New Approach to Neonatal Hyperbilirubinemia

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Coders often believe that jaundice in newborns is expected, minor, and not of much concern. In general, they tend to add the unspecified fetal and neonatal jaundice code 774.6, when they code it at all. Additionally, documentation of hyperbilirubinemia is not always accurate. This article advocates a new approach to coding neonatal hyperbilirubinemia.

Clinical Practice Guideline for Hyperbilirubinemia

Severe hyperbilirubinemia can progress to bilirubin encephalopathy or kernicterus with devastating results. Kernicterus should almost always be preventable, but cases continue to occur.

In 2004 the American Academy of Pediatrics (AAP) released a clinical practice guideline on the management of hyperbilirubinemia to reduce or eliminate the incidence of kernicterus. It emphasizes frequent monitoring, universal systematic assessment for risk of severe hyperbilirubinemia, close follow-up, and prompt intervention.[1]

AAP adopted a graph created by Vinod K. Bhutani, MD, a professor of pediatrics, which predicts the risk of hyperbilirubinemia by plotting serum bilirubin against newborn age in hours.[2] Coders may be familiar with the graph because some hospitals incorporate it on forms in newborn charts. A key element of the AAP guideline is establishing risk level prior to discharge, which dictates protocol-driven management.

The Joint Commission adopted AAP's guideline with the publication of two Sentinel Event Alerts in 2001 and 2004.[3,4] It expects organizations to implement the suggestions.

Implications of Reduced Length of Stay

A two-day length of stay is now the norm for newborns. Short length of stay has complicated the management of hyperbilirubinemia. Physiologic jaundice typically does not appear within the first 24 hours of life, peaks on the third to fifth day, and then declines thereafter. When stays were longer, physicians could oversee the full cycle of physiologic jaundice.

Today, upon discharge, bilirubin levels are usually still rising; the infant may go home before jaundice has made its first appearance. Without immediate outpatient follow-up, the physician cannot manage hyperbilirubinemia. The AAP guideline recommends that infants be seen as outpatients between days three and five of life, sometimes twice in that time period, depending on risk factors.

The *ICD-9-CM Official Guidelines for Coding and Reporting* instruct coders to code all clinically significant conditions. For newborns, this is defined as conditions that require clinical evaluation, therapeutic treatment, diagnostic procedures, extended length of stay, increased nursing care, and/or monitoring or has implications for future healthcare needs.[5]

Under AAP's guideline, coding hyperbilirubinemia meets this definition. Managing hyperbilirubinemia for a typical one- to two-day stay for a normal newborn *always* requires clinical evaluation; may require therapeutic treatment; may extend the length of stay; *always* requires frequent monitoring until discharge; and *always* has implications for future health needs in the form of strict follow-up mandates, usually within a day or two of discharge. Hyperbilirubinemia should be coded whenever it is documented.

MS-DRGs, CMI, and Reimbursement

The normal newborn MS-DRG 795 carries a relative weight of 0.1577. This depresses hospital case-mix index (CMI) for hospitals with disproportionate normal newborn admissions. Lower CMIs have a negative effect on severity-adjusted hospital

data when using the CMI as an adjustment factor. Hospitals must ensure that their CMI fairly reflects the true acuity of its patient population.

The table "Newborn MS-DRGs" shows newborn MS-DRGs and their relative weights. *Any* newborn MS-DRG other than the normal newborn 795 carries a substantially higher relative weight. Moving a single case from MS-DRG 795 to 794 raises the relative weight by 1.0071. "Jaundice Codes and Their Effect on MS-DRG 795" outlines how jaundice codes affect MS-DRG 795 and relative weight. Although the majority of cases will be reported using code 774.6, hospitals should identify those cases that legitimately may be coded elsewhere.

In addition to always increasing the CMI, changes in newborn MS-DRGs may enhance reimbursement, depending on the hospital's payers and reimbursement contracts.

Newborn MS-DRGs

Any newborn MS-DRG other than the normal newborn 795 carries a substantially higher relative weight. Moving a single case from MS-DRG 795 to 794 raises the relative weight by 1.0071.

MS-DRG	Description	Relative Weight
789	Neonates, died or transferred to another acute care facility	1.4226
790	Extreme immaturity or respiratory distress syndrome, neonate	4.6911
791	Prematurity with major problems	3.2039
792	Prematurity without major problems	1.9332
793	Full term neonate with major problems	3.2911
794	Neonate with other significant problems	1.1648
795	Normal newborn	0.1577

Jaundice Codes and Their Effect on MS-DRG 795

Other causes of jaundice affect the assigned MS-DRG and relative weight. Coders should query the physician if they suspect that jaundice is caused by something other than physiologic jaundice. Almost all alternative causes of jaundice move to a higher-weighted MS-DRG.

Code	Description	MS-DRG	Effect on Relative Weight

773.0	Hemolytic disease due to Rh isoimmunization	794	+ 1.0071
773.1	Hemolytic disease due to ABO isoimmunization	794	+ 1.0071
773.2	Hemolytic disease due to other and unspecified isoimmunization	793	+ 3.1334
773.3	Hydrops fetalis due to isoimmunization	793	+ 3.1334
773.4	Kernicterus due to isoimmunization	793	+ 3.1334
773.5	Late anemia due to isoimmunization	793	+ 3.1334
774.0	Perinatal jaundice from hereditary hemolytic anemias	794	+ 1.0071
774.1	Perinatal jaundice from other excessive hemolysis	794	+ 1.0071
774.2	Perinatal jaundice associated with pre-term delivery (assumes prematurity codes are coded)	792	+ 1.7755
774.3x	Neonatal jaundice due to delayed conjugation from other causes	795	None
774.4	Perinatal jaundice due to hepatocellular damage	793	+ 3.1334
774.5	Perinatal jaundice from other causes	795	None
774.6	Unspecified fetal and neonatal jaundice	795	None
774.7	Kernicterus not due to isoimmunization	793	+ 3.1334

Major Causes of Hyperbilirubinemia

Physiologic jaundice is the most common condition a coder sees. In full-term newborns, physiologic jaundice codes to 774.6 and does not move the MS-DRG out of the normal newborn category. In preterm newborns, it codes to 774.2 and groups to a prematurity MS-DRG by virtue of coding the prematurity. Physiologic jaundice is not necessarily benign and can lead to kernicterus if severe and untreated.

The most common nonphysiologic jaundice is due to **hemolytic conditions** . Hemolysis may cause jaundice to appear in the first 24 hours of life, differentiating it from physiologic jaundice, which usually appears after the first 24 hours. Hemolytic

causes of jaundice include Rh or ABO incompatibility (reported with codes 773.0 and 773.1) or excessive hemolysis (reported with code 774.1).

Hemolysis due to incompatibility may occur with an Rh negative mother and an Rh positive baby or with a mother with blood type O and a baby with blood type A or B. If this condition is not documented, the coder should look for clinical indicators: hyperbilirubinemia, indicated blood type or Rh factors, a positive Coombs' test, jaundice beginning during the first 24 hours of life, rapidly rising bilirubin, and bilirubin levels unresponsive to phototherapy. If not documented, coders should query the physician for the diagnosis. Changing the diagnosis moves the MS-DRG to 794.

Excessive hemolysis (code 774.1) is probably grossly underreported. Babies with cephalohematomas, caputs, and bruising, often from use of vacuum extractors or forceps, are at high risk because as the injuries heal, the newborn's liver is unable to process the high volume of red blood cell destruction. Physicians frequently document the conditions but do not make the link between the conditions and the jaundice.

The conditions should be coded because they are risk factors, and coders should query for the linkage to the jaundice. Other conditions that code to 774.1 include jaundice due to swallowed maternal blood, drugs or toxins transmitted from the mother, and infection or polycythemia. All of these conditions move the MS-DRG to 794.

"Jaundice Codes and Their Effect on MS-DRG 795" lists other causes of jaundice. Coders should query the physician if they suspect that jaundice is caused by something other than physiologic jaundice. Almost all alternative causes of jaundice move to a higher-weighted MS-DRG.

Documentation Improvement

Hospitals may pursue documentation improvement for the accurate coding of hyperbilirubinemia. Existing newborn exam templates can be modified to provide the physician more complete choices, such as the sample shown in the sidebar at left.

Hospitals may include similar information on query forms, which should be constructed according to the hospital's query policies.

Newborn Exam Template

Existing newborn exam templates can be modified to provide the physician more complete choices.

Jaundice/hyperbilirubinemia due to or associated with:

- Physiologic, full-term infant (774.6)
- Physiologic, pre-term infant (774.2)
- Rh incompatibility (773.0)
- ABO incompatibility (773.1)
- Excessive hemolysis (bruising, cephalohematoma, caput, swallowed maternal blood) (774.1)
- Infection (774.1)
- Polycythemia (774.1)
- Drugs or toxins transmitted from mother (774.1)
- Breast-fed infant (774.39)
- Other:_____

Notes

1. American Academy of Pediatrics. "Clinical Practice Guideline: Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks Gestation." *Pediatrics* 114, no. 1 (July 2004): 297–316. Available online at http://aappolicy.aappublications.org/cgi/reprint/pediatrics;114/1/297.pdf.

2. Bhutani, Vinod K., Lois Johnson, and Emidio M. Sivieri. "Predictive Ability of a Predischarge Hour-specific Serum Bilirubin for Subsequent Significant Hyperbilirubinemia in Healthy Term and Near-term Newborns." *Pediatrics* 103, no. 1 (Jan. 1999): 6–14.
3. The Joint Commission. "Kernicterus Threatens Healthy Newborns." Sentinel Event Alert 18, April 1, 2001. Available online at www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_18.htm.
4. The Joint Commission. "Revised Guidance to Help Prevent Kernicterus." Sentinel Event Alert 31, August 31, 2004. Available online at www.jointcommission.org/SentinelEvents/SentinelEventAlert/sea_31.htm.
5. National Center for Health Statistics. *ICD-9-CM-9-CM Official Guidelines for Coding and Reporting*. Available online at www.cdc.gov/nchs/datawh/ftpserv/ftpicd9/icdguide08.pdf.

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