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# CHN Transfer Protocols

Maternal Antenatal Transfers  
Neonatal Transfers  
Neonatal Retro-transfers

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## INTRODUCTION

The Child Health Network for the Greater Toronto Area (CHN) is based on a partnership of community and hospital providers working together to build an integrated, high-quality, family-centred regionalized health system for mothers, newborns and children across the GTA.

Current membership of the CHN includes 20 hospitals that provide maternal/newborn, acute paediatric and rehabilitative services and the 10 CCAC's in the GTA. The Network is supported by membership fees, and by contributions from the Ontario Ministry of Health and Long-Term Care.

Facilitating the development, implementation and monitoring of a common and consistent set of **clinical**, **organizational** and **system** guidelines across the Network is an important part of building a regionalized system of care in the GTA.

*CLINICAL GUIDELINES - Reflect care for patients with specific illnesses, diagnoses, or problems. They can encompass groups of patients and/or reflect broad care recommendations.*

*ORGANIZATIONAL GUIDELINES - Assist individual organizations in providing appropriate care to patients or groups of patients by addressing issues related to availability and abilities of people and facilities.*

*SYSTEM GUIDELINES - Support development of a regionalized system by facilitating access, quality, integration and coordination of services, and enhancing the network's ability to function as a system*

**System guidelines** for the transfer of mothers and newborns have been completed. The guidelines, developed by the CHN's *Maternal Newborn Services Task Force*, will help facilitate the transfer of mothers and newborns within the regionalized model. The guidelines include:

- **Maternal Antenatal Transfer Protocol** to facilitate transfers of pregnant women
- **Neonatal Transfer Protocol** to facilitate transfers of acutely ill newborns
- **Neonatal Retrotransfer Protocol** to facilitate effective retro-transfers for newborns from a higher level facility to a less acute level of care.

*Standardizing transfer protocols will help to ensure appropriateness of care and consistent and equitable support for high-risk births across the region.*

### **Key Assumptions for Implementation of Transfer Guidelines**

- In keeping with the concept of care closer to home, every effort should be made to first accommodate transfers to a higher/lower level of care to an appropriate facility within the cluster, where possible.
- The guidelines will ensure that transfers support the framework of the CHN regional system model with a focus on –

- Higher needs patients being transferred to higher levels of care institutions;
- Utilizing the role of Level II+ facilities in accordance with their scope of services to help deflect demand on Level III beds;
- Facilitating retro-transfers, as appropriate, to ensure care at the most appropriate site within the regionalized system;
- Using CritiCall and HSC-ACTS as per the guidelines;
- Updating bed registries at individual facilities regularly (i.e., at least twice daily) as per the current bed registry expectations/protocol.
- Agreeing on the following definitions with respect to 'open', 'closed', and 'restricted' designations:
  - Open: More than 2 beds available at facility
  - Closed: No beds available at facility
  - Restricted: Facility nearing full bed capacity (<2 beds available at facility)

Following is a list of the hospitals in the CHN indicating their designated level and cluster affiliation.

<b>Cluster Designations and Levels of Care for CHN Hospitals</b>		
<b>CLUSTER</b>	<b>HOSPITAL</b>	<b>LEVELS</b>
CENTRAL	Humber River Regional Hospital (Church site)	I
	Humber River Regional Hospital (Finch site)	II
	St. Joseph's Health Centre	II
	St. Michael's Hospital	II
	Toronto East General Hospital	II
	Mount Sinai Hospital	III
	The Hospital for Sick Children	III
EAST	Lakeridge Health Corporation (Uxbridge, Bowmanville and Port Perry sites)	I
	Lakeridge Health Corporation (Oshawa site)	II+
	Rouge Valley Health System (Ajax/Pickering site)	I
	Rouge Valley Health System (Centenary site)	II+
	Markham Stouffville Hospital	II
	Scarborough Hospital (General and Grace sites)	II
NORTH	Southlake Regional Health Centre	II
	York Central Hospital	II
	North York General Hospital (General site)	II+
	Sunnybrook and Women's College Health Sciences Centre	III
WEST	William Osler Health Centre (Georgetown site)	I
	William Osler Health Centre (Etobicoke site)	II
	William Osler Health Centre (Brampton site)	II+
	Halton HealthCare Services Corporation (Milton site)	I
	Halton HealthCare Services Corporation (Oakville site)	II
	Trillium Health Centre	II
	The Credit Valley Hospital	II+

## Dissemination of Transfer Guidelines

Dissemination of the guidelines is the first step in the process of implementing and testing the guidelines across the network. Information/Training sessions held at the cluster level to officially mark the release of the guidelines. The objectives of these sessions are:

1. To officially launch the transfer guidelines and clarify expectations concerning adoption of the their use across the network.
2. To introduce the guidelines and provide an opportunity for members to learn about the content of the guidelines, the availability of the 'generic' forms, and the proposed monitoring/evaluation tool that will support uptake of the guidelines.
3. To provide an opportunity to 'test' and receive member input concerning application of the guidelines across the network.

## Monitoring and Refinement of Guidelines

### Underlying Assumptions

- Specific indicators will be developed to monitor and track performance with respect to each set of transport protocols:
  - Maternal Transfers;
  - Neonatal Transfers;
  - Neonatal Retro-transfers
- Individual facilities will update their bed registries at least twice daily as per the current provincial bed registry protocol. Consistent functional definitions will be developed and agreed upon for the following designations:
  - Open** - *More than two beds available at facility*
  - Closed** – *No beds available at facility.*
  - Restricted** – *Facility nearing full bed capacity (< 2 beds)*
- All facilities will be expected to use CritiCall (as per the guidelines) and to monitor compliance internally.
- Performance with respect to implementation of the transfer guidelines will be monitored based on qualitative and quantitative data with respect to the following dimensions:
  - Accessibility
  - Accountability
  - Effectiveness
  - Satisfaction
- The dimensions will be measured/tracked based on the following [draft] indicators:

CRITERIA	INDICATORS
<b>Accessibility</b>	Wait times Transfer patterns/ issues within the system Appropriateness of destination Delays in transfer Triage/transfer times Transfer cancellations
<b>Accountability</b>	Stakeholder/physician satisfaction <i>Morbidity &amp; mortality</i>
<b>Effectiveness</b>	<i>Complications during transport</i>
<b>Satisfaction</b>	<i>Patient satisfaction/awareness</i>

- To the extent possible, indicators will be consistent with those collected as part of the CHN's overall performance evaluation project. However, it is understood that additional data (i.e., more specific/detailed information) will need to be collected initially to track implementation with respect to the transfer guidelines.
- An initial baseline survey will be conducted (with physicians/member facilities) to determine the current pattern(s) of practice with respect to the indicators/ information to be collected.
- Ambulance services will need to incorporate changes/additions to the coding of patient transfers. In particular, the following are noted:
  - Are transfers categorized as Maternal; Neonatal (i.e., up to 1 month of age; specify – i.e., 28 days vs. 30 days vs. 31 days); or Paediatric (actual age of child)
  - Is the transfer categorized as an acute transfer? [i.e., transfer to a higher and/or equivalent level of care]
  - Is the transfer categorized as a retro-transfer?
- To the extent possible, quantitative data will be collected through existing data collection sources (i.e., Critical, ambulance services).
- Once confirmed, those responsible for collecting and reporting on indicators/measures will be convened to discuss the proposed approach to monitoring implementation of the transfer guidelines. It is expected that the same group will reconvene approximately every 6 months for a **CHN Transfer Review Meeting** to discuss the results of the analysis (based on the chosen indicators/measures) and develop recommendations for improving transport within the system.
- The findings and recommendations of the **CHN Transfer Review Meetings** will be tabled at the Maternal-Newborn Services Task Force (and/or working group).
- Issues and strategies for improving performance will be identified by the group and shared widely with the CHN membership. Accountabilities and timelines will be identified wherever possible.

# MATERNAL ANTENATAL TRANSFER PROTOCOL

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## Purpose

To facilitate antenatal transfers of pregnant women with a focus on providing the most appropriate level of care for mother and newborns<sup>1</sup> as close to home as possible within the regionalized model of the CHN.

## Standards

1. Transfers will be facilitated for mothers to an appropriate facility according to and consistent with criteria included in the ***Guidelines for the Clinical Scope of Maternal and Newborn Services*** (CHN, March 2001) and the ***Family-Centred Maternity and Newborn Care: National Guidelines*** (Health Canada, 2000) (“the Guidelines”).
2. Health care professionals and institutions working within the CHN are accountable for working together in a manner that will ensure development of an effective regionalized system of care and facilitating transfers, as required, in accordance with the Guidelines.
3. CritiCall (1-800-668-4357) will be used to facilitate the identification of an available bed at the required level of care.
4. Physician to physician communication is mandatory. Collaborative decision-making will occur among the referring and receiving physicians and charge nurses at the referring and receiving centres.
5. Transfer of a mother requires that she be fully informed of the need to be transferred, the potential risks associated with transfer, and provides consent to be moved.
6. Selected indicators<sup>2</sup> will be monitored to review system effectiveness and to identify opportunities for quality improvement. The four areas to be considered in the evaluation are accessibility, accountability, effectiveness, and satisfaction.

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<sup>1</sup> The terms newborn and neonate are used interchangeably throughout these guidelines.

<sup>2</sup> Indicators are currently under development as part of the *Performance Evaluation Project* being undertaken by the CHN.

## Indications/Contraindications for Transport

Indications	Contraindications
<ul style="list-style-type: none"> <li>▪ Significant maternal illness at any time during the antenatal or post-natal period.</li> <li>▪ Inadequate facilities or trained personnel to manage predicted maternal medical, surgical, or neonatal complications.</li> <li>▪ Anticipation of need for newborn care in a Level III neonatal intensive care unit (e.g., gestation &lt;32 weeks, fetal anomalies).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Unstable maternal condition (e.g., shock due to antepartum hemorrhage)</li> <li>▪ Unstable fetal condition (e.g., non-reassuring fetal heart rate tracing)</li> <li>▪ Patient in active labour and birth imminent</li> <li>▪ Weather and road conditions too hazardous for travel</li> </ul>

**Note:** If unable to transport mother, the Neonatal Transport Team can be called (1-877-472-2287) to attend a high-risk delivery. See Appendix I for guidelines for attendance of the Neonatal Transport Team at high-risk deliveries.

### Practice Guidelines

The need for transfer will be determined by the attending physician in consultation with the receiving centre. The decision to consult and/or the need to transfer is based on the criteria outlined in the **Guidelines for Clinical Scope of Maternal and Newborn Services** (CHN, March 2001) (Table I).

**TABLE I: CRITERIA FOR TRANSFER OF CARE**

	<b>From Level I Maternal/Newborn Centre</b>	<b>From Level II Maternal/Newborn Centre</b>	<b>From Advanced Level II Maternal/Newborn Centre</b>
<b>Indications for transfer to another facility</b>	Patients who require additional intervention beyond the Level I scope of services.	Patients who require additional intervention beyond the Level II scope of services.  Congenital malformations of the neonate requiring special diagnostic procedures or surgical care.  < 32 weeks gestation if hospital provides maximum Level II care and < 36 weeks gestation if hospital provides minimum Level II care.  Multiple pregnancies > twins.	Patients who require additional intervention beyond the advanced Level II scope of services.  Congenital malformations of the neonate requiring special diagnostic procedures or surgical care.  < 32 weeks gestation, singleton  Multiple pregnancies > twins and age of < 34 weeks gestation.

## Procedure for Maternal/Antenatal Transfers

1. The referring physician (or delegate) will discuss the need for transport with the patient and her family. Information to be discussed by the referring physician (and reinforced by the nurse as information becomes available) includes :
  - Reason for transport
  - When transport will occur
  - Length of time transport will take
  - Mode of travel
  - Type of care during transport
  - Staff members who may accompany patient during transport
  - Directions to receiving hospital by car or other mode of transportation.
2. For ground transport, transfer will be facilitated by the referring hospital. The referring physician (or delegate) should contact CritiCall (1-800-668-4357) to identify the availability and location of a bed, confirm availability, and facilitate transport if indicated.

Air transport [when required] should be facilitated by CritiCall (1-800-668-4357).

3. Physician to physician communication is mandatory to provide complete information on the patient including reason for transfer and interim management measures (e.g., corticosteroids, anti-hypertensive, antibiotics). When a bed at a tertiary centre is not available, the tertiary care physician will assist with resolution of the problem including consideration of alternative transfer options to expedite transfer of the patient to an appropriate bed.
4. The referring and receiving physicians will decide the appropriate mode of transport and Level of medical supervision (including accompanying personnel) required for transport.
5. The referring physician will prepare the transfer order.
6. The nurse will:
  - Collect all relevant documentation (refer to item 7 below)
  - Closely monitor the maternal/fetal condition
  - Ensure the patient has an identification bracelet
  - Ensure ongoing drug therapy will be managed with a battery operated infusion pump
7. Documentation/information to accompany the patient will be prepared by the referring staff and include (when available) a legible copy of the following:
  - Antenatal Record I and II (if available and complete)
  - *CHN Maternal Transfer Record* (see sample form in Appendix II)
  - Intake and output record
  - Medication record
  - Nursing notes
  - Physician's notes/consultation
  - Relevant laboratory reports
  - Ultrasound scans
8. Accompanying personnel will check that all transport equipment is available and functioning before leaving hospital and stock additional equipment as warranted by the patient's condition (see Appendix III for equipment list).

9. Accompanying personnel will alert clerical personnel to notify receiving hospital of time of departure and estimated time of arrival.
10. Ambulance attendant/paramedics will transfer the woman to transport vehicle.
11. Accompanying personnel will monitor the mother and fetus during transit and document information on the *CHN Maternal Transfer Record*.
  - *Frequency of monitoring dependent on maternal/fetal condition and judgement of attendant*
  - *Use of a battery-operated ultrasonic doppler is recommended for FHR*
  - *It may be necessary to stop ambulance for a check of BP and FHR if noise Level too high and digital readout unavailable.*
12. If required, accompanying personnel will administer oxygen (particularly during transport by air).
13. Accompanying personnel to provide a report on patient's clinical status to staff at the receiving hospital upon arrival.
14. Transferring/receiving nurse to complete *CHN Maternal Transfer Record* on arrival. Appropriate copies of documentation to be returned to the referring hospital.
15. Follow-up communication from the receiving hospital [tertiary facility] to the referring hospital will be undertaken and documented. This includes direct communication with the referring obstetrician and paediatrician.
16. Satisfaction surveys to be completed and returned to CHN.

## **Maternal Transfer Protocol: CHN Guidelines for Attendance of HSC-ACTS at High Risk Deliveries**

The Ministry of Health and Long-Term Care guidelines (MoHLTC, April 2000) for tertiary perinatal care stipulate that mothers with high-risk fetuses should be managed and delivered in a maternal /newborn Level III (tertiary) centre. High-risk deliveries are defined as:

- A fetus <32 weeks gestation, twins < 34 weeks gestation
- Pre-term multiple fetuses greater than twins
- A fetus with a significant congenital abnormality (e.g., congenital diaphragmatic hernia, congenital heart disease)

On occasion, safe antenatal transfer of the mother and fetus is not possible. In order to provide assistance to community hospital staff in these instances, the neonatal *Acute Care Transport Service* (ACTS) at the Hospital for Sick Children (HSC) will be available to attend the delivery of these newborns at any hospital located within the central east region of Ontario.

**1-877-HSC-ACTS  
(1-877-472-2287)**

The team can also be accessed by calling the NICU at HSC (416) 813-6927 and speaking to the transport physician. THE CALL FOR ATTENDANCE OF THE HSC ACTS TEAM SHOULD BE MADE BY THE OBSTETRICIAN/GP/MIDWIFE RESPONSIBLE FOR THE MOTHER'S CARE.

HSC ACTS is offered only in situations where an appropriate Level III maternal bed is not available and/or when maternal transfer is not possible due to advanced progress of labour or maternal ill health. For all patients who meet transfer eligibility criteria, an attempt to transfer the mother and fetus to a perinatal unit must occur prior to contacting HSC. **This can be done by contacting CritiCall at 1-800-668-4357.**

The request for attendance at a delivery will be taken by an HSC neonatal physician and a member of the ACTS team. The following information is essential:

- Mother's name and [referring] hospital chart number
- Gestational age of fetus, information about any known abnormalities and any information about fetal well-being (e.g., biophysical profile, non-stress test)
- Details about attempts made to arrange a maternal transfer to a perinatal center
- Details about the pregnancy and current labour status as well as anticipated time of delivery
- The name of the physician at the referral site attending the delivery to provide newborn care

For additional information or questions contact:

Dr. Hilary Whyte, Medical Director for Transport at HSC

Telephone: 416-813-7202

OR

Alison Quigley, HSC Transport Team Leader

Telephone: 416-813-8304

## CHN Maternal Antenatal Transport - Equipment List

### Basic Equipment<sup>3</sup>

- The referring hospital must ensure that all equipment is available and functioning before leaving the hospital. The equipment and kits should be ready at all times and all staff should know their location.
- Check with the local ambulance to determine what equipment is available in the ambulance.
- A cell phone should be available for use by the health care provider accompanying the patient.

<p><b>General Equipment</b></p> <ul style="list-style-type: none"> <li>• CHN Maternal Transfer Record</li> <li>• Stethoscope</li> <li>• Thermometer</li> <li>• K\Emesis basin</li> <li>• Flashlight</li> <li>• Sphygmomanometer</li> <li>• Doppler (battery operated or fetal stethoscope)</li> <li>• Infusion pump (battery operated)</li> <li>• Sterile gloves - three pairs, various sizes.</li> <li>• Peripads</li> <li>• Sterile lubricant</li> <li>• Antiseptic solution (e.g. Aqueous Savlon 1:100)</li> </ul>	<p><b>Emergency Birth Sterile Kit (x2)</b></p> <p><b>Contents of each kit:</b></p> <ul style="list-style-type: none"> <li>• One pair scissors</li> <li>• Two Kelly's forceps</li> <li>• Six 4 x 4 gauze squares</li> <li>• One small drape</li> <li>• Bulb suction (maximum pressure £ 100)</li> <li>• Two cord clamps</li> <li>• Two plastic bags (placenta and garbage)</li> <li>• Blanket for baby</li> <li>• Aluminum foil sheet</li> </ul>
<p><b>IV Fluids and Maternal Medications</b></p> <ul style="list-style-type: none"> <li>• 1000 ml 5% D/W</li> <li>• 1000 ml Ringer's Lactate</li> <li>• Two Solusets</li> <li>• Tape</li> <li>• Tourniquet</li> <li>• Intracaths: two of each #16, #18, #20</li> <li>• Butterfly 2 of 21</li> <li>• Assorted needles and syringes</li> <li>• Alcohol swabs</li> <li>• 5 amps Magnesium Sulphate on 5g/10ml</li> <li>• 4 amps Syntocinon 10 units/ml</li> <li>• 4 amps Calcium Gluconate 10 percent in 10 ml</li> <li>• 2 amps Hydralazine 20 mg/amp</li> <li>• 2 amps Valium 10 mg/amp</li> <li>• 4 amps Trandate or Labetolol IV Tabs 100mg</li> </ul>	<p><b>Newborn Resuscitation</b></p> <ul style="list-style-type: none"> <li>• Neonatal laryngoscope and small straight blade size 00, 0 and 1</li> <li>• Neonatal self inflating bag with reservoir and masks size 0, 1, 2 to administer 100% oxygen (x2)</li> <li>• Clear endotracheal tubes with stylets and connectors size 2.5 to 4.</li> <li>• Epinephrine 1:10,000 preloaded syringes x three.</li> <li>• Naloxone 0.4 mg/mL-1 ampoules x three.</li> <li>• 1 ml syringes</li> <li>• 2 ml syringes</li> <li>• 10 ml syringes</li> <li>• #20 needles</li> <li>• #25 needles</li> <li>• Orogastic feeding tubes 5 Fr and 8Fr</li> <li>• Elastoplast tape and scissors.</li> </ul>
<p><b>Adult Resuscitation</b></p> <ul style="list-style-type: none"> <li>• Oxygen - check availability and amount in ambulance</li> <li>• Ambu bag and mask</li> <li>• Airway #3</li> <li>• Laryngoscope (adult)</li> </ul>	

<sup>3</sup> Adapted from *Family-Centred Maternity and Newborn Care: National Guidelines*, Health Canada, Minister of Public Works and Government Services, Ottawa, 2000.

# NEONATAL<sup>4</sup> TRANSFER PROTOCOL

## Purpose

To facilitate transfers for acutely ill newborns with a focus on providing the appropriate level of care as close to home as possible within the regionalized model of the CHN.

## Standards

1. Transfers will be facilitated for acutely ill newborns to an appropriate facility according to and consistent with criteria included in the ***Guidelines for the Clinical Scope of Maternal and Newborn Services*** (CHN, March 2001) and the ***Family-Centred Maternity and Newborn Care: National Guidelines*** (Health Canada, 2000) (“the Guidelines”).
2. Health care professionals and institutions working within the CHN are accountable for working together in a manner that will ensure development of an effective regionalized system of care and facilitating transfers, as required, in accordance with the Guidelines.
3. Arrangements for transfer of stable newborns requiring Level I or II care will be the responsibility of the referring physician/hospital. Newborns requiring Advanced Level II or III care will be transferred by the HSC Acute Care Transport Service (ACTS) subject to consultation. Transfer by ACTS will occur subject to team availability with priority given to unstable newborns regardless of their destination. (See algorithm attached to these guidelines).
3. Physician to physician communication is mandatory. Collaborative decision-making will occur among the referring and receiving physicians and the charge nurses at the referring and receiving centres.
4. Transfer of the newborn requires a physician’s order and notification to parents of the need for transfer to another facility.
5. Selected indicators<sup>5</sup> will be monitored to review system effectiveness and to identify opportunities for quality improvement. The four areas to be considered in the evaluation are accessibility, accountability, effectiveness, and satisfaction.
6. Responsibility for the patient remains with the referring physician/hospital until the newborn reaches its final destination, or until the HSC ACTS assumes responsibility for the patient at the referring hospital.
7. When bed capacity has been reached, Criticall will be involved to identify an alternative bed at the appropriate level of care. This applies to both Level II or advanced Level II beds within a cluster and to tertiary beds within the region of Central East Ontario.

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<sup>4</sup> The terms newborn and neonate are used interchangeably throughout these guidelines.

<sup>5</sup> Indicators are currently under development as part of the *Performance Evaluation Project* being undertaken by the CHN.

## Indications/Contraindications for Transport

Indications	Contraindications
<ul style="list-style-type: none"> <li>▪ Inadequate facilities or trained personnel to manage predicted medical or surgical complications.</li> <li>▪ Personnel necessary to monitor and manage the patient's condition are unavailable.</li> </ul>	<ul style="list-style-type: none"> <li>▪ No experienced attendant/transport team available to accompany patient.</li> <li>▪ Newborn with a condition incompatible with survival.</li> <li>▪ Weather and road conditions too hazardous for travel</li> </ul>

### Practice Guidelines

The need for transfer will be determined by the attending physician at the referring hospital based on the criteria outlined in the ***CHN Guidelines for the Clinical Scope of Maternal/Newborn Services*** (March 2001) (see Table I).

**TABLE I: CRITERIA FOR TRANSFER OF CARE**

	From Level I Maternal/Newborn Centre	From Level II Maternal/Newborn Centre	From Advanced Level II Maternal/Newborn Centre	From Level III perinatal to a paediatric unit (HSC NICU)
<b>Indications for neonatal transfer to another facility</b>	<p>Newborns who require additional intervention beyond Level I scope of services</p> <p>Newborns failing to progress as anticipated</p>	<p>Newborns who require additional intervention beyond Level II scope of services</p> <p>Newborns with congenital malformations requiring special diagnostic procedures or surgical care (in consultation)</p> <p>Newborns with increasing respiratory distress</p> <p>Newborns with conditions requiring exchange transfusion</p> <p>Newborns anticipated to require ventilation beyond 24 hours</p> <p>Newborns failing to progress as anticipated</p>	<p>Newborns who require additional intervention beyond advanced Level II scope of services</p> <p>Newborns with congenital malformations requiring special diagnostic procedures or surgical care (in consultation)</p> <p>Newborns with increasing respiratory distress requiring complex management</p> <p>Any newborn anticipated to require ventilation beyond approximately 48 hours</p> <p>Newborns failing to progress as anticipated</p>	<p>Newborns who require special procedures and/or surgery, as appropriate.</p>

## **Procedure for Transport of Unstable Newborns** ***(involving the HSC ACTS – see algorithm)***

1. The referring physician will phone the neonatal Acute Care Transport Service (ACTS) at the Hospital for Sick Children (HSC). All relevant information will be shared with the physician in the NICU (at HSC) to help determine the need for transfer and ensure that all necessary documentation for transport is completed.
2. The ACTS will be dispatched to the referring hospital by the HSC NICU.
3. The referring physician (or delegate) will discuss the need for transfer of the newborn with the parents, explain the reason for transfer, and introduce the ACTS.
4. The HSC physician will determine the most appropriate bed availability and inform the receiving physician and the transport team accordingly.
5. When no bed is available in the Central East Region, Criticalll will be contacted by the physician in control of the transport. He/she will advise Criticalll of the clinical issues and the level of care that the neonate requires. Criticalll will identify the availability of an appropriate bed in another Region of the province (or out of province when required) and inform the physician of the destination of the ACTS team.
6. The information about the transport process will be discussed by the ACTS with the parents including information pertaining to:
  - Reason for transport, medical condition, short-term implications and longer-term prognosis (if indicated)
  - When transport will occur
  - Length of time transport will take
  - Mode of travel
  - Staff and family members who may accompany the newborn during transport
  - Visiting hours and telephone number of the receiving hospital
  - Directions to receiving hospital by car or other mode of transportation
  - Accommodations for significant other(s)

The referring physician and nursing staff will provide ongoing support of, and communication with, the mother and family.

7. Documentation/information to accompany the patient will be prepared by the referring staff and should include (when available) a legible copy of the following:
  - Antenatal I & II record, L&D record
  - *CHN Acute Neonatal Transport Record* (see sample form in Appendix I)
  - Nursing notes
  - Physician's notes/consultation and transfer summary
  - Relevant lab reports and x-rays
8. The staff will provide the following labeled samples to the ACTS team:
  - Maternal blood sample (clotted)
  - Unpreserved placenta if available
9. The receiving charge nurse or unit clerk will notify their admitting department of the newborn's admission and name of the responsible physician.

10. A member of the transport team will check that all transport equipment is available and functioning before leaving hospital. Additional equipment should be stocked as warranted by the condition of the newborn.
11. The ACTS stabilization record will be photocopied and a copy left on the newborn's chart.
12. The transport team will alert clerical personnel to notify the receiving hospital of the time of departure and estimated time of arrival.
13. The transport team will call parents to notify them of the newborn's arrival at the receiving centre.
14. Follow-up communication from the receiving hospital to the referring hospital will be undertaken and documented. This includes direct communication with the referring obstetrician and paediatrician, particularly when deterioration or death has occurred.

## **Procedure for Transport of Stable Newborns (NOT involving the HSC ACTS – see algorithm)**

In keeping with the concept of care closer to home within a regional system of maternal/newborn care, every effort should be made to first accommodate transfers to a higher level of care to an appropriate facility within the cluster.

At the discretion of the referring physician these patients may be transported [by the ambulance system] in accordance with the following procedure:

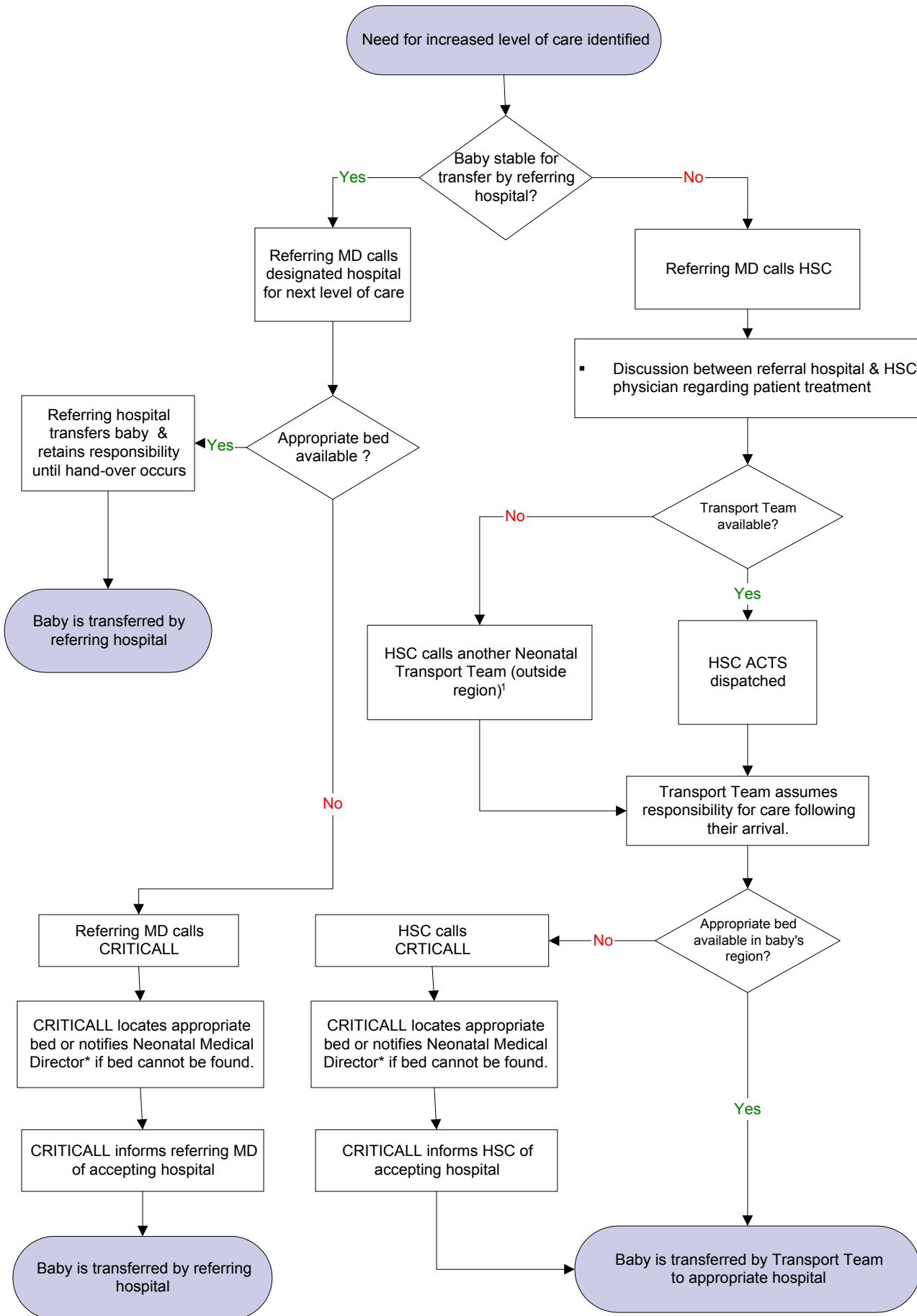
1. The referring paediatrician will determine the need to transfer the newborn to a higher level of acuity.
2. The referring paediatrician will contact the on-call paediatrician at the regional referral centre or at the HSC (for tertiary/quaternary care) and together confirm that the newborn is stable for transfer by the referring hospital without the HSC ACTS team via land ambulance.
3. The referring paediatrician will discuss details of the patient's destination with the parents. When no appropriate bed is available within the cluster, the referring physician will call Critical to identify the location of the most appropriate available bed.
4. The information about the transport process that should be discussed with the parents includes:
  - Reason for transport, medical condition, short-term implications and longer-term prognosis (if indicated)
  - When transport will occur
  - Length of time transport will take
  - Mode of travel
  - Staff and family members who may accompany the newborn during transport
  - Visiting hours and telephone number of the receiving hospital
  - Directions to receiving hospital by car or other mode of transportation
  - Accommodations for significant other(s)

The referring physician and nursing staff will provide ongoing support of, and communication with, the mother and family.

5. Transfer of a newborn requires a physician's order.
6. Documentation/information to accompany the patient will be prepared by the referring staff and should include (when available) a legible copy of the following:
  - Antenatal I & II record, L&D record
  - *CHN Acute Neonatal Transport Record* (see sample form in Appendix I)
  - Nursing notes
  - Physician's notes/consultation and transfer summary
  - Relevant lab reports and x-rays
7. Referral hospital staff to contact ambulance (or private ambulance service) to transfer the patient. Accompanying hospital personnel will be at the discretion of the referring paediatrician and the availability of resources.

8. The receiving charge nurse or unit clerk will notify their admitting department of the newborn's admission and name of the responsible physician.
9. Prior to departure, transporting personnel will check all equipment and stock additional equipment as warranted by the condition of the newborn.
10. Referral hospital staff will notify receiving hospital of the time of the departure and estimated time of arrival.
11. Follow-up communication with parents and the referral hospital will be the responsibility of the receiving hospital. There should be direct communication with referring obstetrician and paediatrician.
12. Satisfaction surveys to be completed and returned to CHN.

# Proposed Neonatal Transport to the GTA CHN/CE Region Ontario (Algorithm)



\*Recommendation to create CritCall Neonatal Director position

# NEONATAL RETROTRANSFER PROTOCOL

## Purpose

To facilitate effective retrotransfers for newborns from a higher level facility to a less acute level of care to ensure the appropriate level of care for optimal neonatal and maternal outcomes as close to home as possible within the regionalized model of the CHN.

## Standards

1. Retrotransfers are classified as non-acute transports and occur as described in the **Guidelines for the Clinical Scope of Maternal and Newborn Services** (CHN, March 2001).
2. Retrotransfers will be arranged consistent with the transfer criteria included in the **Guidelines for the Clinical Scope of Service Maternal and Newborn Services** (CHN, March 2001) and the **Family-Centred Maternity and Newborn Care: National Guidelines** (Health Canada, 2000).
3. Health care professionals and institutions working within the CHN are accountable for working together in a manner that will ensure development of an effective regionalized system of care and facilitating retrotransfers, as required, in accordance with the Guidelines.
4. Retrotransfer of a newborn requires a physician's order and notification to parents of the newborn's readiness to be transferred to another level of care closer to home.
5. Physician to physician communication is mandatory. Collaborative decision-making will occur among the referring and receiving physicians and the charge nurses at the referring and receiving centres.
6. Selected indicators<sup>6</sup> will be monitored to review system effectiveness and to identify opportunities for quality improvement. The four areas to be considered in the evaluation are accessibility, accountability, effectiveness, and satisfaction.

## Indications/Contraindications for Transport

Indications	Contraindications
<ul style="list-style-type: none"><li>▪ Stable newborns</li><li>▪ Appropriate level of care is available closer to home as defined in the scope of practice guidelines</li></ul>	<ul style="list-style-type: none"><li>▪ No bed availability at appropriate level of care</li><li>▪ Inclement weather</li></ul>

<sup>6</sup> Indicators are currently under development as part of the *Performance Evaluation Project* being undertaken by the CHN.

## Practice Guidelines

Retrotransfers will be made to Advanced Level II, Level II, and Level I centres when appropriate, in a timely manner, and in consultation with an appropriate centre of care closer to home. Suitability for **retrotransfer** will be determined by the attending physician based on the criteria outlined in the ***Guidelines for the Clinical Scope of Maternal and Newborn Services*** (CHN, March 2001) (Table I).

**TABLE I: CRITERIA FOR RETROTRANSFER**

	<b>Level I Maternal/Newborn Centre</b>	<b>Level II Maternal/Newborn Centre</b>	<b>Advanced Level II Maternal/Newborn Centre</b>
<b>Centres should accept newborns with the following...</b>	<p>Newborns who require intervention within the Level I scope of services</p> <p>Stable newborns in room air, &gt;2000gms, &gt;34 weeks and PO feeds</p>	<p>Newborns who require intervention within the Level II scope of services</p> <p>Weight of no less than 1000 gms and not requiring assisted ventilation or TPN</p> <p>Tolerance of full or increasing enteral feeding</p> <p>Chronic lung disease requiring oxygen therapy</p> <p>Apnea of prematurity requiring infrequent or no stimulation</p> <p>Stable or regressing ROP</p> <p>Condition requiring isolation</p> <p>Need for palliative care</p>	<p>Newborns who require intervention within advanced Level II scope of services</p> <p>Weight of no less than 800 gms</p> <p>Tolerance of increasing enteral feeding;</p> <p>Need for TPN</p> <p>Post-surgical recovery</p> <p>Colostomy</p> <p>Chronic lung disease requiring O<sub>2</sub> therapy and/or CPAP</p> <p>Apnea of prematurity which may require CPAP</p> <p>Stable or regressing ROP</p> <p>Condition requiring isolation</p> <p>Need for palliative care</p>

## Procedure for Neonatal Retrotransfer

1. The referring physician (or delegate) will discuss the decision for retrotransfer with the family. Information to be discussed with the parents should include:
  - Reason for transport
  - When transport will occur
  - Length of time transport will take
  - Mode of travel
  - Type of care during transport
  - Staff members who will accompany during transport
  - Directions to receiving hospital by car or other mode of transportation

Additional written information about the receiving nursery, if available, should be shared with the family at this time.

2. Staff at the referring nursery will ensure that physician and nursing staff at the receiving nursery are fully informed of the patient's background and have the following written communication ready:
  - Retrotransfer Patient Record<sup>7</sup>
  - Medical Discharge Summary
  - *CHN Non-Acute Transport Checklist* (see Appendix I)
3. Staff at the referring hospital will notify the ambulance (or private ambulance) service and book/arrange time for non-urgent transfer.
4. Follow steps included on the *CHN Non-Acute Transport Checklist* (Appendix I).
5. Accompanying nurse/Registered Respiratory Care Provider (RRCP) will document assessments and interventions (as required) during transport.
6. Parent may accompany the newborn on the transfer at the discretion of the ambulance attendants.
7. On arrival at the receiving hospital, the ambulance attendants to move the newborn from the transfer vehicle and escort accompanying nurse/RRCP and newborn to the nursery. The accompanying nurse/RRCP to transfer the newborn to a bed in the receiving unit.
8. Accompanying nurse/RRCP to confirm patient identification with staff at receiving hospital, provide verbal report on newborn's clinical status and hand-over documentation and patient possessions.
9. Parent satisfaction survey to be completed and returned to the CHN.

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<sup>7</sup> Existing forms to be used in the interim. The longer term objective is to work with facilities to develop a standard form to be used by all facilities within the CHN.

## CHN Non-Acute Transport Checklist

Initials	Tasks
	<b>Verify notification of the ambulance departure time :</b>
	<b>Preparation</b>
	Ensure parents (or legal guardian) are advised of the reason for transfer.
	Obtain and complete documentation including: <ul style="list-style-type: none"> <li>- Physician's Order</li> <li>- Medical Discharge Summary</li> <li>- Retrotransfer Patient Record</li> <li>- Follow-up appointments for newborn</li> </ul>
	Copy of relevant diagnostic test results
	Place newborn in transport isolette secure straps and monitors
	Attach resuscitation bag to O <sub>2</sub> tubing, put monitors on
	Cover the transport isolette with a blanket
	Ambulance attendants will lift isolette
	Arrange return of equipment and staff
	<b>Prepare transport equipment</b>
	Cardiac respiratory monitor
	Batteries for cardiac respiratory monitor
	Pulse oximeter
	IV pump charged and secured to isolette
	Portable suction
	Check O <sub>2</sub> tank full at 2000 lbs.
	Check the portable battery
	Resuscitation bag and masks (newborn and premature) and O <sub>2</sub> tubing
	<b>Prepare the transport bag supplies</b>
	Extra blanket
	Extra cardiac leads
	Stethoscope
	#6, #8 and #10 suction catheters
	#5 and #8 feeding tubes
	½" clear tape
	20 ml syringe (x2)
	Airways 0,00,000
	Diapers appropriate for weight
	Appropriate feeding, if indicated
	<b>Prepare newborn</b>
	Check patient identification
	Pre-warm isolette
	Prepare patient possessions (and breast milk)
	Ensure airway patency by positioning and suctioning as needed
	Ensure IV patency
	Monitor vital signs
	Dextrostix if indicated
	(Note the FiO <sub>2</sub> ) Adjust FiO <sub>2</sub> to maintain SpO <sub>2</sub> as per physician's order
	Confirm ETA at receiving hospital
	<b>Upon return to referring centre</b>
	Arrange for cleaning of the transport isolette
	Check FiO <sub>2</sub> tank – RT will replace tank if less than 2000 lbs
	Return batteries for cardiac respiratory monitor to base
	Ensure transport documentation placed in newborn's chart
	Arrange for return transport isolette to storage area