It's A Small World: Pediatric Malnutrition and Respiratory Failure

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Pediatric CDI Specialists

It’s a world of laughter,
a world of tears.

It’s a world of hopes,
and a world of fears.

There’s so much that we share,
that it’s time we’re aware,
it’s a small world after all.

Learning Objectives

• At the completion of this educational activity, the learner will be able to:
  – Identify clinical indicators for malnutrition and respiratory failure in the pediatric population
  – Discuss the unique clinical indicators for neonatal malnutrition and respiratory failure
  – Develop compliant queries for pediatric malnutrition and respiratory failure
  – Demonstrate strategies for physician engagement for improved documentation of pediatric malnutrition and respiratory failure
Medical University of South Carolina

- Major academic and tertiary patient referral center for all of South Carolina
- Three hospitals
  - University
  - Institute of Psychiatry
  - Children’s
- 709 beds
- Level I trauma center
- US News & World Report’s 2017–2018 #1 hospital in South Carolina
- Awarded
  - Telehealth Center of Excellence
- Magnet® designation for nursing excellence

MUSC Health
Medical University of South Carolina
Changing What’s Possible
MUSC Children’s Health

US News & World Report

• Ranked in the *US News & World Report*’s America’s Best Children’s Hospitals

• Nationally ranked in six specialties including:
  – #11 for cardiology and heart surgery
  – #28 for nephrology
  – #37 for urology
  – #47 gastroenterology and GI surgery
  – #45 for neurology and neurosurgery

Children’s Hospital

• 186 licensed beds

• Service lines
  – Pediatric ICU
  – Pediatric cardiology
  – Pediatric hospitalists
  – Pediatric hem-onc
  – Pediatric pulmonary
  – Pediatric neurology
  – Pediatric emergency dept
  – Neonatal services
    • Level III nursery
Shawn Jenkins Children’s Hospital

OPENING
Fall 2019
Medical University of South Carolina CDI Department

• Began in 2005 for adult services
  – Expanded in 2007
    • Additional staff and reviews
  – Currently 15 CDI nurses

• Pediatric CDI began January 2012
  – Two CDI nurses dedicated to pediatrics (2 FTE)
    • Experienced CDI nurse with some pediatric nursing experience
  – Concurrent reviews for all payers
  – Retrospective reviews
    • Discharged with open queries
    • Coder/CDI discrepancies
    • Denials reviews*
    • Mortality reviews*
    • Quality measures*

*Upon request from coding/CDI manager
Steps for Attendees to Answer/View Polling Questions

1. Navigate to the event **Agenda** in the main menu
2. Tap the **name of the current session** to view the session details page
3. Tap **Polls**
4. Tap the **name of the poll**
5. Tap your **answer** choice and then tap **Submit**
Polling Question #1

• Does your facility have difficulty with the documentation of pediatric malnutrition?
  – Yes
  – No
  – I don’t know
  – Not applicable
Prevalence of Malnutrition

• Malnutrition is a serious health issue that has been underdiagnosed and undertreated
• Affects nearly one out of five pediatric patients
  – 4% of hospitalized children
  – 6%–51% under-recognized in hospitalized children
• Malnutrition in the pediatric population is associated with
  – Longer length of stay (LOS)
  – Increased complications
  – Increased readmissions
  – Increased mortality
  – Increased healthcare costs
  – Decreased physical function
  – Decreased cognitive function
  – Impaired quality of life
  – Lost brain development
What Is Failure to Thrive?

- Failure to thrive is:
  - Weight consistently below the 3rd to 5th percentile for age and sex
  - Progressive decrease in weight to below the 3rd to 5th percentile
  - Or a decrease in the percentile rank of 2 major growth parameters in a short period

- The cause may be either:
  - An identified medical condition
  - Related to environmental factors

Both types relate to **inadequate nutrition**. Treatment aims to restore proper nutrition.
Failure to Thrive

• Failure to thrive (FTT) is a term to describe insufficient growth or inability to maintain growth

• Failure to thrive (FTT) is a description term
  – FTT is a sign that the child is undernourished
  – The child is not meeting the expected standards of growth
  – FTT is a symptom of underlying disease

• FTT is usually multifactorial
  – Biological
  – Psychosocial
  – Environmental
Differential Diagnosis of Failure to Thrive – Infant

### Infant or Toddler

<table>
<thead>
<tr>
<th>Inadequate caloric Intake</th>
<th>Inadequate caloric absorption</th>
<th>Excessive caloric expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding problem</td>
<td>Food allergy</td>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Improper formula preparation</td>
<td>Malabsorption</td>
<td>Chronic infection or immunodeficiency</td>
</tr>
<tr>
<td>GERD</td>
<td>Pyloric stenosis</td>
<td>Chronic pulmonary disease</td>
</tr>
<tr>
<td>Caregiver depression</td>
<td>Gastrointestinal atresia or malformation</td>
<td>Congenital heart disease or heart failure</td>
</tr>
<tr>
<td>Lack of food availability</td>
<td>Inborn error of metabolism</td>
<td>Malignancy</td>
</tr>
<tr>
<td>Cleft lip or palate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Items are listed in approximate order of most to least common.*
Differential Diagnosis of Failure to Thrive – Child

<table>
<thead>
<tr>
<th>Child or Adolescent</th>
<th>Inadequate caloric Intake</th>
<th>Inadequate caloric absorption</th>
<th>Excessive caloric expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood disorder</td>
<td>Food allergy</td>
<td></td>
<td>Thyroid disease</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>Celiac disease</td>
<td></td>
<td>Chronic infection or immunodeficiency</td>
</tr>
<tr>
<td>GERD</td>
<td>Malabsorption</td>
<td></td>
<td>Chronic pulmonary disease</td>
</tr>
<tr>
<td>Irritable bowel syndrome</td>
<td>Inflammatory bowel disease</td>
<td></td>
<td>Congenital heart disease or heart failure</td>
</tr>
<tr>
<td></td>
<td>Inborn error of metabolism</td>
<td></td>
<td>Malignancy</td>
</tr>
</tbody>
</table>

Note: Items are listed in approximate order of most to least common.
FTT vs. Malnutrition

- Failure to thrive (FTT) should never be a diagnosis unto itself
- A careful review of the medical record should be done to identify additional clinical indicators to support a diagnosis of malnutrition

When there is documentation of failure to thrive (FTT), consider a query for malnutrition
What Is Pediatric Malnutrition?

Pediatric malnutrition (undernutrition) is defined as an imbalance between nutrient requirements and intake that results in cumulative deficits of energy, protein, or micronutrients that may negatively affect growth, development, and other relevant outcomes.

The Five Domains of Pediatric Malnutrition

1. Anthropometric parameters
2. Etiology and chronicity
3. Impact on outcomes
4. Severity of malnutrition
5. Mechanism of nutrient imbalance
Anthropometric Parameters

- Weight
- Height or length
- Skin folds
- Mid upper arm circumference

- Z scores
  - BMI-for-age-percentile
  - Measure of relative weight adjusted for child’s age and sex
  - How many standard deviations below or above a child of the same age a raw score is

- Reference charts
  - WHO Multicentre Growth Reference Study (MGRS)
    - 0–2 years of age
  - CDC 2000
    - 2–20 years of age
## Malnutrition Etiology and Chronicity

<table>
<thead>
<tr>
<th>Non-illness related</th>
<th>Illness-related</th>
<th>Inflammatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral</td>
<td>Acute</td>
<td>TBA</td>
</tr>
<tr>
<td></td>
<td>&lt; 3 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trauma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Etc.</td>
<td></td>
</tr>
<tr>
<td>Socioeconomic</td>
<td>Chronic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>≥ 3 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cystic fibrosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Congenital heart defects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cancer</td>
<td></td>
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<tr>
<td></td>
<td>Etc.</td>
<td></td>
</tr>
</tbody>
</table>

Currently, there are NO codes for: 
Acute malnutrition
Chronic malnutrition
Mechanism of Nutrient Imbalance

Decreased intake
- Starvation
  - Anorexia
  - Socioeconomic
  - Iatrogenic feeding interruptions or intolerance

Increased nutrient requirement
- Malabsorption
- Nutrient loss
- Hypermetabolism
  - Energy expenditure

Altered utilization of nutrients
Severity of Malnutrition
Impact on Outcomes

- Loss of lean body mass
- Muscle weakness
- Developmental delay
- Intellectual disability
- Infections
- Immune dysfunction
- Delayed wound healing
- Prolonged hospital stay
Increase Risk for Pediatric Malnutrition

- Autism
- Bronchopulmonary dysplasia
- Celiac disease
- Cerebral palsy
- Child neglect
- Chromosomal abnormalities
- Chronic diseases
- Congenital heart defects
- Crohn’s disease
- Cystic fibrosis
- Developmental delay
- Failure to thrive
- Feeding problems
- Food intolerance
- Gastroparesis
- Infections
- Inflammatory bowel disease
- Intellectual disability
- Major depression
- Malabsorption
- Malignancy
- Milk protein allergy
- Oral aversion
- Prematurity
- Pyloric stenosis
- Sepsis
- Short stature
- Surgery
- Syndromes
- Trauma
Specificity

• Malnutrition needs specification to capture the most appropriate code assignment
  – Mild protein-calorie malnutrition
  – Moderate protein-calorie malnutrition
  – Severe protein-calorie malnutrition

• Capture the pediatric body mass index (BMI) percentile for age
  – Nutritional or dietary consults
Malnutrition Query #1

Patient is a 10-year-old w/neuromuscular scoliosis, S/P posterior spinal fusion. H&P notes cerebral palsy w/wheelchair bound, notes “bony anatomy,” “small ulcer over his right ankle.” The nutritional consult noted feeding difficulties, G-tube w/ feedings, weight 21.5 kg (47 lb. 6.4 oz) w/ inadequate oral intake R/T neurological impairments as evidenced by CP and G-tube dependence. Dietary suggestion to increase calories ~5%. Can these clinical findings be further specified, i.e.,

- Mild malnutrition  **E44.1 [CC]**
- Moderate malnutrition  **E44.0 [CC]**
- Growth retardation due to malnutrition  **E45 [CC]**
- Other ________________
- Clinically undetermined
Growth Retardation

- Growth retardation due to malnutrition
  - Nutritional short stature
  - Nutritional shunting
  - Physical retardation due to malnutrition
Malnutrition Query #2

Patient is a 7-year-old admitted w/ AKI and G-tube malposition. Weight on admission 10.9 kg (24 lb. 0.5 oz). Nutritional consult dated 08.29.18 notes “Nutrition focus physical exam: + g-tube, CP; severely malnourished child with growth stunting,” inadequate oral intake (NI-2.1) related to feeding difficulties as evidenced by G-tube dependence. Malnutrition assessment: Patient classified with chronic illness (vs. non-illness/social) severe malnutrition related to inadequate energy intake as evidenced by BMI Z score <-3, severely stunted height (Z score <-3) in setting of reported h/o feed intolerance inconsistent formula ordering. Can this child's nutritional status be further specified, i.e.,

- Severe protein-calorie malnutrition **E43 [MCC]**
- Growth retardation due to malnutrition **E45 [CC]**
- Retarded development following protein-calorie malnutrition **E45 [CC]**
- Nutritional stunting **E45 [CC]**
- Other
- Clinically undetermined
Neonatal Malnutrition
Preterm and Neonatal Malnutrition

- **Highest risk**
  - Reduced nutrient stores at birth
  - Immature nutrient absorption
  - Organ immaturity
  - Dependence on healthcare providers
  - Period of rapid growth and development

- **Complications of prematurity increase risk**
  - Necrotizing enterocolitis
  - Chronic lung disease
Considerations for Neonatal Malnutrition

- Growth restriction common in NICUs in infants younger than 31 weeks of gestation
- Different criteria for undernutrition in preterm and neonatal population
- BMI not an accurate predictor of malnutrition
- Preterm: Born younger than 37 weeks gestation
- Neonate: 0–28 days of life
  - Born at 37 weeks or later gestation
Preterm and Neonatal Malnutrition Criteria

- Rate of growth
- Nutrient intake
- Anthropometric measurements
## Single Primary Indicators of Neonatal Malnutrition

<table>
<thead>
<tr>
<th>Nutrient intake</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≥ 3–5 consecutive days of protein or energy intake ≤ 75%</td>
<td>≥ 5–7 consecutive days of protein or energy intake ≤ 75%</td>
<td>&gt; 7 consecutive days of protein or energy intake ≤ 75%</td>
</tr>
</tbody>
</table>

Preferred indicator during the first two weeks of life
Primary indicator requiring 1 indicator

Primary Indicators for Neonatal Malnutrition

- Days to regain birth weight
  - Mild malnutrition = 16–18 days
  - Moderate malnutrition = 19–21 days
  - Severe malnutrition = greater than 21 days

Use in conjunction with nutrient intake primary indicator requiring 2 or more indicators

Primary Indicators for Neonatal Malnutrition (cont.)

- **Linear growth velocity**
  - Expected rate of linear gain to maintain expected growth rate
    - Mild malnutrition = < 75%
    - Moderate malnutrition = < 50%
    - Severe malnutrition = < 25%

- **Decline in length for age Z score**
  - Decline of
    - Mild malnutrition = 0.8–1.2 standard deviations
    - Moderate malnutrition ≥ 1.2–2 standard deviations
    - Severe malnutrition ≥ 2 standard deviations

- Not appropriate for first 2 weeks of life
- May be deferred in critically ill, unstable infants
- Use in conjunction with another indicator
Growth Assessment in Neonates

• Begins at birth
  – Small for gestational age (SGA)
    • Z score below 10th percentile
  – Appropriate for gestational age (AGA)
    • Z score 10th to 90th percentile
  – Large for gestational age (LGA)
    • Z score greater than 90th percentile

• Intrauterine growth retardation (IUGR)
  – Pathologic process that causes weight to be less than genetically predicted
    • Maternal smoking
    • Maternal malnutrition
Best Practice for CDI
Best Practice

• Nutritional consult
  – Anthropometric measurements
  – ASPEN criteria
  – GLIM criteria*

• Physician statement
  – Specificity
  – Clinical indicators
  – Treatment plan

• Discharge summary

*No pediatric criteria at this time
Physician Education

• Teach your physicians to document **WHY**
  – Demonstrates their clinical decision-making
  – Defends against denial auditors

• Encourage physicians to use the term
  – ... malnutrition *as evidenced by* ...
    • Include clinical indicators
    • Include treatment plan
Pediatric Respiratory Failure
Polling Question #2

- Does your facility have difficulty with the documentation of pediatric respiratory failure?
  - Yes
  - No
  - I don’t know
  - Not applicable
Acute Respiratory Distress

• **R06.03 Acute Respiratory Distress**
  - ICD-10-CM Alphabetic Index for discharges starting October 1, 2017

• Tabular List – Chapter 18 Symptoms, Signs, and Abnormal Clinical/Laboratory Findings
  - Abnormalities of breathing

• Excludes
  - Acute respiratory distress syndrome
  - Respiratory arrest
  - Respiratory arrest of newborn
  - Respiratory distress syndrome of newborn
  - Respiratory failure
  - Respiratory failure of newborn

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**POTENTIAL RISK FOR:**
- Decreased reimbursement
- Decreased severity of illness
- Decreased risk of mortality

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CDI Considerations in Acute Respiratory Distress

• CDI specialists should thoroughly review the medical record to rule out any clinical indicators for acute respiratory failure

• Continue to educate physicians on the differences between acute respiratory distress and acute respiratory failure

• Acute respiratory distress is a *symptom code* and should not be the principal diagnosis when a related definitive diagnosis is established in the documentation
Inherent Acute Respiratory Distress

- Acute respiratory distress should not be captured when inherent to the condition, such as
  - Asthma exacerbation
  - Bronchiolitis*
  - Cystic fibrosis
  - Pneumonia
  - Acute upper respiratory tract infection
  - Bronchitis
Acute Respiratory Distress Syndrome

- J80 Acute respiratory distress syndrome (ARDS)
  - Is now a major complication and comorbidity (MCC)
  - Life-threatening illness with severe inflammation of lungs that causes tiny blood vessels in lungs to leak fluid and the alveoli to collapse or fill with fluid
  - Acute injury to the lung

_Do not confuse with acute respiratory distress!_
Acute respiratory failure is defined as the inability to provide O₂ and remove CO₂ at a rate that meets metabolic demands.
Pediatric Respiratory Failure Indicators

- Acute respiratory failure clinical indicators
  - PaO₂ < 60 mm/Hg or pCO₂ increase of 10–15 mm/Hg
  - SaO₂ < 88% on room air
  - Increased work of breathing
  - Retractions – nasal flaring, subcostal, supraclavicular, substernal
  - Supplemental oxygen (PaO₂:FIO ratio of < 300 with normal hemoglobin)
    - Nasal cannula 2–4 LPM in children and adolescents
    - Nasal cannula ½–2 LPM in infants and toddlers
    - Simple face masks 5–7 LPM
  - High-flow nasal cannula
  - CPAP or BiPAP (except for isolated obstructed sleep apnea)
  - Mechanical ventilation is NOT required

Chronic Respiratory Failure

- Chronic respiratory processes requiring home oxygen or ventilator support (mechanical ventilator or nasal BiPAP), or having baseline SaO₂ < 88% on room air or pCO₂ > 50 with a normal pH
  - **Home oxygen**
  - Vent dependence
  - BPD
  - Cystic fibrosis
  - Chronic lung diseases
  - Obesity alveolar hypoventilation syndrome (Pickwickian syndrome)
Pediatric Postop Respiratory Failure
PDI 09 Postoperative Respiratory Failure Rate

- **Secondary diagnosis of postoperative respiratory failure**
  - Prolonged mechanical ventilation
  - Reintubation after elective surgical procedures
  - Age 17 and younger

- **Denominator**
  - Elective surgical discharges for age 17 years and younger
  - Admission source: Elective
  - Excludes neonates less than 500 grams

- **Risk adjustment**
  - Age
  - Secondary malignancies
  - Endocrine disorders
  - Nutritional deficiencies
  - Nutritional endocrine and metabolic disorders
  - Paralysis
  - Epilepsy and convulsions
  - Essential HTN
  - Pulmonary heart disease
  - Esophageal disorders
  - Dependence on ventilator
  - Other perinatal conditions
PDI 09 Postop Respiratory Failure Exclusions

- Principal diagnosis of acute respiratory failure
- Secondary diagnosis for acute respiratory failure that is POA
- Tracheostomy
  - Only operating room procedure
  - Tracheostomy occurs before first operating room procedure
- Neuromuscular disorders
- Degenerative neurological disorders
- Laryngeal, pharyngeal, or craniofacial surgery
- Craniofacial anomalies
- Esophageal resection
- Lung cancer
- Lung transplant
- Respiratory diseases (MDC 4)
- Circulatory diseases (MDC 5)
- OB
Postoperative Respiratory Failure Indicators

- Mechanical ventilation greater than 48 hours
- Unplanned reintubation postoperatively
- Congenital heart surgery
  - Open chests
  - Prolonged ventilation
    - Greater than 5 days
- ABG or VBG
  - pH, pO₂, pCO₂
- Respiratory alkalosis or acidosis
- Difficult wean off ventilator
Neonatal Respiratory Failure
Neonatal Respiratory Conditions

• **P22 Respiratory distress of newborn**
  
  Excludes1
  – Respiratory arrest of newborn (P28.81)
  – Respiratory failure of newborn (P28.5)

  – P22.0 Respiratory distress syndrome of newborn (RDS)
  – P22.1 Transient tachypnea of newborn (TTN)
  – P22.8 Other respiratory distress of newborn
  – P22.9 Respiratory distress of newborn, unspecified

• Careful review for conflicting documentation
  – Educate physicians on need for specificity for coding
  – CAC/NLP – need for verification of suggested codes
Respiratory Insufficiency in Newborn

Respiratory insufficiency

Newborn

P28.5 Respiratory failure of newborn
Transient Tachypnea of Newborn

• Usually seen in full-term newborns
• Retained fetal lung fluid
• Cesarean section
  – Fluid in the lungs does not get squeezed out as in a vaginal birth
• Usually resolves 24–72 hours following birth
• Symptoms
  – Rapid breathing – respirations over 60 breaths
  – Grunting
  – Flaring of the nostrils
  – Subcostal retractions
"60 breaths per minute"?
Adam Carroll, 4/26/2019
TTN vs. Tachypnea

- Transient tachypnea of the newborn is a medical diagnosis
  - Transient tachypnea of newborn
  - Respiratory distress syndrome, type II
  - Wet lung syndrome
- DRG mapping
  - MS-DRG 794 Neonate with other significant problems
  - APR-DRG 640 Neonate > 2499g, normal newborn or neonate w other problem
    - Impacts the SOI
- Tachypnea is a symptom
- There is no P code for tachypnea
  - P22.1 Transient tachypnea of newborn
  - R06.82 Tachypnea, not elsewhere classified
Respiratory Distress Syndrome

- Also known as
  - Hyaline membrane disease
  - Neonatal respiratory distress syndrome
  - Infant respiratory distress syndrome
  - Surfactant deficiency
Clinical Indicators for RDS

- Prematurity
- Less than 34 weeks gestation
- Surfactant administered directly into lungs via ETT
- Chest x-ray
  - Diffuse hazy and granular opacities
- Rapid, shallow breathing
- Sternal and intercostal retractions
- Grunting sounds
- Flaring of the nostrils
- Apnea

Chest film antero-posterior (AP) view of a child, demonstrated respiratory distress syndrome (RDS)
Complications of RDS

- Atelectasis
- Pneumothorax
- Pulmonary hemorrhage
- Bronchopulmonary dysplasia (BPD)
  - Ventilator dependence
  - Tracheostomy
- Patent ductus arteriosus (PDA)
  - Pulmonary hypertension
Physician Engagement

- Educate neonatal physicians on indiscriminate documentation of RDS vs. respiratory distress
  - Impact on DRG
  - Impact on SOI and ROM
- Educate physicians to support the diagnosis of RDS with documentation of clinical indicators
  - Chest x-ray
  - Need for additional surfactant administration
- Query for conflicting documentation of RDS and respiratory distress
Case Study

- Principal diagnosis of neonate w/birth weight 1395 gms at **32 weeks** via C-section w/RDS
  - 08.16.18 (1st progress note after birth)
  - Infant extubated to CPAP 6 cm 21%–30%. **CXR is consistent with RDS;** however, CO2 on vent was 25 and infant was in 21%, so we **did not give Survanta®.** If infant requires intubation or > 30% FiO2, will need to be intubated and given Survanta.
  
  - CXY (08.16.18 @ 2:23 am) **Diffuse hazy and granular opacities consistent with surfactant deficiency.**
  
  - CXY (08.16.18 @ 4:45 am) **Increased changes of surfactant deficiency.**
  
  - 08.17.18 RDS: called to bedside to see infant for increased work of breathing. On exam infant with moderate subcostal and suprasternal retractions. PEEP increased to 7 without improvement, FIO2 50%. **Intubated for surfactant and extubate to CPAP 7.**
Bronchopulmonary Dysplasia

- RDS usually affects premature babies less than 34 weeks gestation
  - Respiratory distress, acidosis, CXR w/ground glass appearance, surfactant administration
  - Breathing problems with oxygenation requirements by the time they reach their original birth date may be diagnosed as BPD
- If BPD continues throughout the life of the patient, the perinatal code should continue to be used regardless of the patient’s age
- BPD may be captured throughout the patient’s life
RDS vs. BPD

- The tabular index for RDS has removed the Excludes1 note regarding bronchopulmonary dysplasia; therefore, RDS and BPD may be coded together
  - Present on admission indicators
    - RDS
    - BPD
Resuscitation of Newborn

• Newborns that demonstrate difficulty transitioning to extrauterine life may need oxygenation for a brief period of time
• Newborns may be intubated briefly for administration of surfactant
• This is considered to be **integral** to the birth process and is **not** captured in coding
Coding Clinic
Bag/Mask Ventilation and Oxygen for Newborn

• ICD-9-CM Coding Clinic, Second Quarter 2008 Page: 7 Effective with discharges: July 7, 2008

• Question:
  – A baby was delivered at 39.2 weeks with vacuum extraction. The delivery record indicates bag/mask ventilation and oxygen were provided for 1 minute. Should a procedure code for the bag ventilation and oxygen be reported?
Coding Clinic Response


- Response:
  - The use of supplemental oxygen and bag ventilation is an integral part of the care of a newborn. **Do not assign additional codes for the brief use of bag/mask ventilation and oxygen.** Some newborns may experience **difficulty transitioning to extrauterine life and may require a period of supplemental oxygen**, and spontaneous respirations can often be stimulated using a manual resuscitation bag and face-mask (BMV). In most cases, infants respond to these measures with no further interventions. **In cases where they do not respond and mechanical ventilation is required, the mechanical ventilation codes should be used.**
Newborn noninvasive ventilation

- However, if NIV is briefly administered to the newborn for the purpose of resuscitation, it is not coded.
Thank you. Questions?

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