

Neonate

A [newborn](#) or neonate is an [infant](#) who is only hours, days, or up to a few weeks old.

In medical contexts, newborn or [neonate](#) (from Latin, neonatus, newborn) refers to an infant in the first 28 days after birth; the term applies to premature infants, postmature infants, and [full-term neonates](#). Before birth, the term fetus is used.

Rhee et al. reviewed [neonate](#) pressure [autoregulation](#) and autoregulation monitoring techniques with a focus on [brain protection](#). Current clinical therapies have failed to fully prevent permanent [brain injury](#) in neonates. Adjuvant treatments that support and optimize autoregulation may improve neurologic outcomes ¹⁾.

Awareness of [risk factors](#) for the development of [hydrocephalus](#) in newborn infants with [germinal matrix hemorrhage](#) should be emphasized in order to enable an early [diagnosis](#) of [ventriculomegaly](#) and symptomatic hydrocephalus and thus make a correct therapeutic decision ²⁾.

The neonatal state of infants can be quantitatively and automatically evaluated using video cameras, and the activity level can be used to determine an appropriate time for procedures in infants. This will reduce the burden on medical staff and lead to less stressful procedures for infants ³⁾.

Complications

[Periventricular-intraventricular hemorrhage](#)

Classification

Neonates can be classified based on gestational age (preterm, late preterm, term, post term), birthweight (extremely low birthweight [ELBW], very low birthweight [VLBW], low birthweight [LBW], etc.), and gestational age and birthweight combined (small for gestational age [SGA], appropriate for gestational age [AGA], ...

[Early-term neonate](#).

Case series

A [retrospective](#) study was conducted on [neonates](#) born from January 2021-June 2022, excluding those with specific conditions. Evaluated factors included GA, birth weight, [bilirubin](#) levels, [Glucose-6-](#)

[phosphate dehydrogenase deficiency](#), and [feeding](#) type, with [phototherapy](#) given as per AAP guidelines. Of 1085 neonates, 356 met the criteria. When stratifying the neonates based on the need for phototherapy, a higher proportion of early-term neonates required phototherapy compared to full-term ($p < 0.05$). After factoring in various risks (GA; birth weight; gender; feeding type; G6PD deficiency; transcutaneous bilirubin levels at 24 h and 24-48 h postpartum; maternal diabetes; and the presence of [caput succedaneum](#) or [cephalohematoma](#)), [early-term neonates](#) were more likely to need phototherapy than full-term babies (OR: 2.15, 95% CI: 1.21 to 3.80). The optimal cut-off for transcutaneous bilirubin levels 24-48 h postpartum that were used to predict phototherapy need was 9.85 mg/dl. In conclusion, [early-term neonates](#) are at a greater risk for developing jaundice and requiring phototherapy than [full-term neonates](#). Monitoring [bilirubin](#) 24-48 h postpartum enhances early prediction and intervention ⁴⁾.

1)

Rhee CJ, da Costa CS, Austin T, Brady KM, Czosnyka M, Lee JK. Neonatal cerebrovascular autoregulation. *Pediatr Res*. 2018 Sep 8. doi: 10.1038/s41390-018-0141-6. [Epub ahead of print] Review. PubMed PMID: 30196311.

2)

Romero L, Ros B, Arráez M, Ríus F, González L, Martín A, Carrasco A, Segura M. Analysis of risk factors for hydrocephalus development in newborn infants with germinal matrix hemorrhage. *Minerva Pediatr*. 2015 Oct;67(5):401-6. PubMed PMID: 26377778.

3)

Kodama Y, Okamoto J, Imai K, Asano H, Uchiyama A, Masamune K, Wada M, Muragaki Y. Video-based neonatal state assessment method for the timing of procedures. *Pediatr Int*. 2020 Oct 8. doi: 10.1111/ped.14501. Epub ahead of print. PMID: 33034092.

4)

Tan TJ, Chen WJ, Lin WC, Yang MC, Tsai CC, Yang YN, Yang SN, Liu HK. [Early-Term Neonates](#) Demonstrate a Higher Likelihood of Requiring [Phototherapy](#) Compared to Those Born Full-Term. *Children (Basel)*. 2023 Nov 16;10(11):1819. doi: 10.3390/children10111819. PMID: 38002910; PMCID: PMC10670379.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

<https://neurosurgerywiki.com/wiki/doku.php?id=neonate>Last update: **2024/06/07 02:58**