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.

      | 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 < 36.1°C (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 HCO3 < 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
  - <1.90 mmol/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