

Should Two-Person NRP Teams Attend Routine Cesarean Sections?

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Abstract

In 1987, the American Academy of Pediatrics (AAP) began the Neonatal Resuscitation Program (NRP) as guidance for the resuscitation of newborns. Now in its eighth edition, NRP provides an education program and algorithm for the care of infants at delivery. According to NRP, 10% of all newborns require some resuscitation measures (drying and stimulation), and 5% will require positive pressure ventilation (PPV). NRP guidelines state one skilled person should be available for all deliveries and two NRP providers be available for deliveries with anticipated problems.

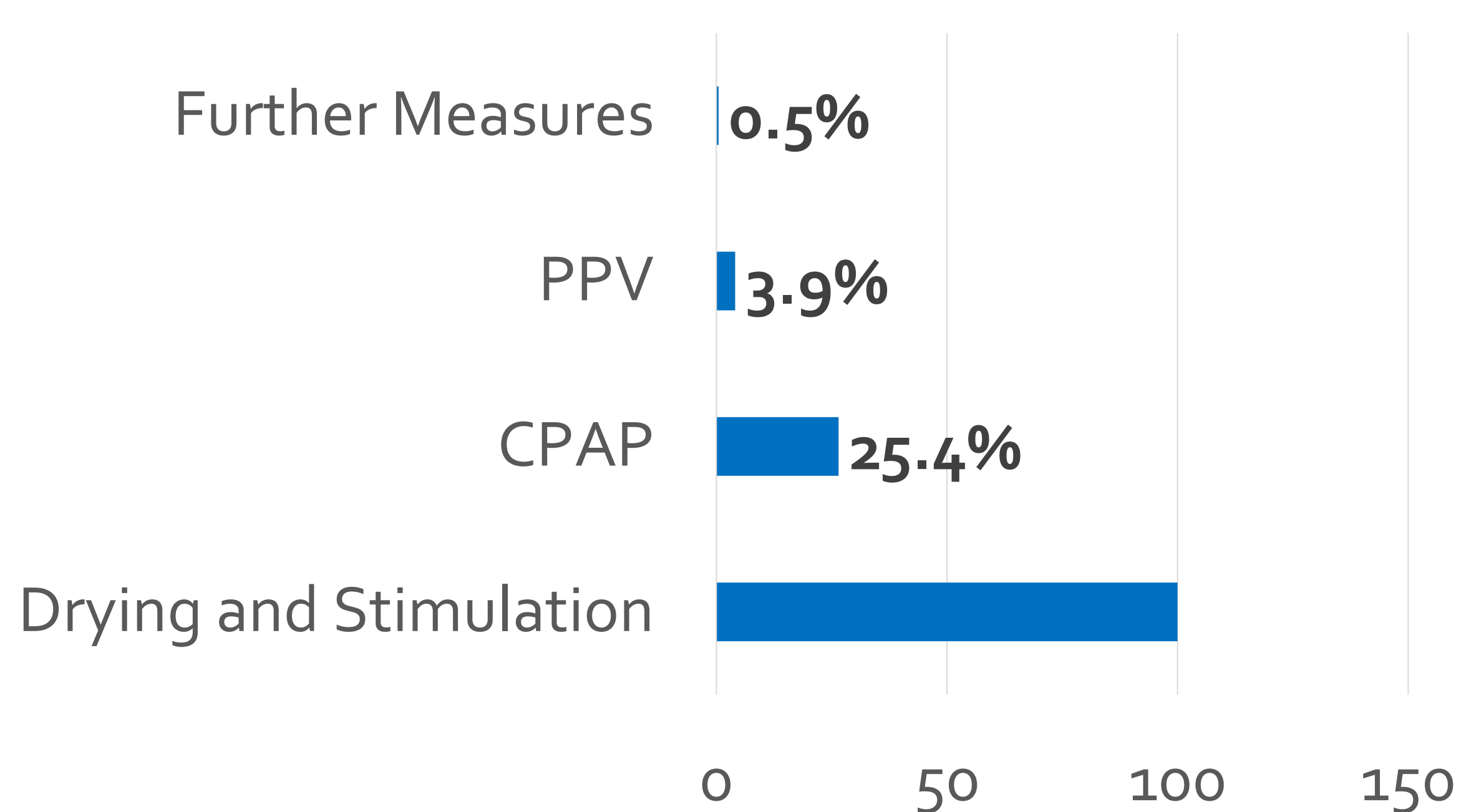
Introduction

An IRB (Institutional Review Board) approved prospective study was initiated on April 1, 2021, and closed on March 31, 2022. Experienced NRP educated providers attended every eligible cesarean delivery (n=415). All infants ≥ 35 0/7 weeks gestation delivered by cesarean section were eligible for the study. Any infant with a non-reassuring fetal heart tracing, meconium, abruption, expected NICU (neonatal intensive care unit) admission, infants affected by a maternal condition, and deliveries under general anesthesia, were excluded from the study.

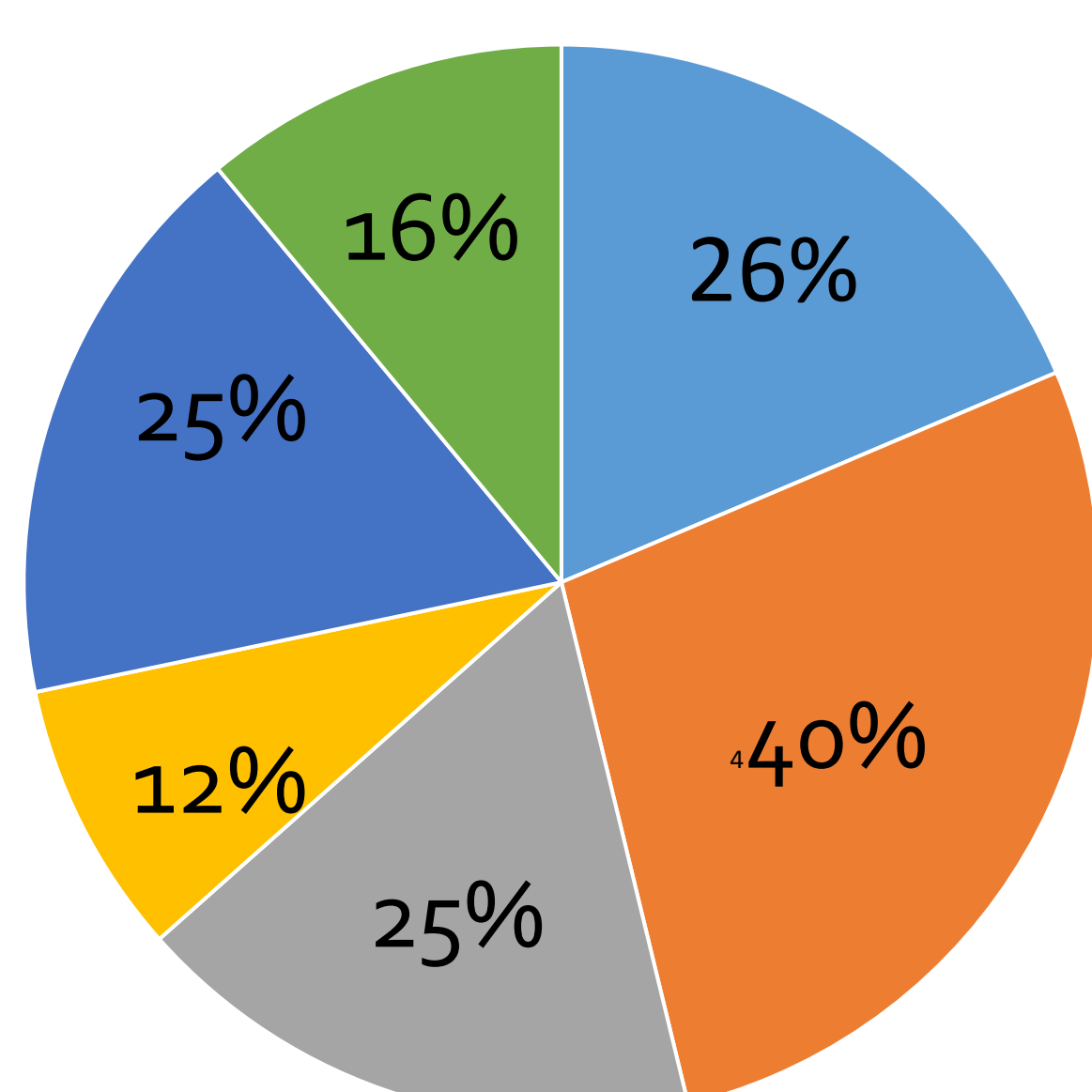
Methods

A prospective study was conducted with NRP educated providers attending each eligible delivery (n=415) from April 1, 2021, to March 31, 2022. All healthy infants >35 0/7 weeks gestation delivered by non-emergent cesarean section were eligible. Any infant with a non-reassuring fetal heart tracing, meconium, abruption, expected NICU admission, and deliveries under general anesthesia, were excluded.

Resuscitation Measures



Continuous Positive Airway Pressure (CPAP) Use by Gestational Age



■ 35 ■ 36 ■ 37 ■ 38 ■ 39 ■ 40

Results

Most deliveries were performed at 39 weeks gestation (n=203; 48.9%), followed by 37 weeks (n=91; 21.9%). Scheduled repeat sections accounted for 49.5% (n=205) followed by failure to progress, (n=86; 20.8%), breech (n=65; 15.7%), a maternal reason not affecting the infant (n=41; 9.9%), with 4.1% (n=17) a previous cesarean section arriving in labor. After drying and stimulation (n=415; 100%), 25.4% (n=105) required CPAP (continuous positive airway pressure) to assist in transition and 3.9% (n=16) needed PPV.

Discussion

Over one quarter of the infants born via a non-emergent surgical delivery needed a two-person NRP team rather than the one required when a healthy baby is expected. All babies were dried and stimulated; a number far greater than the 10% stated by NRP. For parents desiring immediate bonding, this study demonstrates that there may be a delay in reaching this goal. Further studies may lead to a better understanding of resuscitation measures required in the healthy, term population.

References

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- Fernandes, C. (2022). Neonatal resuscitation in the delivery room. UpToDate. <https://www.uptodate.com/contents/neonatal-resuscitation-in-the-delivery-room>.
- Marshall, S., Lang, A. M., Perez, M., & Saugstad, O.D. (2020). Delivery room handling of the newborn. *Journal of Perinatal Medicine*, 48(1), 1-10. <https://doi.org.roxygw.wrlc.org/10.1515/jjpm-201900304>.

Disposition

