

Home Phototherapy

Equipment designed for delivering phototherapy in the home has become available in several parts of the United States in the past few years. Home phototherapy for neonatal hyperbilirubinemia has been suggested as an alternative means of providing care for selected infants while saving much of the cost of continued or added hospitalization. Not enough information is available presently, however, on the safety or efficacy of home phototherapy as compared with alternatives to warrant an endorsement of this form of therapy.

This statement provides preliminary guidelines for physicians who might choose home phototherapy for their patients. No attempt is made here to address the pros and cons of phototherapy per se or to define types of equipment.

A physician who considers the use of home phototherapy should limit its use to infants with the following characteristics: (1) term infants, older than 48 hours, otherwise healthy; (2) serum bilirubin concentration greater than 14 mg/dL but less than 18 mg/dL; (3) no elevation in direct-reacting bilirubin concentration; and (4) diagnostic evaluation (described below) negative.

Prior to therapy, a diagnostic evaluation should include: (1) history and physical examination; (2) hemoglobin concentration or hematocrit; (3) WBC count and differential count; (4) blood smear for red cell morphology platelets; (5) reticulocyte count; (6) total and direct-reacting bilirubin concentration; (7) maternal and infant blood typing and Coombs test; and (8) urinalysis including a test for reducing substances.

The physician should estimate the rate of rise of the serum bilirubin concentration with laboratory determinations at least four hours apart before home phototherapy is initiated. If the concentration of bilirubin is rising too sharply (more than 1 mg in three to four hours) or if there is no rise in serum bilirubin concentration at all in the absence of phototherapy, then home phototherapy is not advisable.

A candidate for home phototherapy should have home caretakers who, in the judgment of the pediatrician, are capable of following instructions. The infant should be full term and otherwise meet the criteria for discharge from the hospital or for continuing care at home. There should be adequate documentation of these criteria. Arrangements must be made to measure the infant's serum bilirubin concentration at least every 12 to 24 hours depending on the previous concentration and the rate of rise. The supervising physician should be in contact with the family daily during the period of treatment.

Parents should sign a consent form that explains the risks (including the possibility that displaced eye patches may occlude the infant's airway) and benefits of the procedure. This form should also outline the roles of the physician, the equipment provider, and the parents in the subsequent care of the infant. The parents should be taught how to use the equipment. They should also be instructed to provide adequate hydration during phototherapy, to apply the eye patches correctly, and to report problems promptly. Written instructions should be provided. Infants should be removed from phototherapy during feedings and diaper changes and when the parents are asleep. Only equipment designed specifically for providing bilirubin reduction should be used for home phototherapy.

Home phototherapy should be discontinued once the serum bilirubin concentration falls below 14 mg/dL. The serum bilirubin concentration should be remeasured 12 to 24 hours after cessation of phototherapy to look for a rebound in bilirubin concentration. The infant should be rehospitalized if he/she shows signs of illness or side effects, or when the serum bilirubin concentration exceeds 18 mg/dL.

COMMITTEE ON FETUS AND NEWBORN, 1984-1985
George A. Little, MD, Chairman
John M. Freeman, MD
John Kattwinkel, MD
Louis I. Levy, MD
Col Gerald Merenstein, MC

Ronald L. Poland, MD
Philip G. Rhodes, MD
Thomas R. C. Sisson, MD

Gerard Ostheimer, MD
Eugene Outerbridge, MD
John A. Van Buskirk, MD

○ Liaison Representatives
James R. Allen, MD, MPH
Fred Frigolletto, MD
Dennis Hey, DO
Donald McNellis, MD

AAP Section Liaisons
Paula Brill, MD
Alfred A. deLorimier, MD
James Mandell, MD

CHARLES DICKENS ON CHILDREN IN A BOSTON ALMSHOUSE (1842)

○ Charles Dickens (1812–1870) was among the first of several English writers who visited the United States during the 1840s. The description below of his visit to a Boston almshouse was included in his *American Notes*¹ which Dickens wrote in 1842 upon completion of his six month's visit to our country.

The orphans and young children are in an adjoining building; separate from this, but a part of the same Institution [House of Industry]. Some are such little creatures, that the stairs are of lilliputian measurement, fitted to their tiny strides. The same consideration for their years and weakness is expressed in their very seats, which are perfect curiosities, and look like articles of furniture for a pauper doll's-house. I can imagine the glee of our Poor Law Commissioners at the notion of these seats having arms and backs; but small spines being of older date than their occupation of the Board-room at Somerset House, I thought even this provision very merciful and kind.

Here again, I was greatly pleased with the inscriptions on the wall, which were scraps of plain morality, easily remembered and understood: such as "Love one another"—"God remembers the smallest creature in his creation"—and straightforward advice of that nature. The books and tasks of these smallest of scholars, were adapted, in the same judicious manner, to their childish powers. When we had examined these lessons, four morsels of girls (of whom one was blind) sang a little song, about the merry month of May, which I thought (being extremely dismal) would have suited an English November better. That done, we went to see their sleeping-rooms above, in which the arrangements were no less excellent and gentle than those we had seen below. And after observing that the teachers were of a class and character well suited to the spirit of the place, I took leave of the infants with a lighter heart than ever I have taken leave of pauper infants yet.

Noted by T.E.C., Jr, MD

○ REFERENCE

1. Dickens C: *American Notes*. New York, Hurd and Houghton, 1868, pp 39–40

Home Phototherapy
Pediatrics 1985;76;136

Updated Information & Services

including high resolution figures, can be found at:
<http://pediatrics.aappublications.org/content/76/1/136>

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Home Phototherapy
Pediatrics 1985;76;136

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/76/1/136>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 141 Northwest Point Boulevard, Elk Grove Village, Illinois, 60007. Copyright © 1985 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

