

Bilirubin Screening in Newborns: What Should We Do?

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In late 2009, *Pediatrics* published three articles related to universal bilirubin screening in newborn infants. The first was the report from the U.S. Preventive Services Task Force (USPSTF).¹ This was followed by two commentaries on the topic.^{2,3} These articles demonstrate the complexity of the issue, as well as the importance of seeking evidence-based recommendations and maintaining impartiality.

According to the USPSTF, there is insufficient evidence at this time to make a recommendation on screening infants for hyperbilirubinemia to prevent chronic bilirubin encephalopathy. While acknowledging the importance of preventing encephalopathy, the USPSTF also notes the uncertainty of the harms of phototherapy; the known harms of exchange transfusions; and the challenge that although we can identify hyperbilirubinemia, we do not know which children will develop chronic bilirubin encephalopathy.

In contrast to the USPSTF, one commentary makes a more aggressive case for screening, recommending that all infants receive a predischarge risk assessment for subsequent severe hyperbilirubinemia.² The second commentary, written by one of the authors of the first commentary, attempts to balance the recommendation to screen with a desire to be evidence-based.³

In the absence of evidence, practicing physicians look to the experts for guidance. In this case, do we opt to recommend only those procedures supported by sufficient evidence (i.e., perform neither bilirubin screening nor phototherapy)? Or, while waiting for the evidence, do we proceed as we were taught (i.e., screen for hyperbilirubinemia and perform phototherapy when indicated)? Or, as a third option, do we follow the opinion expressed in the aforementioned commentary and perform more aggressive screening? In seeking to answer these questions, it is important to carefully analyze expert recommendations and the potential bias that informs them.

Proponents of universal screening for hyperbilirubinemia use a non-evidence-based approach and are swayed by emotions in response to experience. For example, the author of the second commentary has served as an expert consultant on dozens of legal cases and, as a result,

has found the argument in favor of universal bilirubin screening and systematic follow-up to be persuasive.³ The author admits that emotions can affect one's desire to rely only on evidence-based recommendations.

To add to readers' concern and confusion, the primary author of the first commentary is a consultant to the maker of a transcutaneous bilirubin meter and has received grant support from the company. His commentary urges the consideration of transcutaneous bilirubin measurement, although the technology is new, and appears to minimize problems with the devices. In the final analysis, the commentaries make recommendations flawed by emotional argument, personal experience, and vested interest, which limit their usefulness.

Determining an appropriate approach to screening for hyperbilirubinemia remains a problem. As previously noted, we can insist on practicing only evidence-based medicine, or we can cautiously move forward with insufficient evidence. To uniformly require evidence for everything we do is not acceptable. For example, there are no randomized trials to suggest that cigarette smoking is harmful to your health or to suggest that an arterial bleed is appropriately treated with pressure. However, moving cautiously without evidence also can be problematic, as illustrated in innumerable examples of how we have been misled by reasoning via theory or epidemiologic evidence. In the end, a cautious approach is warranted with each physician evaluating the evidence and making his or her own clinical judgment.

A more aggressive approach to screening for hyperbilirubinemia does not have good evidence to support it, nor is it justified to abandon what we have been taught just because there is insufficient evidence at this time. In this case, a middle ground is best: continuing current practice while we wait for better evidence.

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