

Clinical Policy: Home Phototherapy for Neonatal Hyperbilirubinemia

Reference Number: CP.MP.150

Date of Last Revision: 10/21

[Coding Implications](#)

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Description

This policy details medical necessity criteria for home phototherapy for the treatment of neonatal hyperbilirubinemia. Almost all newborns will develop total serum bilirubin (TSB) levels greater than the upper limit of normal for adults, 1 mg/dL. Increasing TSB can cause jaundice, and newborns with severe hyperbilirubinemia are at risk for developing acute neurotoxicity as bilirubin crosses the blood-brain barrier. Acute bilirubin-induced neurologic dysfunction (BIND) can have chronic and permanent neurologic effects, termed kernicterus. Thus, screening for hyperbilirubinemia should be conducted on all infants prior to discharge.

Policy/Criteria

- I. It is the policy of health plans affiliated with Centene Corporation® that conventional phototherapy in the home, applied by a single light source in the blue-green spectrum, for the treatment of physiologic hyperbilirubinemia in *term* (≥ 38 weeks gestation) infants is **medically necessary** when meeting all of the following guidelines:
 - A. Term infant status is one of the following:
 1. Previously discharged home and readmission is being considered only for hyperbilirubinemia;
 2. Infant is currently inpatient and ready for discharge except for needing treatment for elevated bilirubin;
 - B. The infant is feeding well, is active, and appears well;
 - C. If the mother is breastfeeding, she has been offered lactation support from a qualified professional;
 - D. A primary care provider is willing to manage home care with established follow-up within the next 24-48 hours;
 - E. Infant has none of the following risk factors:
 1. Isoimmune hemolytic disease;
 2. Glucose-6-phosphate dehydrogenase (G6PD) deficiency;
 3. Asphyxia;
 4. Significant lethargy;
 5. Temperature instability;
 6. Sepsis;
 7. Acidosis;
 8. Albumin < 3.0 g/dL (if measured);
 9. Birth weight < 2500g;
 10. Significant cephalohematoma or bruising;
 11. Weight loss >10%;
 12. Elevated direct-reacting bilirubin;
 13. Jaundice appearance in first 24 hours of life;
 14. Laboratory or clinical evidence of hypothyroidism;
 - F. TSB is within the levels noted in Table 1 below.¹

CLINICAL POLICY**Home Phototherapy for Neonatal Hyperbilirubinemia****Table 1. Acceptable TSB levels for home phototherapy in infants without risk factors, by age**

Age	TSB Level
24-36 hours	≤ 11 mg/dL
36-48 hours	≤ 14 mg/dL
48-60 hours	≤ 15 mg/dL
60-72 hours	≤ 16 mg/dL
>72 hours	≤ 17 mg/dL

- II.** It is the policy of Centene Corporation that when criteria for home phototherapy are met, inpatient phototherapy for hyperbilirubinemia is **not medically necessary** unless documentation of extenuating circumstances is provided.
- III.** It is the policy of Centene Corporation that other treatment for hyperbilirubinemia, including inpatient phototherapy (when not meeting criteria for home phototherapy per this policy) and exchange transfusion, is **medically necessary** when meeting the most current version of the relevant nationally recognized decision support tools.

Background

Efforts to reduce kernicterus include prevention and management of hyperbilirubinemia. Preventive strategies focus on identifying at-risk infants and beginning preventive therapeutic interventions as needed, usually through universal screening of all neonates for hyperbilirubinemia, which may be performed by measurement of TSB or by use of a transcutaneous device.²

Phototherapy is considered first-line treatment for neonatal hyperbilirubinemia, defined as TSB > 95th percentile on the hour-specific Bhutani nomogram for infants ≥35 weeks gestational age (GA).¹ Phototherapy has been used widely for over 60 years and has been associated with few adverse events in term infants. Phototherapy decreases or reduces the rate of rise of bilirubinemia in almost all cases, regardless of the cause.² It also reduces the risk that TSB will reach the level associated with increased risk of kernicterus and that at which exchange transfusion is recommended.

Some infants are more likely to be readmitted for treatment of hyperbilirubinemia after discharge from the birth hospitalization. Infants discharged in the first two days after birth were more likely to be readmitted for jaundice compared with infants who stayed longer than three days, an association that decreased with increasing GA.⁷ Other risk factors for hyperbilirubinemia include vaginal delivery, exclusively breastfeeding at discharge, primiparous mother, maternal age less than 20 years old, mother with an Asian country of birth, and higher TSB relative to the treatment threshold at phototherapy initiation.^{6,7}

Phototherapy works by using photons from light to alter bilirubin molecules in the superficial capillaries into water-soluble, non-neurotoxic molecules and reducing unconjugated TB levels.³ Conventional phototherapy is delivered by a single light source, and intensive phototherapy is

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delivered by irradiance in the blue-green spectrum (wavelengths of approximately 430–490 nm) of at least 30 µW/cm² per nm (measured at the infant's skin directly below the center of the phototherapy unit) and is delivered to as much of the infant's surface area as possible.⁴

Conventional phototherapy may be delivered in the hospital or in the home setting.⁵

Home phototherapy can be less disruptive to the family and is appropriate for otherwise healthy, term infants without hemolysis and other risk factors, who have TB levels 2 to 3 mg/dL below the recommended threshold level for initiation of hospital phototherapy, are feeding well, and can be closely followed.³

During phototherapy, infants should be placed on their backs and fully exposed to the light with the exception of a diaper. Their eyes should be shielded with an opaque blindfold with attention given to prevent the blindfold from covering the nose or sliding off the eyes.³

American Academy of Pediatrics (AAP)¹

In 2004, the AAP issued updated clinical practice guidelines concerning the assessment and treatment of neonatal hyperbilirubinemia in infants ≥35 weeks. They recommend support and promotion of successful breastfeeding; assessment for severe hyperbilirubinemia before discharge; early follow up based on risk of hyperbilirubinemia; and treatment with phototherapy and/or exchange transfusion to prevent BIND in infants at risk.

National Institute for Health and Care Excellence (NICE)⁸

NICE guidelines cover diagnosing and treating jaundice in order to detect and prevent very high levels of bilirubin. They provide consensus-based thresholds for when phototherapy and exchange transfusion should be initiated by age in hours.

United States Preventive Services Task Force (USPSTF)⁹

The USPSTF stated there was insufficient evidence to make recommendations regarding screening for hyperbilirubinemia for infants ≥35 weeks. They note that risk factors for hyperbilirubinemia include family history of neonatal jaundice, exclusive breastfeeding, bruising, cephalohematoma, ethnicity (Asian or black), maternal age older than 25 years, male sex, glucose-6-phosphate dehydrogenase deficiency, and gestational age less than 38 weeks. The specific contribution of these risk factors to chronic bilirubin encephalopathy in healthy children is not well understood. Currently, the USPSTF notes this recommendation is "inactive."

Coding Implications

This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2020, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

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CPT® Codes	Description
N/A	

HCPCS Codes	Description
E0202	Phototherapy (bilirubin) light with photometer
S9098	Home visit, phototherapy services (e.g., Bili-lite), including equipment rental, nursing services, blood draw, supplies, and other services, per diem

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
P55.0-P55.9	Hemolytic disease of newborn
P58.0-P58.9	Neonatal jaundice due to other excessive hemolysis
P59.20-P59.9	Neonatal jaundice from other and unspecified hepatocellular damage

Reviews, Revisions, and Approvals	Revision Date	Approval Date
New policy	12/17	12/17
References reviewed and updated. Codes reviewed.	10/18	10/18
References reviewed and updated. Specialist review.	10/19	10/19
Added criterion that “if the mother is breastfeeding, she has been offered lactation support from a qualified professional.” References reviewed and updated. Specialist review. Replaced “member” with “member/enrollee in all instances.”	10/20	10/20
Annual review. Clarified in section III. that the statement applies when not meeting criteria for home phototherapy in this policy. References reviewed and updated. Background updated with no clinical significance. Changed “review date” in the header to “date of last revision” and “date” in the revision log header to “revision date.”	10/21	10/21

References

- Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. *Pediatrics*. 2004;114(1):297-316. doi: 10.1542/peds.114.1.297
- Morris BH, Oh W, Tyson JE, et al. Aggressive vs. conservative phototherapy for infants with extremely low birth weight. *New Engl J Med*. 2008;359:1885-86. doi: 10.1056/NEJMoa0803024
- Wong RJ, Bhutani VK. Unconjugated hyperbilirubinemia in the newborn: Interventions. UpToDate. www.uptodate.com. Updated August 21, 2020. Accessed September 20, 2021.
- Kumar P, Chawla D, Deorari A. Light-emitting diode phototherapy for unconjugated hyperbilirubinaemia in neonates. *Cochrane Database Syst Rev*. 2011;2011(12):CD007969. Published 2011 Dec 7. doi:10.1002/14651858.CD007969.pub2
- Snook, J., 2017. Is home phototherapy in the term neonate with physiological jaundice a feasible practice? A systematic literature review. *J Neonatal Nurs*. 2017;23(1):28-39.

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6. Chang, P. and Waite, W., 2020. Evaluation of Home Phototherapy for Neonatal Hyperbilirubinemia. *J Pediatr.* 2020;220:80-85. doi:10.1016/j.jpeds.2020.01.004
7. Lain SJ, Roberts CL, Bowen JR, Nassar N. Early discharge of infants and risk of readmission for jaundice. *Pediatrics.* 2015;135(2):314-321. doi:10.1542/peds.2014-2388
8. Jaundice in newborn babies under 28 days: Clinical guideline CG98. National Institute for Health and Care Excellence. <https://www.nice.org.uk/guidance/cg98>. Published May 19, 2010 (updated October 26, 2016). Accessed September 20, 2021.
9. US Preventive Services Task Force. Screening of infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy: US Preventive Services Task Force recommendation statement. *Pediatrics.* 2009;124(4):1172-1177. doi:10.1542/peds.2009-0128
10. Maisels MJ, Bhutani VK, Bogen D, Newman TB, Stark AR, Watchko JF. Hyperbilirubinemia in the newborn infant > or =35 weeks' gestation: an update with clarifications. *Pediatrics.* 2009;124(4):1193-1198. doi:10.1542/peds.2009-0329
11. Maisels MJ, Watchko JF, Bhutani VK, Stevenson DK. An approach to the management of hyperbilirubinemia in the preterm infant less than 35 weeks of gestation. *J Perinatol.* 2012;32(9):660-664. doi:10.1038/jp.2012.71
12. Morris BH, Oh W, Tyson JE, et al. Aggressive vs. conservative phototherapy for infants with extremely low birth weight. *N Engl J Med.* 2008;359(18):1885-1896. doi:10.1056/NEJMoa0803024
13. Bhutani VK, Wong RJ. Unconjugated hyperbilirubinemia in the preterm infant (less than 35 weeks gestation). UpToDate. www.uptodate.com. Updated July 14, 2020. Accessed September 20, 2021.
14. Johnson L, Bhutani VK, Karp K, Sivieri EM, Shapiro SM. Clinical report from the pilot USA Kernicterus Registry (1992 to 2004). *J Perinatol.* 2009;29 Suppl 1:S25-S45. doi:10.1038/jp.2008.211
15. American Academy of Pediatrics and American College of Obstetrics and Gynecology. *Guidelines for Perinatal Care:* 8th Edition. Elk Grove Village, IL. 2012.
16. Chu L, Qiao J, Xu C. Home-Based Phototherapy Versus Hospital-Based Phototherapy for Treatment of Neonatal Hyperbilirubinemia: A Systematic Review and Meta-Analysis. *Clin Pediatr (Phila).* 2020;59(6):588-595. doi:10.1177/0009922820916894
17. Wong RJ, Bhutani VK. Unconjugated hyperbilirubinemia in term and late preterm infants: Management. UpToDate. www.uptodate.com. Updated December 9, 2019. Accessed September 20, 2021.
18. Pettersson M, Eriksson M, Albinsson E, Ohlin A. Home phototherapy for hyperbilirubinemia in term neonates-an unblinded multicentre randomized controlled trial. *Eur J Pediatr.* 2021;180(5):1603-1610. doi:10.1007/s00431-021-03932-4

Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. The Health Plan makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical

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Note: For Medicaid members/enrollees, when state Medicaid coverage provisions conflict with the coverage provisions in this clinical policy, state Medicaid coverage provisions take precedence. Please refer to the state Medicaid manual for any coverage provisions pertaining to this clinical policy.

Note: For Medicare members/enrollees, to ensure consistency with the Medicare National Coverage Determinations (NCD) and Local Coverage Determinations (LCD), all applicable NCDs, LCDs, and Medicare Coverage Articles should be reviewed prior to applying the criteria

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set forth in this clinical policy. Refer to the CMS website at <http://www.cms.gov> for additional information.

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