPER can assist if required.

For transfers involving **Air Ambulance Victoria (AAV)** the suggested default is for PIPER to contact AAV directly with the referral details.

The referral to AV should include a level of clinical handover commensurate with the risk and complexity of the patient.

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If AV is activated by the referring Health service, the AV Clinicians can contact PIPER for additional information if desired.

8.1.1 **Ambulance Victoria (AV):**

If a **road resource** is required, the referring hospital calls 000 and specify the time frame of ambulance response and crew required (ALS crew). Time frame is usually within 30 minutes, rarely within 15 minutes (code 1) or as appropriate to the case.

The referring hospital should also be instructed to call PIPER if there are any delays in the Ambulance responding or if the patient deteriorates. The PIPER Coordinator updates the PIPER Obstetrician on any delay to ascertain if changes to the transfer are required.

8.1.2 **Air Ambulance Victoria:**

The PIPER Coordinator makes a phone request to AAV for an air resource stating urgency/priority of transfer. The air resource availability and time frames (estimated arrival/departure times; take off/landing locations; length of air travel) are discussed in this call. AAV can be patched into a conference call with referring hospital and the PIPER Obstetrician as required. The form "Emergency/Non Emergency Patient Booking Form – Air Ambulance Victoria" must be emailed to avfcc@ambulance.vic.gov.au to confirm the booking.

8.2 **Accompanying staff considerations**

In most cases, clinical care of the pregnant woman in transit is within the skill set of the attending paramedics. Rarely, it is appropriate to include a midwife/GP Obstetrician or Obstetrician escort, to provide clinical care or support the paramedics in high-risk situations. These discussions should take place at senior medical and AV Clinician/Duty Manager level. If agreement cannot be reached on the level of patient escort required the discussion should be escalated to the PIPER Perinatal Medical Director, the referring hospital Nursing/Midwifery Manager and the AV Regional Duty Manager.

Health services should develop policies and processes that provide authorisation and guidance for staff who might be asked to accompany a patient for an interhospital ambulance transfer. The health service is responsible for the return costs of the accompanying staff member.

8.3 **Ongoing Management of the Referral and Transfer Process**

The clinical scenario may change between the time of decision regarding suitability for transfer and actual departure. PIPER does not support commencing if birth en route is likely. Advise the referring hospital to assess the patient once the AV crew arrives to ensure patient is safe to transfer from both maternal and fetal perspective. This may require speculum or vaginal examination. If the woman is deemed not safe to transfer at the time of the referral, then stabilising treatments are initiated/continued and review of the decision made within 30-60 mins.

All patients must be adequately prepared and stabilised prior to transport.

Consider secure iv access, asking patients to empty their bladder prior to transfer, need for antiemetics and transfer with lateral tilt in supine.

8.4 **Care in Transit**

Accountability for the care of patients in transit rests with Ambulance Victoria (AV) with clinical support from the PIPER Perinatal Consultant Obstetrician. Cardiotocography (CTG) is not continued during transfer.

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9. Other scenarios:

9.1 Transfer requests for capacity problems

9.1.1 *Non tertiary:*

These requests should be escalated through the referring hospital executive to ensure the executive is aware of the request for transfer and has exhausted local alternative options for staffing etc **before** the referral is made.

It is reasonable for PIPER to take responsibility for assisting with bed finding in these scenarios as the referring hospital staff are often unfamiliar with potentially complex bed finding issues.

The referring service may need to re-escalate to their executive if PIPER is unable to source a bed at a hospital that is clinically and geographically appropriate.

9.1.2 *Tertiary to tertiary transfer:*

PIPER can assist with tertiary-to-tertiary transfers when required for capacity limitations at referring tertiary hospitals. Usually, a conference call will be required between clinical (obstetric and neonatal) and bed management teams at the hospitals. Capacity limitations at tertiary hospitals usually only occur when the system is under significant pressure, and transfer may not be possible. Defined transfer rules will no longer apply when a patient is already in a tertiary hospital.

Many of these patients have complex congenital anomalies, FGR or multiple pregnancy complications and are cared for by MFM teams. Consultation between these teams and the relevant neonatology teams, with call conferencing facilities provided by PIPER if required, will usually be a preferred pathway in this scenario to ensure comprehensive handover and care planning.

9.2 Severe maternal illness

A small number of transfers involve a physiologically unstable pregnant or postpartum woman requiring transfer to an adult ICU collocated with a level 6 maternity service. These cases are referred to Adult Retrieval Victoria (ARV) for consideration of the place of transfer and need for a medical escort with ongoing PIPER input into obstetric decision making.

9.3 Non obstetric transfers

Non obstetric problems in pregnant women in hospitals which do not have capability for either the primary problem, or for a potential preterm birth associated with that problem, will not usually be managed primarily by PIPER. Examples include appendicitis at preterm gestations, or non-obstetric diagnoses such as cardiac disease in a pregnant woman. Care will usually be better coordinated at a general adult hospital with a combined or collocated obstetric service e.g. RMH, Austin Hospital, MMC, Sunshine Hospital, rather than a hospital without these services e.g. St Vincent's Hospital, Alfred Hospital. PIPER do not coordinate transfers to the medical or surgical services at these hospitals but provide support in terms of communication with the associated obstetric services and advice around obstetric issues.

9.4 Private hospitals

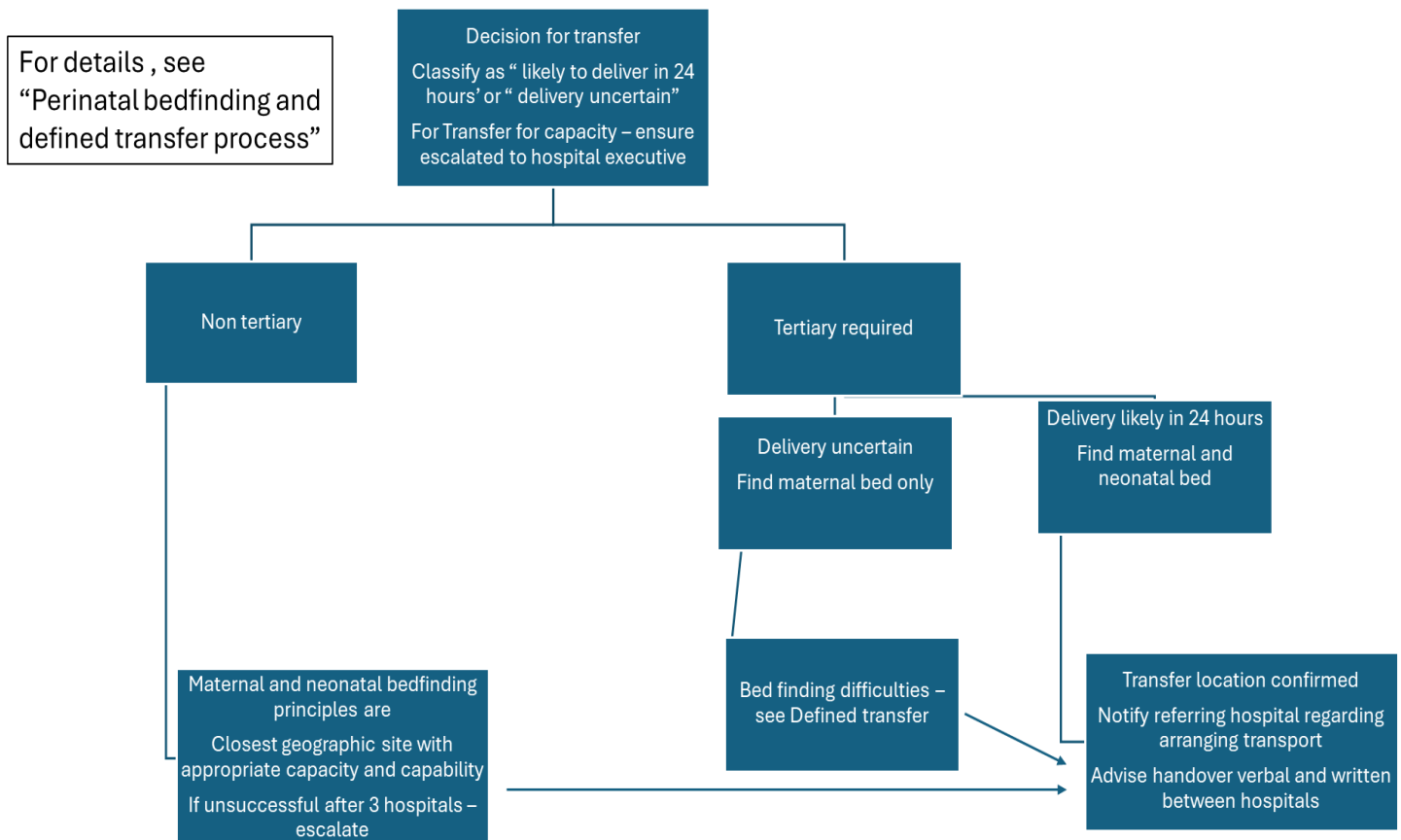
If transfer is required from a private hospital, the patient will usually be transferred to the geographic and capability appropriate public hospital. Occasionally, the referring consultant may have admitting rights at a public or private hospital which has appropriate capability. In this scenario, PIPER will aim to facilitate transfer to this hospital to maintain continuity of care, recognising that capacity may make this option unsuitable. The referring Obstetrician may also on occasions arrange for a colleague to admit the woman under the colleague's care at a receiving public/private hospital. PIPER does not generally

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arrange for a private obstetrician who is able to admit a patient at the suggested private hospital.

10. Appendices

10.1 Appendix 1: Transfer process overview



10.2 Appendix 2 Referring Hospital Capability Levels and Catchment Hospitals

- [PIPER General - Referring Hospital Capability Levels & Catchment Hospitals](#)
- [PIPER Neonatal - Newborn Capability Level Description](#)

10.3 Appendix 3 Defined transfer

10.3.1 Defined Transfer (Maternity) Process

1. When PIPER is unable to identify an accepting receiving unit for a time critical or urgent perinatal transfer based on its standard processes then the Defined Transfer procedure will be activated. The Director PIPER (or delegate) allocates the receiving L6 health service based on the agreed Defined Transfer (Maternity) Geographic Distribution (see below).
2. Where the geographically closest L6 service is experiencing extreme demand issues the PIPER Director (or delegate) may allocate the referral to another L6 service. This alternative can only be considered if the additional travel time involved for the maternal transfer does not pose a significant risk.
3. The PIPER Coordinator notifies the receiving level 6 bed manager or delegate (in accordance with internal health service policy) that a defined transfer to their service will occur. The receiving service bed manager will then communicate and operationalise the local health service response and actions.
4. Notwithstanding the above the PIPER Director (or delegate) may, at any time from the time of referral onwards, allocate a receiving L6 service if it is judged that delay in receiving unit allocation

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may jeopardise the safety of the transfer.

5. The PIPER Perinatal Duty Obstetrician is the PIPER Director delegate for the purpose of this procedure. They will escalate to the PIPER Perinatal Director and/or the PIPER Director as necessary.

10.3.2 Defined Transfer (Maternity) review and monitoring

Defined transfer decisions will be reviewed by PIPER to ensure the agreed process and assessment has occurred.

PIPER will provide a quarterly report of all Defined Transfer (Maternity) occurring in the period to each L6 health service.

Level 6 services may request a post hoc review of a PIPER decision to activate a defined transfer in writing to the Director of PIPER.

10.4 Appendix 4: Defined Transfer (Maternity) Geographic Distribution by Level 6 Hospital

Joan Kirner
Metro *Werribee Mercy Regional/Rural *Djerriwarrh: Bacchus Marsh *If <26 weeks then catchment is MHW
MHW
Metro <ul style="list-style-type: none"> • Angliss • Box Hill • North Park Private • The Northern Hospital Regional/Rural <ul style="list-style-type: none"> • Castlemaine Health • Bendigo • Bendigo SJOG • Cohuna District Hospital • Echuca Regional Health • Maryborough District Health Service • Mildura • Swan Hill District Hospital • Benalla & District Memorial Hospital • Goulburn Valley Health: Shepparton • Albury Wodonga Health • Northeast Health Wangaratta • Mansfield District Hospital • The Kilmore & District Hospital
Monash
Metro <ul style="list-style-type: none"> • Cabrini Malvern • Casey Hospital • Dandenong Hospital • Frankston Hospital • Jessie McPherson Private Hospital • Mitcham Private • Peninsula Private Hospital

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- Sandringham Hospital
- St John of God Hospital Berwick
- The Bays Hospital
- Waverly Private

Regional/Rural

- Bairnsdale Regional Health Service
- Bass Coast Health: Wonthaggi
- Central Gippsland Health Service: Sale
- Gippsland Southern Health Service: Leongatha
- Latrobe Regional Hospital: Traralgon
- South Gippsland Hospital: Foster
- West Gippsland Healthcare Group: Warragul

RWH

Metro

- Epworth Freemasons
- Frances Perry Private Hospital
- St Vincent's Private

Regional/Rural

- Ballarat Health Service
- Ballarat SJOG
- Colac Area Health
- East Grampians Health Service
- Epworth Geelong
- Geelong Hospital
- Portland District Health
- St John of God Hospital Geelong
- SW Healthcare Camperdown
- SW Healthcare Warrnambool
- Western District Health Service
- Wimmera Health Care Group