

**Department of Social Services, Office of Medical Services**  
**Neonatal Intensive Care Unit Admission Criteria**  
 (developed in consultation with South Dakota neonatologists)

1. Admit order by neonatologist or pediatrician.
2. Comprehensive history and physical which addresses the need for admission.
3. Condition requires continuous cardiopulmonary monitoring.
4. Condition requires monitoring of complete vital signs at a minimum of every 4 hours.
5. In addition to the above criteria at least one of the following:

- A. Abnormal vital signs, hematology, or chemistry to cause endangerment:  
 Respirations persistently < 40/min. or > 60/min. at rest with increased respiratory effort or apnea > than 15 sec.

Blood pressure persistently exceeding or less than established means for weight

Birth weight (gm)	Systolic (mm Hg)	Diastolic (mm Hg)
501-750	50-62	26-36
751-1000	48-59	23-36
1001-1250	49-61	26-35
1251-1500	46-56	23-33
1501-1750	46-58	23-33
1751-2000	48-61	24-35
Full term	59-96	25-60

Norms are based on neonates in the first week of life and the use of appropriate size cuff.

Mean arterial pressure (mm Hg)

Birth weight (gm)	MAP
501-750	30-46
751-1000	34-52
1001-1250	35-51
1251-1500	37-53

Norms based on day 3 of life.

Pulse persistently < 80/min. or > 180/min. at rest or capillary refill > 3 sec.

Temperature persistently < 36.1C ( 97 F ) or > 37.5 C ( 99.5 F ) rectally or comparable reading based on route despite attempts at temperature correction.

Hematology, newly discovered:

Hgb. < 10 g or > 21 g ; <1.55 mmol/L or >3.25 mmol/L  
Hct. < 30% or > 65%  
WBC < 5000/cu.mm. or > 30,000/cu.mm  
Granulocytes (neutrophil ) < 1500/cu.mm  
I/T, Immature to total neutrophil ratio > 0.27  
I/M, Immature to mature neutrophil ratio > 0.35  
Platelets < 150,000/cu.mm  
Fibrinogen <150 mg/dL or > 373 mg/dL  
<1.50 g/L or > 3.73 g/L  
Partial thromboplastin time (PTT) <27.5 seconds (s) or > 79.4 s  
Prothrombin time (PT) < 10.6 s or > 16.2 s

Chemistry, newly discovered:

Blood glucose < 40 mg/dL or > 150 mg/dL  
<2.22 mmol/L > 8.33 mmol/L  
repeated x 2 and not corrected by oral feeding or  
requires IV correction or is placed on NPO status.  
Serum Na < 130 mEq/L (mmol/L) or > 150 mEq/L (mmol/L)  
Serum K < 3.7 mEq/L (mmol/L) or > 5.9 mEq/L (mmol/L)  
(non-hemolyzed)  
Serum pH < 7.30 or > 7.50  
< 32 nmol/L or > 54 nmol/L  
Serum HCO<sub>3</sub> < 15 mEq/L (mmol/L) or > 35 mEq/L (mmol/L)  
Direct bilirubin > 2.0 mg/dL, consistently, or > 34.2 umol/L  
Indirect bilirubin by weight : > 2 kg--above 20 mg/dL  
above 342 umol/L  
< 2 kg--above 10 mg/dL  
above 171 umol/L  
Increasing hyperbilirubinemia ( > 5 mg/dL or 85.5 umol/L  
first 24 hrs. of life )  
other than physiologic in any gestational age  
(physiologic defined as occurring ~ 72 - 96 hours post  
delivery and < 18 mg/dL or 308 umol/L)  
Ionized serum Ca < 2.5 mEq/L or < 1.25 mmol/L  
Serum Ca < 7.6 mg/dL or > 10.4 mg/dL  
<1.90mmol/L or > 2.60 mmol/L  
Serum ammonia 2 X > normal  
BUN > 30 mg/dL or > 10.7 mmol/L  
Creatinine > 1.5 mg/dL or >32.6 umol/L  
Serum Mg < 1.6 mEq/L or > 2.8 mEq/L  
< 0.66 mmol/L or > 1.15 mmol/L  
Presence of toxic level of drug/chemical substance

- B. Congenital abnormalities causing functional impairment
  - life threatening, major malformations
  - congenital malignancy
  - congenital ichthyosis
  
- C. Pulmonary distress
  - Persistent cyanosis, grunting, retracting, flaring, true apnea, which requires oxygen for > 1 hour
  - Persistent altered respiratory rate as defined
  - Persistent oxygen saturation < 94% in room air after one hour of life
  - Needing ventilatory support
  
- D. Metabolic distress
  - Severe hypoglycemia
  - Na, K, Ca imbalances
  - Hyper / hypothyroidism
  - Acid / base imbalance
  - Inborn error of metabolism
  - Adrenal insufficiency
  
- E. Cardiac distress
  - Circulatory abnormalities as previously defined
  - Poor perfusion, hypotension
  - Persistent tachypnea
  - Heart murmur after 24-48 hrs. in presence of symptomatology
  - Significant cardiac arrhythmia such as supraventricular tachycardia or congenital heart block
  - Cyanosis requiring oxygen to maintain saturation > 94%
  
- F. Neurological distress
  - Seizures, intracranial hemorrhage, lethargy, irritability, asphyxia, hypotonia, rigidity, apnea, hydrocephalus, congenital abnormality
  
- G. Gastrointestinal abnormalities
  - Inability to establish feeding, voiding, stooling within 24 hrs.
  - Unstable blood sugar
  - Presence of congenital anomalies (cleft lip/palate)
  - Significant vomiting or abdominal distention requiring NPO status with IV fluid administration
  
- H. Sepsis
  - Requiring IV antibiotics and cardiopulmonary monitoring
  - Presence of clinical symptoms with abnormal CBC
  - High risk (chorioamnionitis, maternal group B + with symptomatic newborn and abnormal CBC)

- I. Prematurity or significant intrauterine growth retardation
  - < 1800 grams
  - < 34 weeks gestation
  
- J. Condition requiring surgery within 48 hours after birth
  - Must need NPO status, IV line,
  - laboratory and cardiopulmonary monitoring
  
- Persistent defined as symptoms
  - 1) lasting > one hour
  - 2) demonstrated more than once
  - 3) does not go away easily or quickly