

# Commentary on Tips for Medical Students and Non-Neonatologists on Physical Examination of the Newborn and Important Aspects of Early Newborn Care—An Irish Perspective

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Examination of the newborn, as summarized by Irish neonatologists, should never be considered “routine.” It must be done methodically and with competency; in performing the thorough examination of the newborn, the head to toe examination must be performed with skill and competence. In medical student education in Ireland, it is recognized that the vast majority of newborn examinations will be performed by non-neonatologists. This is also true in the U.S. where there is substantial variation in the amount of dedicated medical education focused on the newborn examination and care of the “normal” newborn. Other clinical rotations involving population medicine (1) provide mentorship for students. Pediatricians, Family physicians, Nurse Practitioners, and Physician’s Assistants, Certified Nurse Midwives, and in some states licensed direct-entry midwives may examine the newborn. For the asymptomatic newborn, this examination may take place sometime within 24 hours after birth; however, infants who are symptomatic need attention immediately and not after office hours, or when rounds are completed. As mentioned by the author’s in Ireland, the vast majority are examined by “general practitioners” with consultant Neonatologists available to assist and advise.

Thorough and detailed examination of each newborn from head to toe provides reassurance to parents that their newborn is “normal,” but also has the potential to detect abnormalities requiring further diagnostic assessment or imaging that can be communicated to the parents with great sensitivity. Further appreciating the correct timing, positive and negative predictive values of newborn screening tests and their limitations (including hearing screening, an examination of eyes for pupillary symmetry and “red reflex” in both eyes) is essential. Understanding the limitations of upper and lower extremity oximetry targets in detecting congenital heart disease is vital for early referral for an echocardiogram and evaluation when needed by a pediatric cardiologist. Hearing screening is vitally important to recognize when retesting may be required, and when a referral for hearing augmentation is indicated for proper language development. As discussed by the author’s metabolic screening evaluation of the newborn, with some metabolic screening more inclusive than others, will provide for detection of metabolic diseases, thyroid, and adrenal dysfunction or congenital infection such as cytomegalovirus that may need immediate interventions or further consultation.

Teaching newborn examination skills requires a full understanding of transitional physiology minor versus major anomalies, and recognition of often more subtle physical findings or symptoms. Our Irish colleagues have pointed out that these are best taught by Neonatal specialists who more frequently encounter abnormal findings at all gestational ages and who maintain up to date knowledge of the screening test limitations and appropriate interventions when abnormalities are detected. Together with videos and simulation, their teaching methods actually are “hands-on” examination of infants to gain expertise in both the correct techniques of every aspect of the newborn examination. Irish Neonatologists dedicate an entire week to teaching and demonstrating to medical students the finer points of the newborn examination and further discussion with the parents when referrals are needed. Providing anticipatory guidance regarding newborn care by their parents is critically important in both of our countries focused on breastfeeding, nutritional supplements when needed, correct positioning for sleep, use of car seats, and providing reassurance to new parents. In the U.S., the Stanford Medicine website offers an excellent array of photographs with commentary

regarding findings on the newborn examination and provides guidance about common newborn conditions (2), and offers useful teaching for medical students, however, few photographs are as vivid as seeing these conditions firsthand.

In the U.S., too frequently, the electronic medical record (EMR) documents an examination using checkboxes or even a box indicating “all normal findings” in templated newborn exams that may abbreviate the detailed physical examination information needed to be conveyed to parents. Other “exams” may include repetitive “smart phrases” that may imply a detailed exam in the EMR with perhaps with only a space left for the practitioner to specify infant gender and the genital examination. The EMR implies a thoroughness of examination that is difficult to reconcile with the actual examination occurring of many newborns or may enter or omit critical findings of the examination in error with adverse patient consequences (3-4). Further, the information conveyed to pediatrician or family if they did not do the initial exam is often sketchy.

Substantial variation in training modules for newborn examination and care exists in pediatric programs in the U.S., and thus variation in the actual care of the newborns should be expected. The anticipated “normal” infant and their parents deserve careful examination and thoughtful anticipatory parenting guidance. Our Irish colleagues have placed high educational value on training medical students in the examination of newborns using multiple dimensions of teaching and with hand-on experience during their training. They provide an example of excellence in medical education about the newborn examinations to be emulated in many U.S. medical schools, and also those who care for the newborns who may be neither neonatologist nor pediatrician or family physician.

## References:

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