

2015

Revised Indiana Perinatal Hospital Standards



Revisions approved by the IPQIC Governing Council
June 16, 2015

Revised Indiana Perinatal Hospital Standards

Standard	Title	Summary
I	Organization	Refers to the administration of a hospital's neonatal-perinatal programs.
II	Obstetrical Unit Capabilities	Refers to the resources of equipment, supplies, and personnel needed for the delivery unit within the hospital.
III	Obstetric Personnel	Describes the roles, responsibilities, and availability of obstetric personnel in the perinatal program.
IV	Obstetric Support Personnel	Describes the roles, responsibilities, and availability of the other personnel in the obstetric program.
V	Obstetric Equipment	Refers to the availability of specific equipment needed for the obstetric program.
VI	Obstetric Medications	Refers to the availability of specific medications needed for the obstetric program.

DEFINITIONS

At the Site: on staff at the institution

Board-certified: Means a physician certified by an American Board of Medical Specialties Member Board or the American Osteopathic Association.

Immediately available: A resource available on site as soon as it is requested.

In-house/Onsite: Physically present in the hospital

Perinatal Center: A hospital designated as a perinatal center must meet the ACOG and AAP guidelines for a Level III/IV Obstetric Unit and a Level III/IV Neonatal Unit and carry out the responsibilities outlined in the Indiana Coordinated Perinatal Systems of Care.

Programmatic responsibility: The writing, review and maintenance of practice guidelines; policies and procedures; development of operating budget (in collaboration with hospital administration and other program directors); evaluations and guiding of the purchase of equipment; planning, development and coordination of education programs (in-hospital and/or

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outreach as applicable); participation in the evaluation of perinatal care; and participation of perinatal quality improvement and patient safety activities.

Readily available: A resource for consults and assistance available within a short time after it is requested.

30 minutes: In-house within thirty (30) minutes. (Exceptions may occur for circumstances beyond an individual's control such as extraordinary weather or traffic impediments).

Levels of Care Chart Key

E Essential requirement for level of perinatal center

O Optional requirement for level of perinatal center

NA Not Applicable

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OBSTETRICAL DEFINITIONS

Level I

Level I hospitals have perinatal programs that provide basic care to pregnant women and infants, as described by these standards and as stated in Indiana Administrative Code (IAC) Title 410: Article 15. **Level I facilities (basic care) provide care to women who are low risk and are expected to have an uncomplicated birth.** These hospitals provide delivery room and normal newborn care for stable infants ≥ 35 0/7 weeks gestation. **Level I facilities have the capability to perform routine intrapartum and postpartum care that is anticipated to be uncomplicated. Maternity care providers, midwives, family physicians, or obstetrician–gynecologists should be available to attend all births.** These hospitals do not accept maternal transports from hospitals with obstetrical services.

Level II

Level II obstetrical services have perinatal programs that provide specialty care to pregnant women and infants, as described by these standards. **Level II facilities (specialty care) provide care to appropriate high-risk pregnant women, both admitted and transferred to the facility. In addition to the capabilities of a Level I (basic care) facility, Level II facilities should have the infrastructure for continuous availability of adequate numbers of RNs who have demonstrated competence in the care of obstetric patients (women and fetuses).** These hospitals provide delivery room and acute specialized care for infants $\geq 1,500$ grams **AND** ≥ 32 0/7 weeks gestation. Maternal care is limited to term and preterm gestations that are maternal risk appropriate. **Although midwives and family physicians may practice in Level II facilities, an attending obstetrician–gynecologist should be available at all times.** A board certified obstetrician has responsibility for programmatic management of obstetrical services. These hospitals may receive maternal referrals within the guidelines of their level.

Level III

Level III hospitals have obstetrical programs that provide subspecialty care for pregnant women and infants, as described by these standards. **Designation of Level III should be based on the demonstrated experience and capability of the facility to provide comprehensive management of severe maternal and fetal complications.** These hospitals provide acute delivery room and neonatal intensive care unit (NICU) care for high-risk mothers and infants $< 1,500$ grams **OR** < 32 0/7 weeks gestation.

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Maternal care spans the range of normal term gestation care to the management of complex maternal complications and prematurity. **The director of the maternal–fetal medicine service should be a board-certified maternal–fetal medicine subspecialist. A board-certified obstetrician–gynecologist with special interest and experience in obstetric care should direct obstetric services.** Level III obstetrical hospitals accept risk appropriate maternal transports. In accepting maternal transports the level of neonatal care required for an anticipated delivery and care of the neonate must be in place.

Level IV

Level IV facilities (regional perinatal health care centers) include the capabilities of Level I, Level II, and Level III facilities with additional capabilities and considerable experience in the care of the most complex and critically ill pregnant women throughout antepartum, intrapartum, and postpartum care. In addition to having ICU care onsite for obstetric patients, a Level IV facility must have evidence of a maternal–fetal medicine care team that has the expertise to assume responsibility for pregnant women and women in the postpartum period who are in critical condition or have complex medical conditions. A maternal–fetal medicine team member with full privileges is available at all times for on-site consultation and management. The team should be led by a board-certified maternal–fetal medicine subspecialist with expertise in critical care obstetrics. The director of obstetric services is a board-certified maternal–fetal medicine subspecialist or a board-certified obstetrician–gynecologist with expertise in critical care obstetrics. In accepting maternal transports the level of neonatal care required for an anticipated delivery and care of the neonate must be in place.

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STANDARD I. ORGANIZATION-GOVERNING BOARD RESPONSIBILITIES

1.1 The hospital's Board of Directors, administration, and medical and nursing staffs shall demonstrate commitment to its specific level perinatal center designation and to the care of perinatal patients. This commitment shall be demonstrated by a Board resolution that:

- a) The hospital agrees to meet the Indiana Perinatal System Standards for its specific level of designation through its commitment to the financial, human, and physical resources and to the infrastructure that is necessary to support the hospital's level of care designation.
- b) The hospital agrees to conduct internal auditing and attestation using screening forms provided by the Indiana State Department of Health (ISDH). Once the ISDH form is completed, it is to be signed by the CEO to verify that information submitted is true and accurate.
- c) The hospital assures that all perinatal patients shall receive medical care commensurate with the level of the hospital's designation.
- d) The hospital agrees to be responsible for credentialing, licensing and training of all neonatal and obstetrical staff based on the hospital's designated level of care. The hospital is also responsible for ensuring that all health care workers maintain current licenses, registration or certification, and keep documentation of this information with the ability to have the material available within a reasonable amount of time. 410 IAC 15-1.4-1
- e) The hospital agrees to have written medical staff policies and procedure to address emergent neonatal and obstetrical emergencies, initiating treatment and referring when appropriate. The hospital will be able to provide immediate life saving measures and have the appropriate staff readily available to care for emergent neonatal and obstetric patient needs, including timely assessment, stabilization, and treatment prior to transfer. Transfers should be arranged when needed along with copies of the patients' records and treatments provided to the accepting facility 410 IAC 15-1.4-1

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STANDARD II. OBSTETRICAL UNIT CAPABILITIES	I	II	III	IV
2.1 The hospital shall demonstrate its capability of providing uncomplicated and complicated obstetrical care through written standards, protocols, guidelines and training including the following:				
a) Managing unexpected obstetrical and neonatal problems.	E	E	E	E
b) Providing fetal monitoring, including internal scalp electrode monitoring.	E	E	E	E
c) Initiating an emergent cesarean delivery within a time interval that best incorporates maternal and fetal risks and benefits with the provision of emergency care.	E	E	E	E
d) Selecting and managing obstetrical patients at a maternal risk level appropriate to its capability.	E	E	E	E
e) Providing critical care services appropriate for obstetrical patients, as demonstrated by having a critical care unit and a board-certified critical care specialist, readily available at all times.	NA	NA	E	E
f) Assuring availability of anesthesia, radiology, ultrasound, laboratory, and blood bank services at all times	E	E	E	E
g) Determining the level of competence and qualifications required for staff to assume clinical responsibility for neonatal resuscitation 24 hours a day and 7 days a week.	E	E	E	E
h) Initiating maternal transports to an appropriate level.	E	E	E	E
i) Having a written plan for accepting level based maternal transports	O	E	E	E
j) Having written plan for consultation and transfer arrangements.	E	E	E	E
k) Having protocols and capabilities for massive transfusion, emergency release of blood products (before full compatibility testing is complete) and management of multiple component therapy.	E	E	E	E
2.2 The maternity service has access to the hospital's laboratory services including 24-hour capability to provide blood group, Rh type, cross-matching, antibody testing and basic emergency laboratory evaluations, and either ABO-Rh-specific or O-Rh-negative blood and fresh frozen plasma and cryoprecipitate at the facility at all times.	E	E	E	E
2.3 Hospital shall follow current CDC/ACOG recommendations regarding induction of labor, Group B streptococci (GBS) treatment, and HIV treatment.	E	E	E	E
2.4 The hospital shall have genetic diagnostic and counseling services or policy for	O	E	E	E

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STANDARD II. OBSTETRICAL UNIT CAPABILITIES	I	II	III	IV
consultation referrals for these services in place.				
2.5 The hospital shall have a laboratory capable of performing fetal lung maturity tests.	O	E	E	E
2.6 The hospital shall have a full range of invasive maternal monitoring available to the delivery area, including equipment for central venous pressure and arterial pressure monitoring.	O	O	E	E
2.7 The hospital shall have special equipment needed to accommodate the care and services needed for obese women.	O	E	E	E
2.8 The hospital shall have appropriate equipment and personnel available on site to ventilate and monitor women in labor and delivery until safely transferred to an ICU	NA	NA	E	E
2.9 The hospital ICU collaborates actively with the MFM care team in the management of all pregnant women and women in the postpartum period who are in critical condition or have complex medical conditions. The hospital ICU co-manages ICU admitted obstetric patients with the MFM team.	NA	NA	E	E
2.10 Hospitals offering a trial of labor for patients with a prior cesarean delivery must have immediately available appropriate facilities and personnel with the capacity for anesthesia, cesarean section, and neonatal resuscitation capability during the trial of labor.	E	E	E	E

STANDARD III. OBSTETRIC PERSONNEL	I	II	III	IV
3.1 At a minimum, each delivery hospital must have the following primary delivery providers available to attend all deliveries when a patient is in active labor:				
a) Obstetric provider (OB-GYN, Surgeon or Family Practice physician with additional training in obstetrics) with appropriate training and privileges to perform emergency cesarean delivery should be available to attend all deliveries.	E	NA	NA	NA
b) A provider board-certified or board eligible in obstetrics/gynecology or maternal-fetal medicine available at all times	NA	E	E	E
c) A provider board-certified or board eligible in obstetrics/gynecology or	NA	NA	E	E

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STANDARD III. OBSTETRIC PERSONNEL	I	II	III	IV
maternal-fetal medicine onsite at all times				
3.2 A provider (or providers) board-certified or board eligible in maternal-fetal medicine shall be:				
a) Available for consultation on-site, by phone or by telemedicine as needed.	E	E	NA	NA
b) Available at all times onsite, by phone or by telemedicine with inpatient privileges	NA	O	E	NA
c) Available at all times for onsite consultation and management	NA	NA	O ¹	E
3.3 A provider board-certified in obstetrics/gynecology with experience and interest in obstetrics shall be a member of the medical staff and have responsibility for programmatic management of obstetrical services.	O	E	E	NA
3.4 A provider board-certified in maternal-fetal medicine or board-certified in obstetrics/gynecology with expertise in critical care obstetrics, shall be a member of the medical staff and have responsibility for programmatic management of high-risk obstetrical services.	NA	O	O ²	E
3.5 A board-certified nurse-midwife with obstetrical privileges may be a member of the obstetrical staff in collaboration with a licensed physician with obstetrical privileges.	O	O	O	O
3.6 Medical and Surgical Consultant services must be available commensurate with the level of care provided.				
a) Established agreement with a higher-level receiving hospital for timely transport, including determination of conditions necessitating consultation and referral	E	NA	NA	NA
b) Medical and Surgical consultants available to stabilize	NA	E	E	E
c) Full complement of subspecialists available for inpatient consultation including critical care, general surgery, infectious disease, hematology, cardiology, nephrology, neurology, and neonatology.	NA	NA	E	E
d) Adult medical and surgical specialty and sub-specialty consultants immediately available at all times including those indicated in Level III and advanced neurosurgery or cardiac surgery.	NA	NA	NA	E

¹ Expected for hospitals wishing to be designated as a Perinatal Center

² Expected for hospitals wishing to be designated as a Perinatal Center

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STANDARD III. OBSTETRIC PERSONNEL	I	II	III	IV
3.7 Anesthesia service should meet the needs of the patients served, within the scope of the service offered, in accordance with acceptable standards of practice, and under the direction of a qualified physician.	E	E	E	E
a) Anesthesia services should be available to provide labor analgesia and surgical anesthesia.	E	E	E	E
b) A provider board-certified or board eligible in anesthesiology with special training or experience in obstetrics shall be readily available for consultation.	O	E	NA	NA
c) A provider board-certified or board eligible in anesthesiology with special training or experience in obstetrics shall be available at all times onsite.	O	O	E	E
3.8 A provider board-certified in anesthesiology shall be a member of the medical staff and have responsibility for programmatic management of anesthesia services.	E	E	E	E
3.9 The hospital shall have appropriately qualified medical staff available to perform and interpret obstetric ultrasonography at all times.	E	E	E	E
3.10 The hospital shall have appropriately qualified medical staff to perform and interpret computed tomography scans, magnetic resonance imaging with interpretations for maternal and fetal assessment	NA	E	E	E
3.11 The hospital shall have appropriately qualified medical staff to perform basic interventional radiology, maternal echocardiography, computed tomography, magnetic resonance imaging and nuclear medicine imaging with interpretation, detailed obstetric ultrasonography and fetal assessment including Doppler studies available at all times.	O	O	E	E
3.12 The hospital shall have appropriately qualified nursing personnel in adequate numbers to meet the needs of each patient in accordance with the care setting including:	E	E	E	E
a) A registered nurse with demonstrated training and experience in the assessment, evaluation and care of patients in labor present at all deliveries.	E	E	E	E
b) A registered nurse skilled in the recognition and nursing management of the complications of labor and delivery readily available if needed to the labor and delivery unit at all times.	E	E	E	E

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STANDARD III. OBSTETRIC PERSONNEL	I	II	III	IV
c) An advance practice nurse (CNS or NP) with perinatal experience is available to the staff to foster continuous quality improvement, supervise education and participate in administrative functions.	NA	NA	E	E
d) All nurses working with antepartum patients at high risk should have evidence of continuing education in maternal-fetal nursing and special training and experience in the management of women with complex maternal illnesses and obstetric complications.	NA	NA	E	E
3.13 A hospital program shall have the following nursing leadership capacity:				
a) An on-duty registered nurse whose responsibilities include the organization and supervision of antepartum, intrapartum and neonatal nursing services	E	E	E	E
b) A director of perinatal nursing services who has overall responsibility for inpatient activities in the obstetric area and has demonstrated expertise in obstetric care.	O	E	NA	NA
c) A director of perinatal nursing services, masters prepared or actively seeking a masters degree who has overall responsibility for inpatient activities in the obstetric area and has demonstrated expertise in obstetric care as well as in the care of patients at high risk. .	NA	NA	E	E
d) A registered nurse who is masters prepared or is actively seeking a masters degree should be on staff to coordinate education.	NA	NA	E	E
3.14 At least one person capable of initiating neonatal resuscitation shall be present at every delivery.	E	E	E	E

STANDARD IV. OBSTETRIC SUPPORT PERSONNEL	I	II	III	IV
4.1 The hospital shall have appropriately qualified pharmacy personnel in adequate numbers to meet the needs of each patient in accordance with the care setting including: IAC 15-1.5-7(3)	E	E	E	E
a) Registered pharmacist available for telephone consultation 24 hours per day and 7 days per week.	E	NA	NA	NA
b) Registered pharmacist available 24 hours per day and 7 days per week.	O	E	E	E

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STANDARD IV. OBSTETRIC SUPPORT PERSONNEL	I	II	III	IV
c) Registered pharmacist with experience in perinatal/neonatal pharmacology available 24 hours per day and 7 days per week.	NA	O	E	E
4.2 The hospital shall have at least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the special needs of both women and neonates at high risk	O	E	E	E
4.3 The hospital shall provide lactation support per AWHONN and ILCA recommendation:				
a) Level I 1.3 FTE per 1000 deliveries per year	E	NA	NA	NA
b) Level II 1.6 FTE per 1000 deliveries per year	NA	E	NA	NA
c) Level III/IV 1.9 FTEs per 1000 deliveries	NA	NA	E	E
4.4 The hospital shall have a licensed social worker or RN Case Manager with experience in psychosocial assessment and intervention with women and their families readily available to the perinatal service.	E	E	E	E
4.5 The hospital shall have at least one staff member with expertise in bereavement responsible for the hospital's bereavement activities, including a systemic approach to ensuring that individuals in need receive the appropriate services.	O	E	E	E
4.6 A registered nurse shall supervise licensed practical nurses and other licensed patient care staff who demonstrate knowledge and clinical competence in the nursing care of women, fetuses, and newborns during labor, delivery, and the postpartum and neonatal periods.	E	E	E	E
4.7 Blood bank technicians shall be immediately available 24 hours a day.	O	E	E	E

STANDARD V. OBSTETRIC EQUIPMENT	I	II	III	IV
5.1 The hospital shall have equipment for performing interventional radiology services for obstetrical patients.	O	O	E	E
5.2 The hospital will have the following equipment available and the capability to use as indicated. :				
a) Non-stress and stress testing	E	E	E	E
b) Ultrasonography	E	E	E	E
c) Ultrasonography with Doppler Capability	O	O	E	E
d) Portable obstetric ultrasonography equipment, with the services of	O	E	E	E

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STANDARD V. OBSTETRIC EQUIPMENT	I	II	III	IV
appropriate support staff, shall be available in the delivery area				
e) Computed Tomography	O	E	E	E
f) Magnetic Resonance Imaging	NA	O	E	E
g) Nuclear Medicine Imaging	NA	O	E	E
h) Amniocentesis	O	E	E	E
i) Cardioversion/defibrillation capability for mothers	E	E	E	E
j) Resuscitation equipment for mothers	E	E	E	E
k) Adult bag and mask systems capable of delivering a controlled concentration of oxygen	E	E	E	E
l) Orotracheal tubes, endotracheal tubes in a range of sizes for adult intubation	E	E	E	E
m) Wall suction and aspiration equipment	E	E	E	E
n) Laryngoscopes	E	E	E	E
o) Blood pressure cuffs in full range of sizes, for manual and machine use	E	E	E	E
p) Pulse oximeter	E	E	E	E
q) Arterial blood gas machine	E	E	E	E
r) Fiberoptic scopes for awake intubation	E	E	E	E
s) Arterial line kits	NA	O	E	E
t) Central venous line kits	NA	O	E	E
u) Invasive hemodynamic monitoring equipment	NA	NA	E	E
v) Adult echocardiography equipment	NA	NA	E	E
w) Individual oxygen, air O2 blended and humidified capability, and suction outlets	E	E	E	E
x) Emergency call system	E	E	E	E

STANDARD VI. OBSTETRIC MEDICATIONS	I	II	III	IV
6.1 All emergency resuscitation medications and equipment needed to initiate and maintain resuscitation shall be present in the delivery area in accordance with Advanced Cardiac Life Support (ACLS), Neonatal Resuscitation Program.	E	E	E	E
6.2 The following medications shall be in the delivery area or immediately available to the delivery area:				

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STANDARD VI. OBSTETRIC MEDICATIONS	I	II	III	IV
a) Oxytocin (Pitocin)	E	E	E	E
b) Methylergonovine (Methergine)	E	E	E	E
c) 15-methyl prostaglandin F2 (Prostin)	E	E	E	E
d) Misoprostol	E	E	E	E
e) Carboprost tromethamine (Hemabate)	E	E	E	E
f) Narcotics	E	E	E	E
g) Antibiotics	E	E	E	E
h) Magnesium sulfate	E	E	E	E
i) Naloxone	E	E	E	E
j) Lorazepam	E	E	E	E

NEONATAL SECTION - DEFINITIONS

THESE STANDARDS REFLECT THE REVISED AAP POLICY STATEMENT ON LEVELS OF NEONATAL CARE 2012³

Level I

Hospitals have neonatal programs that provide a basic level of care to infants who are low risk, as described by these standards. These hospitals provide normal newborn care for infants ≥ 35 0/7 weeks gestation who are physiologically stable. They must have the capabilities to perform neonatal resuscitation at every delivery and to evaluate and provide routine postnatal care for healthy newborn infants. Level I hospitals must be able to stabilize newborn infants who are less than 35 weeks of gestation or who are ill until they can be transferred to a facility at which specialty neonatal care is provided. Board certified pediatricians or family physicians with privileges for newborn resuscitation supervise these units. These neonatal units do not provide pediatric subspecialty or neonatal surgical specialty services. These hospitals do not receive primary infant or maternal referrals.

³ The AAP Committee on Fetus and Newborns issued the Policy Statement on Levels of Neonatal Care on August 27, 2012.

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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Level II

Hospitals have neonatal programs that provide specialty care to infants, as described by these standards. These hospitals must have the ability to provide care for stable or moderately ill infants $\geq 1,500$ grams **AND** ≥ 32 0/7 weeks gestation with problems that are expected to resolve rapidly and not anticipated to need subspecialty-level services on an urgent basis. These hospitals must have the ability to provide assisted conventional ventilation or continuous positive airway pressure or both for brief durations, generally less than 24 hours. Level II nurseries must have the ability to stabilize infants born before 32 weeks gestation and weighing less than 1500 grams until transfer to a neonatal intensive care facility. Level II nurseries must have equipment and personnel continuously available to provide ongoing care as well as to address emergencies. These hospitals do not receive primary infant transports. The hospital shall have a written plan for accepting or transferring mothers or neonates as “back transports” for ongoing convalescent care, including criteria for accepting the patient and patient information on the required case. These neonatal units are supervised by a board-certified pediatrician, and have prearranged consultative agreements with a level III or IV center.

Level III

Hospitals provide subspecialty care for infants as described by these standards. These hospitals provide acute and comprehensive NICU care for infants who are born at ≤ 32 weeks gestation and ≤ 1500 grams at birth, or have medical or surgical conditions regardless of gestational age or weight. Designation of Level III care should be based on clinical experience as demonstrated by large patient volume, increasing complexity of care, and availability of pediatric medical subspecialists and pediatric surgical specialists⁴. Pediatric surgical specialists (including anesthesiologists with pediatric experience) should perform all procedures in newborn infants. Pediatric ophthalmology services and an organized program for the monitoring, treatment, and follow-up of retinopathy of prematurity should be readily available in Level III nurseries. The neonatal units are supervised by Board-certified neonatologists and offer continuous availability of neonatologists. Neonatal units provide a

⁴ According to the AAP policy statement “*Although little debate exists on the need for advanced neonatal services for the most immature and surgically complex neonates, ongoing controversies exist regarding which facilities are qualified to provide these services and what is the most appropriate measure for such qualification. These issues are, in general, based on the need for comparison of facility experience (measured by patient volume or census), location (inborn/outborn deliveries, regional perinatal center, or children’s hospital) or case-mix (including stillbirths, delivery room deaths, and complex congenital anomalies).*” There is an expectation that the next review of the AAP Levels of Neonatal Care policy statement will indicate appropriate patient volume for each level of neonatal care.

The AAP Policy Statement on Levels of Neonatal Care, August 27, 2012. www.pediatrics.org/cgi/doi/10.1542/peds.2012-1999

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full range of respiratory support that may include conventional ventilation, and/or inhaled nitric oxide, and/or high-frequency ventilation if suitable equipment and properly trained personnel are available. Pediatric medical subspecialty services may be provided onsite or consultation may be provided at a closely related institution which allows for emergency transport within a reasonable time between institutions. Pediatric surgical and anesthesiology subspecialists may be on site or at a closely related institution to perform major surgeries. Neonatal care capability includes advanced imaging, with interpretation on an urgent basis that includes computed tomography, magnetic resonance imaging, and echocardiography. Level III perinatal hospitals accept risk-appropriate maternal and neonatal transports. The hospital shall have a written plan for accepting or transferring mothers or neonates as “back transports” for ongoing convalescent care, which includes criteria for accepting the patient and patient information on the required case.

Level IV

Hospitals provide comprehensive subspecialty neonatal care services, as described by these standards. These hospitals provide acute NICU care for infants of all birth weights and gestational ages. In addition, the neonatologists assist in the management of fetuses who are extremely premature or have complex problems that render significant risk of preterm, delivery, and postnatal complications. The neonatal units are supervised by Board-certified neonatal-perinatal subspecialists and offer continuous availability of neonatologists. Advanced modes of neonatal ventilation and life-support are provided, including high frequency ventilation, inhaled nitric oxide and/or extracorporeal membrane oxygenation (ECMO). These neonatal units provide a full range of medical pediatric subspecialty services. Additionally, a full range of pediatric subspecialty surgical services and pediatric anesthesiologists are available at the site, including pediatric cardio-thoracic open-heart surgery and pediatric neurosurgery. Level IV perinatal hospitals accept maternal and neonatal transports. These hospitals facilitate transport and provide outreach education.

STANDARD VII. NEONATAL UNIT CAPABILITIES	I	II	III	IV
7.1 The hospital shall demonstrate its capability of providing neonatal care through written standards, protocols, guidelines, and training, that include the following:				
a) Providing resuscitation and stabilization of unexpected neonatal problems according to the most current Neonatal Resuscitation	E	E	E	E

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STANDARD VII. NEONATAL UNIT CAPABILITIES	I	II	III	IV
Program (NRP) guidelines.				
b) Selecting and managing neonatal patients at a neonatal risk level appropriate to its capability.	E	E	E	E
c) Managing all neonatal patients including those requiring advanced modes of neonatal ventilation and life-support; pediatric subspecialty services; and pediatric subspecialty surgical services at the site or a closely related institution by prearranged consultative agreement.	NA	NA	E	NA
d) Managing all neonatal patients including those requiring advanced modes of neonatal ventilation and life-support; pediatric medical subspecialty services; and pediatric subspecialty surgical services such as pediatric cardio-thoracic open-heart surgery and pediatric neurosurgery within the institution.	NA	NA	NA	E
7.2 The hospital shall have equipment for performing interventional radiology services for neonatal patients.	NA	NA	O	E
7.3 The following medications shall be immediately available to the neonatal units:				
a) Antibiotics, anticonvulsants, and emergency cardiovascular drugs.	E	E	E	E
b) Surfactant, prostaglandin E1.	O	O	E	E
7.4 Hospital shall follow current CDC/AAP/ACOG recommendations related to the care of the newborn including but not limited to such areas as: Group Streptococci, HIV, positioning, circumcision.	E	E	E	E

STANDARD VIII. NEONATAL PERSONNEL	I	II	III	IV
8.1 The hospital shall have appropriately qualified neonatal medical staff personnel, available as listed below for each level of care.				
a) The hospital shall have consulting relationships in place with a pediatric cardiologist, a surgeon and an ophthalmologist who has experience and expertise in neonatal retinal examination.	O	E	NA	NA
b) The hospital shall have access to pediatric ophthalmology services	NA	O	E	E

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STANDARD VIII. NEONATAL PERSONNEL	I	II	III	IV
c) The hospital shall have availability to perform stat and routine cardiac echo and EEGs 24 hours a day and 7 days a week, and available interpretation for stat cardiac echo within 1 hour and for routine studies within 24 hours.	NA	O	E	E
d) The hospital shall have prompt and readily available access to a full range of pediatric medical subspecialists, pediatric surgical specialists, anesthesiologists with pediatric experience, and pediatric ophthalmologists at the site or at a closely related institution by prearranged consultative agreement.	NA	O	E	NA
e) The hospital shall maintain a full range of pediatric medical subspecialists, pediatric surgical subspecialists, and anesthesiologists with pediatric experience at the site.	NA	O	O	E
f) The hospital shall be located within an institution with the capability to provide on-site pediatric surgical care of complex congenital or acquired conditions.	NA	NA	NA	E
8.2 A provider board-certified in pediatrics or family medicine shall be a member of the medical staff, have privileges for neonatal care, and have responsibility for programmatic management for neonatal unit services.	E	NA	NA	NA
8.3 A provider board-certified in pediatrics or in neonatal-perinatal medicine shall be a member of the medical staff, have privileges for neonatal care, and have responsibility for neonatal unit services.	O	E	NA	NA
8.4 A provider(s) board-certified in neonatal-perinatal medicine shall be a member of the medical staff and have full-time responsibility for neonatal special care or intensive care unit services.	NA	O	E	E
8.5 The hospital shall have prearranged consultative agreements with a board-certified neonatologist 24 hours a day.	E	E	NA	NA
8.6 Neonatal Resuscitation Program (NRP) trained professional(s) shall be immediately available to the delivery and neonatal units.	E	E	E	E
8.7 A provider who has completed postgraduate pediatric training, a nurse practitioner, family physician or physician assistant with privileges for neonatal care appropriate to the level of the nursery shall be available	NA	E	NA	NA

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STANDARD VIII. NEONATAL PERSONNEL	I	II	III	IV
when an infant requires Level II neonatal services such as FiO ₂ >40%, assisted ventilation, or cardiovascular support.				
8.8 A Pediatrician who has completed pediatric residency training, a nurse practitioner or physician assistant with adequate NICU training and experience, with privileges for neonatal care appropriate to the level of the nursery, shall be physically present in-house 24 hours a day and assigned to the delivery area and neonatal units and not shared with other units in the hospital.	NA	O	E	E
8.9 A board-certified provider or an active candidate for board-certification in neonatology shall be available to be present in-house within 30 minutes.	NA	O	E	E
8.10 The hospital shall have:				
a) A prearranged written plan with a neurodevelopmental follow-up clinic or neurodevelopmental practice.	O	O	E	NA
b) A neurodevelopmental follow-up clinic or practice	O	O	O	E
8.11 The hospital shall have a provider on the medical staff with privileges for providing critical interventional radiology services for neonatal patients.	O	O	O	E
8.12 The hospital shall have appropriately qualified neonatal personnel in adequate numbers to meet the needs of each patient in accordance with the care setting:				
a) A registered nurse with demonstrated training and experience in the assessment, evaluation and care of normal newborns at all times.	E	E	E	E
b) A registered nurse skilled in the recognition and nursing management of the neonate with complications on the unit at all times.	NA	E	NA	NA
c) An advance practice nurse (CNS or NP) with perinatal experience is available to the staff to foster continuous quality improvement, supervise education and participate in administrative functions.	NA	NA	E	E
d) All nurses working with neonates at high risk should have evidence of continuing education in neonatal nursing and special training and experience in the management of neonates with complex	NA	NA	E	E

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STANDARD VIII. NEONATAL PERSONNEL	I	II	III	IV
illnesses and neonatal complications				
8.13 The hospital shall have respiratory therapists who are:				
a) Experienced in the delivery of continuous positive airway pressure and/or mechanical ventilation or both readily available.	NA	E	E	E
b) Skilled in neonatal ventilator care and management assigned to the NICU and not shared with other units when any patient is receiving assisted positive pressure ventilation, high-frequency ventilation, and/or inhaled nitric oxide 24 hours a day.	NA	NA	E	E
8.14 A hospital providing neonatal surgical services shall have nurses on staff with special expertise in perioperative management of neonates.	NA	NA	E	E
8.15 The hospital shall provide lactation support per AWHONN and ILCA recommendation:	E	E	E	E
a) Level I 1.3 FTE per 1000 deliveries per year				
b) Level II 1.6 FTE per 1000 deliveries per year				
c) Level III and IV 1.9 FTEs per 1000 deliveries				
8.16 The hospital shall have a full-time International Board Certified Lactation Consultant with experience in lactation support for the mother of a preterm infant.	NA	O	E	E
8.17 The hospital shall have a licensed social worker or RN Case Manager, with experience in psychosocial assessment and intervention with women and their families who is:				
a) Readily available	E	E	E	E
b) Dedicated to the perinatal service.	O	O	E	E
8.18 The hospital shall have Physical Therapist and/or Occupational Therapist, with additional Continuing Education Units in the area of neonatal care, as a member of the interdisciplinary care team.	NA	O	E	E
8.19 The hospital shall have a Speech Therapist, with additional Continuing Education Units in the area of neonatal care, as a member of the interdisciplinary care team.	NA	O	E	E

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STANDARD VIII. NEONATAL PERSONNEL	I	II	III	IV
8.20 The hospital shall have qualified nursing leadership in accordance with the care setting:				
a) Nursing care should be under the leadership of a registered nurse	E	NA	NA	NA
b) Nursing care should be under the leadership of a registered nurse with demonstrated expertise in obstetric care, neonatal care or both	O	E	NA	NA
c) Nursing care should be under the leadership of a registered nurse, masters prepared or actively seeking a masters degree, with experience and training in neonatal nursing, as well as in the care of patients at high risk.	O	O	E	E
8.21 A registered nurse who has been educated and masters prepared or actively seeking a masters degree, should be on staff to coordinate education.	O	O	E	E
8.22 A hospital perinatal program shall have at least one registered dietitian or nutritionist who has special training in perinatal nutrition and can plan diets that meet the special needs of neonates at high risk	O	O	E	E
8.23 The hospital shall have appropriately qualified pharmacy personnel in adequate numbers to meet the needs of each patient in accordance with the care setting including: IAC 15-1.5-7(3)	E	E	E	E
a) Registered pharmacist available for telephone consultation 24 hours per day and 7 days per week.	E	NA	NA	NA
b) Registered pharmacist available 24 hours per day and 7 days per week.	NA	E	E	E
c) A hospital perinatal program shall have pharmacy personnel with pediatric expertise who can work to continually review their systems and processes of medication administration to ensure that patient care policies are maintained.	O	O	E	E

STANDARD IX. NEONATAL SUPPORT PERSONNEL	I	II	III	IV
9.1 Portable ultrasonography for newborns, with the services of appropriate support staff, shall be available to the neonatal units.	O	E	E	E

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9.2 Computed tomography (CT) capability, with the services of appropriate support staff, shall be available on campus.	O	O	E	E
9.3 Magnetic resonance imaging (MRI) capability, with the services of appropriate support staff, shall be available on campus.	O	O	E	E
9.4 Neonatal echocardiography equipment and experienced technician with interpretation by pediatric cardiologist shall be immediately available.	O	O	E	E
9.5 The hospital shall have a pediatric cardiac catheterization laboratory and appropriate staff.	O	O	O	E
9.6 Portable x-ray equipment, with the services of appropriate support staff, shall be available to the neonatal units.	E	E	E	E
9.7 Blood bank technicians shall be present in-house 24 hours a day.	O	E	E	E

STANDARD X. NEONATAL EQUIPMENT	I	II	III	IV
10.1 The hospital shall obtain and maintain current equipment and technology, as described in these standards, to support optimal neonatal care for the level of care of the hospitals designation.	E	E	E	E
10.2 The hospital shall have all of the following equipment and supplies immediately available for existing patients and for the next potential patient:	E	E	E	E
a) pulse oximeter				
b) phototherapy unit				
c) Doppler blood pressure for neonates				
d) cardioversion/defibrillation capability for neonates				
e) resuscitation equipment for neonates				
f) individual oxygen, air O2 blended and humidified capability, and suction outlets for mothers and neonates				
g) emergency call system				
h) bowel bags				
a) O2 analyzer				
b) stethoscope				

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STANDARD X. NEONATAL EQUIPMENT	I	II	III	IV
i) intravenous infusion pumps with appropriate drug libraries				
j) radiant heated bed in delivery room and available in the neonatal units				
k) oxygen hood with humidity				
l) pediatric bag and masks capable of delivering a controlled concentration of oxygen to the infant				
m) orotracheal tubes				
n) aspiration equipment				
o) laryngoscope				
p) umbilical vessel catheters and insertion tray				
q) cardiac monitor				
r) pulse oximeter				

STANDARD XI. NEONATAL MEDICATION	I	II	III	IV
11.1 The following medications shall be immediately available to the neonatal units:				
a) antibiotics, anticonvulsants, and emergency cardiovascular drugs	E	E	E	E
b) surfactant, prostaglandin E1	O	O	E	E
11.2 Emergency medications, as listed in the Neonatal Resuscitation Program of the American Academy of Pediatrics/ American Heart Association (AAP/AHA), shall be immediately available in the delivery area and neonatal units	E	E	E	E

JOINT STANDARDS APPLY UNIVERSALLY

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STANDARD XII. LABORATORY
12.1 The programmatic leaders of the perinatal service in conjunction with the hospital laboratory leaders will agree on processing and reporting times to ensure that these are appropriate for samples drawn from obstetric and neonatal patients with specific consideration for the acuity of the patient and the integrity of the samples.
12.2 The hospital laboratory shall demonstrate the capability to immediately receive process and report urgent/emergent obstetric and neonatal laboratory requests.
12.3 The hospital laboratory shall have a process in place to report critical results to the obstetric and neonatal services.
12.4 The hospital shall have available the equipment and trained personnel to perform a Pulse Oximetry assessment and newborn hearing screening prior to discharge on all infants born at or transferred to the institution as required by the State of Indiana Universal Newborn Hearing Screening, Diagnosis, and Intervention Guidelines. (410 IAC 3)
12.5 The hospital shall have molecular, cytogenic, and biochemical genetic testing available or written policy for consultation and referral in place.
12.6 All hospitals performing point of care laboratory testing will follow the rules established by CLIA and Indiana Administrative Code.

STANDARD XIII. EDUCATION
13.1 The hospital shall have identified minimum competencies for obstetrical clinical staff, not otherwise credentialed, that are assessed prior to independent practice and on a regular basis thereafter.
13.2 The hospital shall provide continuing education programs for physicians, nurses, and ancillary members of the perinatal team concerning the treatment and care of obstetrical and neonatal patients. <ul style="list-style-type: none">• Conduct team training in perinatal areas to teach staff to work together and communicate effectively• Provide lactation and breastfeeding education for all members of the perinatal team.• For high risk events such as shoulder dystocia, emergency cesarean delivery, maternal hemorrhage and neonatal resuscitation, conduct clinical drills to help staff prepare for high risk, high complexity events with low rate of occurrence• Conduct drill debriefings to evaluate team performance and identify areas for improvement for high risk events• Educate nurses, residents, nurse midwives and delivering physicians to use standardized terminology to communicate all categories of fetal heart rate monitor tracings.• Identify specific triggers for responding to changes in the mother's, fetus's or newborn's vital signs and clinical

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STANDARD XIII. EDUCATION
condition and develop and use protocols and drills for responding to changes such as preeclampsia, hemorrhage, or neonatal shock.
13.3. A hospital that accepts maternal and/or neonatal primary transports shall provide the following to the referring hospital/providers: a) Guidance on indications for consultation and referral of patients at high risk. b) Information about alternative sources for specialized care not provided by the accepting hospital. c) Guidance on the pre-transport stabilization of patients. d) Feedback on the pre-transport care of patients. e) Clear communication between sending and receiving personnel. f) Once the patient has reached the receiving hospital, information regarding the patient's condition, and care given during transport should be sent back to the referring provider and referring hospital staff. g) Regularly scheduled conferences with referral and receiving hospitals that may include the following topics: <ul style="list-style-type: none">• Review of major perinatal conditions, their medical and nursing management.• Review of fetal monitoring, including maternal-fetal outcomes, toward a goal of standardizing nomenclature and patient care.• Review of perinatal outcomes and complications.• Review of patient and referring provider satisfaction data, complaints and compliments. h) Perinatal outreach education provided jointly by neonatal and obstetric physicians, nurses, APN's, PA's and other perinatal staff. Responsibilities would include: <ul style="list-style-type: none">• Assess referral hospital educational needs.• Plan curricula.• Teach, implement and evaluate programs.• Analyze and use perinatal data.• Provide patient follow-up to referring community personnel.• Maintain informative working relationships with community personnel and outreach team members.
13.4 The Perinatal team member: <ul style="list-style-type: none">• Acquires knowledge and experiences that reflect current evidenced based practice in order to maintain skills and competence appropriate for his or her specialty area, role, and practice setting.• Participates in and maintains professional records of educational activities required to provide evidence of competency.

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STANDARD XIII. EDUCATION
<ul style="list-style-type: none">• Maintains licensure and certification as mandated by state licensing boards, health care facilities and accrediting agencies.• Maintains certification within the specialty area of practice as appropriate, as a mechanism to demonstrate special knowledge.• Participates in lifelong learning, including educational activities related to evidence based practice, knowledge acquisition, safety and professional issues.• Has knowledge of relevant practice parameters and guidelines of other organizations that focus on the delivery of health care services to women and newborns.
13.5 The hospital shall have a written plan for assuring registered nurse/patient ratios as per current Guidelines For Perinatal Care, or Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN) nurse patient ratios.

STANDARD XIV. PERFORMANCE IMPROVEMENT
14.1 The hospital shall have a multidisciplinary continuous quality improvement program for improving maternal and neonatal health outcomes that has initiatives to promote patient safety including safe medication practices, Universal Protocol to prevent procedural errors, and educational programs to improve communication and team work.
14.2 The hospital staff shall conduct internal perinatal case reviews that include all maternal, intrapartum fetal and neonatal deaths, and all maternal neonatal transports.
14.3 The hospital shall utilize a multidisciplinary forum to conduct periodic performance reviews of perinatal program. This review shall include a review of trends, all deaths, all transfers, all very low birth weight infants, problem identification and solution, issues identified from the quality management process, and systems issues.

STANDARD XV. POLICIES AND PROTOCOLS
15.1 The hospital shall have written policies and protocols for the initial stabilization and continuing care of all obstetrical and neonatal patients appropriate to the level of care rendered at its facility.
15.2 The hospital shall have obstetrical and neonatal resuscitation protocols.
15.3 The hospital medical staff credentialing process shall include documentation of competency to perform obstetrical and neonatal invasive procedures appropriate to its designated level of care.
15.4 The hospital shall have a written plan for accepting or transferring mothers or neonates as “back transports” for ongoing convalescent care, including criteria for accepting the patient and necessary patient information.

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STANDARD XV. POLICIES AND PROTOCOLS
15.5 The hospital shall have policies that allow families (including siblings) to be together in the hospital following the birth of an infant and that promote parental involvement in the care of the neonate including care of the neonate in the NICU (exceptions can be made under certain circumstances).
15.6 All hospitals shall have an appropriate newborn screening program in place according to Federal and State Law.
15.7 All hospitals shall have in place policies and protocols to address emergency preparedness for the obstetric and neonatal areas.
15.8 The hospital shall have written policies and procedures on local anesthesia (IAC 410:15-1.6-1, f, 2)
Resources
American Academy of Pediatrics www.aap.org <ul style="list-style-type: none"> • Guidelines for Perinatal Care 7th Edition • Perinatal Continuing Education Program • Neonatal Resuscitation Program • Guidelines for Air and Ground Transport of Neonatal and Pediatric Patients • Levels of Neonatal Care: Committee on Fetus and Newborn Pediatrics; originally published online August 27, 2012 http://pediatrics.aappublications.org/content/early/2012/08/22/peds.2012-1999
American Association of Critical Care Nurses (AACN) www.aacn.org
American College of Nurse Midwives (ACNM) www.midwife.org
American Congress of Obstetricians and Gynecologists www.acog.org <ul style="list-style-type: none"> • Current Guidelines for Perinatal Care
Association of Perioperative Registered Nurses www.aorn.org
Association of Women’s Health Obstetric & Neonatal Nurses (AWHONN) www.awhonn.org <ul style="list-style-type: none"> • Fetal Heart Rate Monitoring Program • Perinatal Orientation Education Program • Neonatal Orientation Education Program • Guidelines for Professional Registered Nurse Staffing for Perinatal Units • Standards for Perinatal Nursing Practice and Certification in Canada
CDC Center for Disease Control www.cdc.gov
Indiana Code Article 15 Hospital Licensure Rules. Rule 1.4. Governing Board Responsibilities. 410 IAC 15-1.4-a Governing Board.

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STANDARD XV. POLICIES AND PROTOCOLS
Indiana Mothers Milk Bank www.immilkbank.org
Indiana Perinatal Network (IPN) www.indianaperinatal.org
Indiana State Department of Health (ISDH) www.in.gov/isdh
International Lactation Consultants Association (ILCA) www.ilca.org
Healthstream www.healthstream.com
March of Dimes www.marchofdimes.com
National Association of Neonatal Nurses (NANN) www.nann.org
NICHD Eunice Kennedy Shriver National Institute of Child Health and Human Development www.nih.gov/about/almanac/organization/nichd.htm
Occupational Health and Safety Administration (OSHA) www.osha.gov
Peri-facts University of Rochester www.urmc.rochester.edu/ob-gyn/education/peri-facts
Sugar & Safe Care, Temperature, Airway, Blood Pressure, Lab Work, Emotional Support (S.T.A.B.L.E.) Program www.stableprogram.org
The Joint Commission www.jointcommission.org