

## ABSTRACTS FROM CURRENT LITERATURE

### **Updates for the Neonatal Resuscitation Program and Resuscitation Guidelines**

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*Neoreviews*. 2022;23(4):e238-e249.

Although most newborns require no assistance to successfully transition to extrauterine life, the large number of births each year and limited ability to predict which newborns will need assistance means that skilled clinicians must be prepared to respond quickly and efficiently for every birth. A successful outcome is dependent on a rapid response from skilled staff who have mastered the cognitive, technical, and behavioral skills of neonatal resuscitation. Since its release in 1987, over 4.5 million clinicians have been trained by the American Heart Association and American Academy of Pediatrics Neonatal Resuscitation Program®. The guidelines used to develop this program were updated in 2020 and the *Textbook of Neonatal Resuscitation*, 8th edition, was released in June 2021. The updated guidelines have not changed the basic approach to neonatal resuscitation, which emphasizes the importance of anticipation, preparation, teamwork, and effective ventilation. Several practices have changed, including the prebirth questions, initial steps, use of electronic cardiac monitors, the initial dose of epinephrine, the flush volume after intravascular epinephrine, and the duration of resuscitation with an absent heart rate. In addition, the program has enhanced components of the textbook to improve learning, added new course delivery options, and offers 2 course levels to allow learners to study the material that is most relevant to their role during neonatal resuscitation.

### **Neonatal Resuscitation in Delivery Room: Current Trends and Guidelines in 2022**

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*Current Anesthesiology Reports*. 2023;13:67-75.

#### **Purpose of Review**

This review article summarizes current trends and provides an updated overview of the 2020 guidelines on neonatal resuscitation in the delivery room.

Neonatal respiratory depression, which accounts for one-third of all neonatal mortality, results in approximately 1 million newborn deaths each year worldwide due to asphyxia at birth.

#### **Recent Findings**

Around 10% of all newborns will require some intervention, while less than 1% of all newborns necessitate intensive resuscitation at birth. An increase in heart rate during the first few minutes is the key sign of the newborn's smooth transition from intrauterine to extrauterine life. Efficient and timely resuscitation at birth may improve the outcomes of the resuscitated newborn.

#### **Summary**

The neonatal mortality rate due to respiratory depression may be decreased by evidence-based resuscitative efforts that encourage or assist the newborn to initiate and/or sustain breathing. Neonatal resuscitation involves basic interventions such as tactile stimulation, airway clearance, positive pressure ventilation, chest compression, and medication therapy.

### **Vitamin D Deficiency (VDD) and Susceptibility towards Severe Dengue Fever - A Prospective Cross-Sectional Study of Hospitalized Dengue Fever Patients from Lahore, Pakistan**

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#### **Abstract**

Dengue is a mosquito-borne flaviviral serious febrile illness, most common in the tropical and subtropical regions including Pakistan. Vitamin D is a strong immunomodulator affecting both the innate and adaptive immune responses and plays a pivotal role in pathogen-defense mechanisms. There has been considerable interest in the possible role of vitamin D in dengue viral (DENV) infection. In the present prospective cross-sectional study, we assessed a possible association between serum vitamin D

deficiency (VDD) and susceptibility towards severe dengue fever (DF) illness. Serum vitamin D levels were measured at the time of hospitalization in 97 patients diagnosed with dengue fever (DF), dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS) at Mayo Hospital, King Edward Medical University, Lahore, PK, from 16 November 2021 to 15 January 2022. In terms of disease severity, 37 (38.1%) patients were DF, 52 (53.6%) were DHF grade 1 and 2, and 8 (8.2%) were DSS. The results revealed that most patients (75 (77.3%)) were vitamin-D-deficient (i.e., serum level < 20 ng/mL), including 27

(73.0%) in DF, 41 (78.8%) in DHF grade 1 and 2, and 7 (87.5%) in DSS. The degree of VDD was somewhat higher in DSS patients as compared to DF and DHF grade 1 and 2 patients. Overall, serum vitamin D levels ranged from 4.2 to 109.7 ng/mL, and the median (IQR) was in the VDD range, i.e., 12.2 (9.1, 17.8) ng/mL. Our results suggest that there may be a possible association between VDD and susceptibility towards severe dengue illness. Hence, maintaining sufficient vitamin D levels in the body either through diet or supplementation may help provide adequate immune protection against severe dengue fever illness. Further research is warranted.