

LEVELS OF PERINATAL CARE

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Overview of Levels of Perinatal Care

1. *Rationale*

The rationale for establishing a common classification system for levels of perinatal care across BC is that a common classification system:¹

- Identifies standards for the provision of specified levels of care;
- Facilitates transfers of patients from one centre to another through a common understanding of the relative capabilities and expectations of each centre;
- Streamlines planning and allocation of resources;
- Facilitates comparisons of regional resource utilization and outcomes; and
- Supports the availability of appropriate funding and other resources for care centres.

2. *Definitions*

The levels of perinatal care described in this document outline the scope of services and treatments that are required to provide care to women and infants with varying levels of need. These requirements are guidelines and may need to be adapted to accommodate issues of geographic distances and/or isolation. Such factors may result in decisions by Level 1 and/or 2 centres to provide a component(s) of care that is normally provided only at higher level centres. These decisions are made on a planned basis for specific patients and follow consultation with specialists at Level, 2 or 3 centres (shared care).

Ideally, centres designated as Level I will provide both Level I maternal and Level I newborn care; similarly, hospitals designated as Level II centres will provide Level II maternal and Level II newborn care and Level III centres will provide Level III maternal and Level III newborn care. In cases where this is not feasible, centres should be located as close together as possible and will operate as a single system of care.

Level I Centre

1A: Normal singleton births; ≥ 36 weeks gestation & infants $\geq 2,500$ grams; no on-site cesarean section capability available.

1B: Normal singleton births; ≥ 34 weeks gestation & infants $\geq 1,800$ grams; on-site cesarean section capability available.

¹ Lee, Shoo, Canadian Pediatric Society, Fetus & Newborn Committee Statement, *Levels of Neonatal Care* (Draft), 2004

Services provided at Level I maternal and newborn centres are designed to meet the needs of women with healthy pregnancies and their newborns. In the event of unexpected outcomes, services at Level I centres allow for stabilization and transfer of women and/or their infants to higher level centres. Needs at Level I centres can be met without specialist support, although arrangements are in place to access specialists during times when such services are required. Caesarean section capabilities may or may not be available; if not available, protocols for emergency transfer to a centre with caesarean section capabilities are in place.

Community residents are aware of the level of services offered at Level I centres, and the system of care of which the local service is part. Women and their families are informed of the advantages, limitations and risks of utilizing local maternity care services, as well as those of traveling for care. Appropriate community and social support services, including discharge planning, are available to women and their families.

The provision of services at Level I centres involves collaboration and participation with Level II and III centres to facilitate the provision of coordinated and planned services within each health authority and across the province. Level I centres may participate in the education of health professionals and in research.

It is expected that Level I maternal and newborn centres will accept timely and appropriate referrals/transfers of women and infants from home births and transfers from Level II and III maternal and newborn centres, when appropriate.

Level II Centre

IIA: Singleton and some twin births; ≥ 32 weeks gestation & infants $\geq 1,500$ grams; may have low risk medical/obstetrical/neonatal complications; 24/7 on-call specialty consultation & intensive care beds available.

IIB: Singleton and some twin births; ≥ 30 weeks gestation & infants $\geq 1,200$ grams; may have moderate risk medical/obstetrical/neonatal complications; 24/7 on-call specialty consultation available; in-house staff skilled in intubation (MD, RN, or RT) available if infant on assisted ventilation.

Level II maternal and newborn centres have all of the functional capabilities provided at Level I centres. In addition, Level II centres offer support from specialists and are capable of managing the care of women and/or infants at low (Level IIA) to moderate (Level IIB) risk. Level IIB maternal centres have the resources available to carry out detailed fetal anatomy ultra sound examination and have access to biochemical screening. Infants with suspected fetal anomalies may be cared for by Level IIB centres, following consultation with a Level III centre.

Appropriate community and social support services, including bereavement counseling are available to women and their families at Level II centres. Level II centres participate in the education of health professionals and may participate in research.

The provision of services at Level II centres involves collaboration and participation with Level I and III centres to facilitate the provision of coordinated and planned services within each health authority and across the province.

It is expected that Level II maternal and newborn centres will accept timely and appropriate referrals/transfers of women and infants from home births and transfers from Level I and III maternal and newborn centres, when appropriate.

Level III Centre

The classification of Level III centres distinguishes between the risks of mothers, fetuses, and infants.

IIIA: Investigations and care of moderate to high risk maternal (medical, surgical or obstetrical) and/or neonatal complications; investigations of potentially high risk fetal complications; multiple births of any gestation & infant weight; 24/7 in-house medical coverage; access to 24/7 on call obstetrician, and pediatrician/neonatologist; day time access to maternal fetal medicine specialist and access to subspecialists on a planned basis.

IIIB: Investigations and care of high risk maternal (medical, surgical or obstetrical), fetal and/or neonatal complications; multiple births of any gestation & infant weight; medical coverage as per IIIA with the addition of access to on-call 24/7 maternal fetal medicine specialists, selected adult specialists and subspecialists (internal medicine, general surgery, gynecology, urology, medical genetics), selected pediatric subspecialists (surgeons and cardiologists) and daily access to adult infectious disease specialists and other pediatric subspecialists.

IIIC: Investigations and care of very high risk maternal (medical, surgical or obstetrical), fetal and/or neonatal complications; multiple births of any gestation & infant weight; medical coverage as per IIIB with the addition of access to all on-call adult and pediatric specialists and sub-specialists that may not be available in Level IIIB centres; 24/7 access to sub-specialty intensive care beds (highly complex ICU, CCU, neuro ICU, dialysis or oncology management).

Level III maternal, fetal and newborn centres have all the functional capabilities provided at Level I and II centres. In addition, Level III centres offer on-site 24/7 specialist support and are capable of managing the investigation and/or care of women, fetuses, and/or infants at moderate to high (IIIA), high (IIIB) or very high risk.

Level III maternal centres provide specialty care to women with high-risk pregnancies, including multiple pregnancies and singleton pregnancies of all gestational ages. The level of investigation and care provided to women and their fetuses progressively increases between Levels IIIA and Level IIIC to the point where Level IIIC centres provide care to women and their fetuses either or both of which may have severe complications or require complex diagnostic/therapeutic/surgical procedures. Diagnostic/therapeutic/surgical procedures for the mother may include but not be limited to dialysis, CCU care, ICU care, neurology ICU and oncology management. Diagnostic/therapeutic/surgical procedures for the fetus may include but not be limited to laser ablation for twin-twin transfusion syndrome, in utero thorocentesis, in utero bladder shunt and cordocentesis.

Level III newborn centres provide specialty care to unwell, unstable infants. Level IIIC centres also offer support from sub-specialists and provide care to fetuses and infants with anticipated complicated antenatal genetic or fetal anomalies that are anticipated to require immediate neonatal or surgical interventions.

In collaboration, Level III centres are responsible for organizing education programs tailored to meet the needs of their maternal and newborn health professionals, and those in facilities within their health authority, and beyond. Level III centres are expected to initiate and participate in research.

Appropriate community and social support services, including bereavement counseling are available to women and their families at Level III centres. The provision of services at Level III centres involves collaboration and participation with Level I and II centres to facilitate the provision of coordinated and planned services within each health authority and across the province.

It is expected that Level III maternal and newborn centres will accept timely and appropriate transfers of women and infants from home births and transfers from Level I and II maternal and newborn centres.

Level III centres will transfer women and infants back to Level II and I centres when appropriate, and in a timely manner. Level III centres will continue to provide all levels of care for residents living in their immediate community.

Details of Levels of Perinatal Care

1. Scope of Services

A. Maternal Services

Level I Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level IA centres provide the following services²:</p> <ul style="list-style-type: none"> • Services to healthy pregnant women with singleton pregnancies that are expected to deliver at ≥ 36 wks gestation; women do not have any significant medical diseases likely to impact on pregnancy and are not anticipated to experience any significant pregnancy complications; fetal growth appears adequate and infant weight is expected to be $\geq 2,500$ gms. • Maternal-fetal assessment services, including identification of at-risk pregnancies, with early consultation and transfer of care as necessary. • Labour and delivery services, including vacuum and low forceps assisted deliveries. • In cases of unexpected complications, initiation of maternal resuscitation & stabilization in preparation for transfer. • Access to obstetrician services if required on an elective and emergent 24/7 basis (through a formalized mechanism). 	<p>Level IIA centres provide all services offered in Level I centres plus services to care for women:</p> <ul style="list-style-type: none"> • Experiencing dichorionic-diamniotic twin pregnancies and uncomplicated multiple gestation. • Experiencing low risk medical/obstetrical complications at ≥ 32 wks gestation where infant weight is expected to be $\geq 1,500$ gms. • Requiring induction or augmentation of labour.³ • Requiring access to: <ul style="list-style-type: none"> ○ On-call obstetricians, anesthetists, and/or pediatrician/neonatologist 24/7. ○ Maternal monitoring 24/7, including O₂ sat monitoring and ECG. ○ Medical, surgical, radiology, and/or pathology consultation available. <p>Level IIB: Provide all services offered in Level IIA</p>	<p>Level IIIA centres provide all services offered in Level II centres plus services to care for women:</p> <ul style="list-style-type: none"> • Experiencing complicated multiple gestation. • Experiencing mod to high risk and/or complex <i>medical, surgical and/or obstetrical</i> complications at any gestational stage or expected infant weights. • Experiencing potentially high risk fetal complications requiring further investigation. • Requiring access to: <ul style="list-style-type: none"> ○ 24/7 in-house coverage by appropriately trained and supervised medical staff (obstetrical, neonatal, anesthesia or pediatric trainee or nurse practitioner) & anesthetist. ○ 24/7 on-call obstetrician and pediatrician/neonatologist. ○ Day time access to maternal fetal medicine specialists. ○ Subspecialists on a planned basis (through a formalized mechanism). <p>Level IIIB: Provide all services offered in Level IIIA centres plus services to care for women:</p> <ul style="list-style-type: none"> • Experiencing high risk maternal (medical, surgical, or obstetrical), fetal, and/or neonatal complications.

² Gestational ages and birth weights are provided as guidelines and are not considered “absolute” figures.

³ May also be available in Level I centres equipped to deal with obstetrical emergencies in-house.

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level 1B: Provide all services offered in Level IA centres plus services to care for:</p> <ul style="list-style-type: none"> • Healthy, pregnant women with singleton pregnancies at ≥ 34 wks gestation where infant weight is expected to be $\geq 1,800$ gms. 	<p>centres to the same patient group plus services to care for pregnant women:</p> <ul style="list-style-type: none"> • Experiencing moderate risk medical/obstetrical complications. • Carrying a fetus(es) with anomalies, following consultation with Level III center. 	<p>Fetal complications may require access to specialized fetal diagnostic or therapeutic procedures.</p> <ul style="list-style-type: none"> • Requiring access to: <ul style="list-style-type: none"> ○ 24/7 on-call maternal fetal medicine, internal medicine, general surgery, gynecology, urology, medical genetics, pediatric surgery, pediatric cardiology specialists. ○ Infectious disease and pediatric subspecialists on a daily basis. <p>Level IIIC only: Provide all services offered in Level IIIA & IIIB centres plus sub-specialty services to care for women:</p> <ul style="list-style-type: none"> • Experiencing very high-risk and/or complex <i>medical, surgical and/or obstetrical</i> complications requiring ICU, CCU, neuro ICU care, dialysis or cancer management. • Experiencing very high risk <i>fetal complications</i> such as diagnoses of congenital malformations that require access to: <ul style="list-style-type: none"> ○ Special fetal diagnostic or therapeutic procedures. ○ Surgical, medical or pediatric subspecialty consultation or care that is not available in Level IIIA or IIIB centres. ○ Subspecialty ICU or specialty beds (highly complex ICU, CCU, neuro ICU, dialysis or cancer care).

B. Infant (Newborn) Services

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level IA centres provide the following services⁴:</p> <ul style="list-style-type: none"> Care for healthy infants at corrected gestational ages ≥ 36 wks or $\geq 2,500$ gms. Assessment and care for infants with transient conditions such as hypothermia, hypoglycemia responding to enteral feeds, respiratory distress with reducing or no oxygen requirement and hyperbilirubinemia responsive to phototherapy. Initiation of neonatal resuscitation & stabilization in preparation for transfer, including short-term assisted ventilation. Access to pediatric services if required on an elective and emergent 24/7 basis (through a formalized mechanism). <p>Level IB: Provide all services offered in Level IA centres plus services to care for:</p> <ul style="list-style-type: none"> Infants at corrected gestational ages ≥ 34 wks or $\geq 1,800$ gms who may have mild illnesses with problems that are expected to resolve quickly Convalescent infants with chronic lung disease needing long term O₂ & monitoring. Infants convalescing after a more intensive level of care 	<p>Level IIA centres provide all services offered in Level I centres plus services to care for:</p> <ul style="list-style-type: none"> Infants at corrected gestational ages ≥ 32 wks who have moderate illnesses with problems that are expected to resolve quickly but do not require ventilation (e.g., mild respiratory distress syndrome and suspected neonatal sepsis). Infants convalescing after intensive care. <p>Level IIB: Provide all services offered in Level IIA centres plus services to care for:</p> <ul style="list-style-type: none"> Infants at corrected gestational ages ≥ 30 wks who have moderate illnesses requiring short term ventilation (<48 hrs) or continuous positive airway pressure. Infants with fetal anomalies, following consultation with a level III centre. 	<p>Level IIIA centres provide all services offered in Level II centres plus services to care for:</p> <ul style="list-style-type: none"> Infants of all gestational ages & weights who are beyond the scope of the practice, resources and/or expertise of the referring hospital personnel (e.g., severe respiratory distress syndrome, sepsis, severe post resuscitation problems, significant congenital cardiac and other systems diseases and other special needs such as prolonged TPN). Infants may require: <ul style="list-style-type: none"> Intensive care monitoring Ventilation support Intensive, rapid or specialized investigations <p>Level IIIB: Provide all services offered in Level IIIA centres plus services to care for infants requiring:</p> <ul style="list-style-type: none"> Surgery Subspecialty access (see section on personnel) <p>Level IIIC: Provide all services offered in Level IIIB centres plus services to care for:</p> <ul style="list-style-type: none"> Infants with major congenital anomalies or complex organ failure Infants may require: <ul style="list-style-type: none"> Extra-corporeal membrane oxygenation Hemofiltration Hemodialysis Surgical repair of serious congenital cardiac malformations

⁴ Gestational ages and birth weights are provided as guidelines and are not considered “absolute” figures.

2. Tests/Treatments

A. Maternal Services

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level IA & IB:</p> <ul style="list-style-type: none"> • ECG and chest X-ray • C/S, as per the policy of the SOGC; if unable to follow SOGC policy, have a written screening, triage and transfer policy • Short term O2 stabilization • Short term IV stabilization • Initiate endotracheal intubation prior to transfer • Accessible lab, radiology and ultrasound support (see lab & radiology section below) 	<p>Level IIA & IIB:</p> <p>Provide all tests/treatments offered in Level I centres plus:</p> <ul style="list-style-type: none"> • Advanced maternal-fetal assessments (see lab & radiology sections). • Cardiotocographic⁵ capability • Continuous fetal monitoring (including scalp pH) • C/S within 30 min • Monitoring of O2 sats • O2 therapy, 24/7 • IV therapy, 24/7 • Administration of blood products • Endotracheal intubation • Detailed fetal anatomy ultrasound (Level IIB centres only) • Biochemical screening (Level IIB centres only) 	<p>Level IIIA & IIIB:</p> <p>Provide all tests/treatments offered in Level II centres plus the:</p> <ul style="list-style-type: none"> • Full range of non-invasive and invasive procedures/treatments required for maternal tertiary antenatal and intrapartum care and birth. <p>Level IIIC only:</p> <p>Provide all tests/treatments offered in Level III A & IIIB centres plus:</p> <ul style="list-style-type: none"> • ICU, CCU, neuro ICU care, dialysis or cancer care that is not available in Level IIIA or IIIB centres. • Special medical, surgical and genetic diagnostic or therapeutic procedures to diagnose and/or treat congenital malformation or other disorders that are not available in Level IIIA or IIIB centres. • Tests for advanced fetal diagnoses (e.g., targeted u/s and fetal echocardiography) and fetal therapy (e.g., intrauterine fetal blood transfusion and treatment of cardiac arrhythmias).

B. Infant (Newborn) Services

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level IA:</p> <ul style="list-style-type: none"> • ECG • Phototherapy • Short term O2 stabilization • Initiation of IV prior to transfer • Endotracheal intubation prior to transfer 	<p>Level IIA:</p> <p>Provide all tests/treatments offered in Level I centres plus:</p> <ul style="list-style-type: none"> • Maternal, hematology, chemistry • Lumbar puncture • Therapeutic drug monitoring • Administration of surfactant 	<p>Level IIIA:</p> <p>Provide all tests/treatments offered in Level II centres plus:</p> <ul style="list-style-type: none"> • All forms of assisted ventilation. • Full range of non-invasive and invasive procedures/treatments required for neonatal tertiary intensive care.

⁵ Fetal external heart rate monitoring.

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level 1B: Provide all tests/treatments offered in Level IA centres plus:</p> <ul style="list-style-type: none"> • Continuous monitoring of cardio-respiratory status, O2 sats, non-invasive BP monitoring • Long term O2 therapy • Maintenance of IV's, 24/7 • Gavage feeding 	<p>pending transfer</p> <ul style="list-style-type: none"> • Drainage of pneumothorax pending transfer • Availability of ophthalmologist to do eye exam on a regular basis. <p>Level IIB: Provide all tests/treatments offered in Level IIA centres plus:</p> <ul style="list-style-type: none"> • Conventional mechanical ventilation <48 hrs • Continuous positive airway pressure • Administration of all blood products • Initiation & maintenance of: <ul style="list-style-type: none"> • TPN • Chest tubes • Umbilical central lines • Percutaneous IV central lines. • Arterial puncture • Catheterization of umbilical vein &/or artery 	<ul style="list-style-type: none"> • Exchange transfusions <p>Level IIIB: Provide all tests/treatments offered in Level IIIA centres plus:</p> <ul style="list-style-type: none"> • Most types of major surgery • On call sub-specialist support (see personnel section). <p>Level IIIC: Provide all tests/treatments offered in Level IIIB centres plus:</p> <ul style="list-style-type: none"> • Extra-corporeal membrane oxygenation • Hemofiltration • Hemodialysis • Surgical repair of serious congenital cardiac malformations that require cardiopulmonary bypass

3. Personnel

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<p>Level IA & 1B:</p> <p>Physicians/Midwives</p> <ul style="list-style-type: none"> • Family physician and/or midwife on call 24/7 & available to respond within 30 min. • Formalized network with access to obstetrical, pediatric, medical, surgical, radiology & pathology consultation and anesthesia services. 	<p>Level IIA:</p> <p>Require all personnel identified in Level I centres plus:</p> <p>Physicians/Midwives</p> <ul style="list-style-type: none"> • Obstetrician, pediatrician/neonatologist & anesthetist on call 24/7 (& available to respond within 30 min.) • Medical, surgical, general 	<p>Level IIIA</p> <p>Require all personnel identified in Level II centres plus:</p> <ul style="list-style-type: none"> • In-house coverage by appropriately trained and supervised medical staff (e.g., obstetrical, neonatal, anesthesia or pediatric trainee, nurse practitioner certified to perform the full range of resuscitation) • In-house anesthetist 24/7 • On call obstetrician/neonatologist 24/7 • Daytime access to maternal fetal medicine specialists • Arrangements to access subspecialists if needed

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
<ul style="list-style-type: none"> For 1B, personnel capable of performing c-sections (surgery & anaesthesia, specialist or general practitioner with specialized training). <p>Nurses:</p> <ul style="list-style-type: none"> Women: In-house 24/7; 1:1 staffing ratio during active labour. Babies: <ul style="list-style-type: none"> 1A: 1:4 in post partum (mother & baby pair). 1B: 1:3 in nurseries, depending upon specific illnesses, circumstances & mix of babies in the nursery. <p>Other</p> <ul style="list-style-type: none"> Capacity to provide neonatal resuscitation according to National Guidelines for Neonatal Resuscitation (section 2.19). 	<p>intensivist, general surgical consultation available.</p> <ul style="list-style-type: none"> Obstetrical imaging available 24/7 <p>Nurses:</p> <ul style="list-style-type: none"> Women: as per L1. Babies: <ul style="list-style-type: none"> 2A: 1:2 - 3, depending upon specific illnesses, circumstances & mix of babies in the nursery. 2B: 1:2, depending upon specific illnesses, circumstances & mix of babies in the nursery (may be 1:1 if not nurses do not regularly care for L2B babies). <p>Other</p> <ul style="list-style-type: none"> In-house capacity to provide neonatal resuscitation Allied Health (social worker, physiotherapist, occupational therapist, dietician & pastoral care/bereavement support) <p>Level IIB:</p> <ul style="list-style-type: none"> If infant(s) is on assisted ventilation or continuous positive airway pressure, a physician, nurse or respiratory therapist with intubation skills is in-house 24/7. 	<p>Level IIIB & IIIC</p> <p>Require all personnel identified in Level IIIA centres plus:</p> <ul style="list-style-type: none"> Access to 24/7 sub-specialists: <ul style="list-style-type: none"> Maternal: maternal fetal medicine, internal medicine, general surgery, gynecology, urology & medical genetics Pediatric: pediatric surgery & cardiology Access to sub-specialists daily: <ul style="list-style-type: none"> Maternal infectious disease specialist Pediatric neurologist, medical geneticist, nephrologist, endocrinologist, gastroenterologist, ENT specialist, ophthalmologist, respirologist, hematologist, infectious disease specialist, pediatric surgical subspecialists & child developmental specialist. <p>Level IIIA, IIIB & IIIC:</p> <p>Nurses:</p> <ul style="list-style-type: none"> Women: as per L1. Babies: 2:1 or 1:1 or 1:2, depending upon specific illness & circumstances; 1:4 post partum (mother & baby pair). <p>Other:</p> <ul style="list-style-type: none"> Respiratory therapist in-house 24/7. In-house radiology & laboratory staff & physicians In house pharmacist

4. Diagnostic Facilities

A. Laboratory

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
General Laboratory		
Level IA & IB: <ul style="list-style-type: none"> • Available 24/7 (micro technique for neonates) • < 1 hr: Hct, glucose, total bilirubin, routine u/a & blood gases. • 1-6 hrs: CBC, platelet appearance on smear, blood chemistries, blood type & cross match, Coombs tests, bacterial smear • 24-48 hrs: Bacterial cultures & sensitivities, drug screen • Within hospital or facilities available: viral culture & antibodies 	Level IIA & IIB: <p>Require all services available Level I centres plus:</p> <ul style="list-style-type: none"> • <1 hr: 'lytes, BUN, Cr, coagulation studies, blood from type & screening program • 1-6 hrs: WBC diff, coagulation studies, Mg & Ca, urine 'lytes and chemistries, hepatitis B screen • 24-48 hrs: liver function tests, metabolic screening, serum ammonia, HIV screen, therapeutic drug monitoring (e.g., caffeine, tobramycin, vancomycin) • Access to biochemical screening (Level IIB centres only) 	Level IIIA, IIIB & IIIC: <p>Require all services available Level II centres plus:</p> <ul style="list-style-type: none"> • <1 hr: special blood & amniotic fluid tests • 24-48 hrs: special tests, including plasma and urine amino acids and organic acids • Within hospital or facilities available: polymerase chain reaction for viruses and electron microscopy
Blood Bank		
	Level IIA & IIB: <p>Require all services available Level I centres plus:</p> <ul style="list-style-type: none"> • Technologists on call 24/7 for blood-banking procedures and identification of irregular antibodies. 	Level IIIA, IIIB & IIIC: <ul style="list-style-type: none"> • In house technologist 24/7
Pathology		
Level IA & IB: <ul style="list-style-type: none"> • Prior agreement with another centre (transfer of infant or specimen) 	Level IIA & IIB: <ul style="list-style-type: none"> • General pathologist available daily 	Level IIIA, IIIB & IIIC: <ul style="list-style-type: none"> • Maternal and newborn pathologist available daily

B. Radiology

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
Level IA & IB: <ul style="list-style-type: none"> • Access to radiology & ultrasound technologists, M-F days. 	Level IIA: Require all services available Level I centres plus: <ul style="list-style-type: none"> • Radiology technologists available in-house 24/7 • U/S technologists available on call 24/7 • Obstetrical u/s available & capable of identifying placental position & fetal presentation. • Portable x- rays available within a short delay • Doppler u/s available Level IIB: <ul style="list-style-type: none"> • Portable x-rays available within a brief delay 24/7 • Obstetrical u/s capable of detailed fetal anatomy ultrasound examination. • Neonatal head u/s available, with radiology consultation 	Level IIIA, IIB & IIC: Require all services available Level II centres plus: <ul style="list-style-type: none"> • Portable x-rays available 24/7, within a very brief delay • Head u/s available 7 d/wk, with rapid radiology consultation • U/S, CT, MRI accessible, with interpretation available within 6 hrs

C. Echocardiography

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
Level IA & IB: <ul style="list-style-type: none"> • Nil 	Level IIA & II B: <ul style="list-style-type: none"> • Available weekdays, with interpretation within 24 hrs 	Level IIIA, IIB & IIC: <ul style="list-style-type: none"> • Available weekdays, with interpretation within 6 hrs, 24/7

D. Electroencephalogram (EEG)

Level 1 Centres (IA & IB)	Level II Centres (IIA & IIB)	Level III Centres (IIIA, IIIB & IIIC)
Level IA & IB: <ul style="list-style-type: none"> • Nil 	Available weekdays, with interpretation within 24 hrs	As per Level II.

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