Levels of Care for Maternal and Newborn Services in Ontario

Dr. Henry Roukema
Neonatologist, London
Co-Chair, Access to Services Workgroup, PCMCH
Outline

• Context
• Level of Care Definitions
  • Maternal
  • Newborn
• Human Resources for LOC
• Services for LOC
• Implementation
Ontario has never had definitions for levels of care for maternal and newborn

- Level 3 defined and allocated
- Modified Level 3 – 1991
  - Allocated by centre
  - Volume not defined
  - Loose definition
- GTA – Child Health Network
  - Some definition
  - Some allocation
Benefits of Levels of Care

- Criteria for LOC based on newborn and maternal needs; risk and illness
- Universal, province-wide
- Established standards
- Established human resource expectations
- Established services

- Assists CritiCall, and individual centers, in bed allocation and transfers
Caveats

All sites are expected to have:

- Competent maternal and newborn care providers, including resuscitation and stabilization
- Clearly established referral path
- Clearly established transfer protocol
- Interprofessional staff education to develop and maintain skills
Caveats

- The definitions define minimum expectations
- All of the criteria for a level need to be met 24/7/365

- This is very important if the levels are to be useful in bed allocation
  - CritiCall
LOC Criteria

- Gestational Age
- Birth Weight

Interventions – newborn acuity
- Retro-transfer

Maternal
- Ability to support newborn
- Childbirth – monitoring, epidural, anaesthesia
- Complications – C/S, maternal risk
LOC Criteria

- Very close to CPS Guidelines
  - Level 1 different

<table>
<thead>
<tr>
<th></th>
<th>Maternal</th>
<th>Newborn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1</td>
<td>Midwife, Family</td>
<td>Midwife, Family</td>
</tr>
<tr>
<td></td>
<td>Physician</td>
<td>Physician</td>
</tr>
<tr>
<td>Level 2</td>
<td>Obstetrician</td>
<td>Paediatrician</td>
</tr>
<tr>
<td>Level 3</td>
<td>MFM</td>
<td>Neonatologist</td>
</tr>
</tbody>
</table>

- Levels are cascading
Structure of the Maternal-Newborn Levels Definitions and Associated Minimum Services and Human Resources Recommendations

Maternal Newborn Levels Definition

Maternal Minimum Services

Maternal HR

Newborn Minimum Services

Newborn HR
Level 1 – Maternal

• Extremely low risk
  • $\geq 36 + 0$ weeks
  • No complications

• Low risk
  • $\geq 37 + 0$ weeks
  • Suspected SGA only with consultation
# Level 1 – Maternal

- Level 1A and 1B based on C/S capability

<table>
<thead>
<tr>
<th>Level 1A</th>
<th>Level 1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>No C/S</td>
<td>C/S 24/7</td>
</tr>
<tr>
<td>No twins</td>
<td>Uncomplicated dichorionic twins</td>
</tr>
<tr>
<td>No VBAC</td>
<td>Electronic monitoring</td>
</tr>
<tr>
<td>Informed consent</td>
<td></td>
</tr>
</tbody>
</table>
Level 1 – Newborn

- Not all centres currently meet minimum requirements
- Some very small volume centres will never be able to achieve minimum requirements

- In order to support Mother–Baby couplet care, ideally all centres should manage common newborn transitional problems
  - Thermoregulation
  - Hypoglycaemia
  - Jaundice
  - TTNB
  - Feeding difficulties
  - Antibiotic prophylaxis
Level 1 – Newborn

- Centres need to be aware of local limitations and transfer out when appropriate
- Generally IV ➔ transfer

- Mother–baby couplet care
  - Larger Level 2 or 3 centres should also strive to take care of Level 1 problems in Mother–Baby couplet care
    - Limits separation of mom and newborn
    - Reserves Level 2 and 3 capacity
Level 2

- Three levels – A, B, C
- 2A approximates level 1B in CPS Guidelines
- In Ontario IV generally denotes Level 2

<table>
<thead>
<tr>
<th>Level</th>
<th>GA at birth</th>
<th>Twins</th>
<th>Retro–Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&gt;= 34+0, &gt;1800 g</td>
<td>&gt;= 36+0, di</td>
<td>&gt;= 32+0, &gt; 1500 g</td>
</tr>
<tr>
<td>B</td>
<td>&gt;= 32+0, &gt;1500 g</td>
<td>&gt;= 34+0, di</td>
<td>&gt;= 30+0, &gt; 1200 g</td>
</tr>
<tr>
<td>C</td>
<td>&gt;= 30+0, &gt;1200 g *</td>
<td>&gt;= 32=0, uncomp. mono</td>
<td>Individualized</td>
</tr>
</tbody>
</table>

*Level 2C requires assessment trial
In the absence of evidence should remain 32+0, 1500g
## Level 2 – Maternal

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk</strong></td>
<td>Low–Mod</td>
<td>Moderate</td>
<td>Moderate (On site ICU for high)</td>
</tr>
<tr>
<td><strong>Anomalies</strong></td>
<td>No anticipated intervention</td>
<td></td>
<td>Non life threatening</td>
</tr>
<tr>
<td><strong>Services</strong></td>
<td>24/7 Induction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24/7 EFM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anaesthesia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Epidural</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emergency</strong></td>
<td>30 minute emergency access for OB, Anaesthesia, Paediatrics and C/S</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Level 2 – Newborn

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intravenous</td>
<td>Peripheral IV</td>
<td>UVC, UAC insertion and maintenance PICC maintenance</td>
<td>PICC maintenance PICC insertion (at least access)</td>
</tr>
<tr>
<td>TPN</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Low flow O₂</td>
<td>CPAP, 24 hour vent.</td>
<td>CPAP, 1 week vent.</td>
</tr>
<tr>
<td>Scope</td>
<td></td>
<td></td>
<td>May need to extend scope for weather or capacity</td>
</tr>
</tbody>
</table>

TPN: Yes
Respiratory: Low flow O₂, CPAP, 24 hour vent.
Scope: May need to extend scope for weather or capacity
Level 3 – Maternal

- Any Gestational age, any weight
- High risk maternal or newborn
- Maternal Fetal Medicine specialists
- Sub-specialty adult and paediatric consultation services
- On site adult ICU capability
Level 3 – Newborn

- Any Gestational age, any weight
- High risk and acuity
  - Congenital malformations
  - Long term mechanical ventilation
  - High frequency ventilation
  - Inhaled Nitric Oxide
- On site NNP or physician 24/7/365
- Timely access to subspecialty consultants
- Timely access to surgical intervention
Level 3 – Newborn

- Two levels – Level 3A and 3B
  - 3A – no on-site surgery
    - Timely access
  - 3B – on-site surgical services 24/7/365
Supporting Services

- Human resources, diagnostic tests and treatments are further outlined in the guidelines
- Many alluded to here
- Pre-circulated
- Useful as a reference for expectations

- Will not be outlined in detail here
Purpose of the Guidelines

• Guidelines will not be used to allocate or reallocate resources
  • No money attached to implementation
  • Money for current work already flows through global operating budgets

• The guidelines will help to establish a standard across Ontario
  • Categorizes current work
  • What should a Level 2B do? Now you know.
  • Will streamline referrals – Critical
How will the Guidelines be Implemented?

- Each center will assess their current level of capability
  - What can you do 24/7/365?
  - What can CritiCall rely on us to do?
  - The results will assist in populating the LOC on the new CritiCall screens
How will the Guidelines be Implemented?

• Guidelines may need some final adjustments for clarification.
• A final version will be re-circulated following the 4 webinars
• Level is current ability 24/7/365, not carved in stone
• Given that no guidelines previously existed, some centres may be very close to the next level
How will the Guidelines be Implemented?

- Guidelines will be posted on PCMCH website
- Feedback will be summarized in FAQs
- Self assessment will be submitted to the LHINs
- The LHINs will forward self assessments to the MOHLTC, CritiCall and PCMCH
Changing Levels

- Up-skill to meet requirements
- Level 2A and 2B likely to be the biggest issue with centres striving to be Level 2B
  - CPAP
  - TPN
  - PICC maintenance
Questions?