

## Considering an Update on Umbilical Cord Milking for the New Guidelines for Neonatal Resuscitation

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**We have to thank** Aziz et al<sup>1</sup> who, on behalf of the American Heart Association and American Academy of Pediatrics, published the 2020 neonatal resuscitation guidelines, which detail, on the basis of current evidence, procedures, and interventions, what must be performed during the newborn's first minutes of life, in particular during the first minute, to restore cardiorespiratory function. This timeframe is full of activities, including assessment of the newborn's muscular tone, breathing, and heart rate and if necessary oxygen saturation, electrocardiogram, and need of support with positive pressure ventilation.<sup>1</sup> Moreover, umbilical cord management must be decided at the same time. The 2020 guidelines report these recommendations: "For preterm and term infants who do not require resuscitation at birth, it is reasonable to delay cord clamping for longer than 30 s[econds]"<sup>1(pS167)</sup> and "For term and preterm infants who require resuscitation at birth, there is insufficient evidence to recommend early cord clamping versus delayed cord clamping,"<sup>1(pS167)</sup> specifying that early cord clamping (ECC) means clamping within 30 seconds after birth. Thus, since most infants born very preterm need resuscitation, virtually none of them may have the potential beneficial effects of delayed cord clamping (DCC), although this strategy has been found to decrease mortality in infants born at 28 weeks' gestation or less.<sup>2</sup> Moreover, the guidelines report that umbilical cord milking (UCM) "is being studied as an alternative to delayed cord clamping but should be avoided in babies less than 28 weeks' gestational age, because it is associated with brain injury"<sup>1(pS168)</sup> and concluded, therefore, that "for infants born at less than 28 w[ee]k[s] of gestation, cord milking is not recommended."<sup>1(pS167)</sup> Thus, the strong message of these guidelines<sup>1</sup> is that UCM must be avoided in infants born very preterm, and most neonatologists will likely be prompted to stop milking cords and will continue to clamp them immediately in infants in more severe condition who require resuscitation.

But what are the actual facts supporting this recommendation? Guidelines recommend avoiding UCM refer to a single randomized clinical trial by Katheria et al.<sup>3</sup> This study found that severe intraventricular hemorrhage (grade 3 or more) was significantly more frequent (22% vs 6%) in infants born at 23 weeks and 0 days' gestation to 27 weeks and 6 days' gestation who had UCM, in comparison with those who had DCC.<sup>3</sup> However, this study did not include a control group assisted with the current standard of care,<sup>3</sup> namely ECC, and therefore what it actually demonstrates is that DCC is more effective than UCM in preventing severe intraventricular hemorrhage but not that UCM is less effective or more dangerous than ECC in infants born preterm and full term who need resuscitation at birth. On the other hand, it is noteworthy that the

severe intraventricular hemorrhage rate of 22% in infants assisted with UCM<sup>3</sup> is not higher than expected, since the Vermont Oxford Network reports a median occurrence of 29.8% (interquartile range, 0%-50%) and 12.9% (interquartile range, 0%-22.7%) in infants born at less than 24 weeks' gestation or 24 to 26 weeks' gestation, respectively, who were presumably assisted at birth with ECC.

In 2020, Balasubramanian et al<sup>4</sup> meta-analyzed 19 studies that had enrolled 2014 infants born preterm and demonstrated that DCC improves outcomes in comparison with ECC and UCM. Moreover, they found that UCM had a similar association with the risk of severe intraventricular hemorrhage (relative risk [RR], 0.69 [95% CI, 0.38-1.24]) in comparison with ECC.<sup>4</sup> These results were partially confirmed by Seidler et al,<sup>5</sup> who meta-analyzed 42 randomized clinical trials (including 5772 infants born preterm) in 2021 and found that DCC and UCM slightly improved survival in comparison with ECC (RRs, 1.02 [95% CI, 1.00-1.04] and 1.02 [95% CI, 0.98-1.06], respectively) without affecting the risk of severe intraventricular hemorrhage (RRs, 0.98 [95% CI, 0.67-1.42] and 0.72 [95% CI, 0.44-1.19], respectively). In particular, they found that DCC and UCM present similar risks of severe intraventricular hemorrhage (RR, 0.60 [95% CI, 0.32-1.12]). Moreover, Jasani et al<sup>6</sup> meta-analyzed 56 studies that enrolled 6852 infants born preterm and found that, compared with ECC, DCC decreased mortality (odds ratio [OR], 0.64 [95% CI, 0.39-0.99]) and risk of intraventricular hemorrhage (OR, 0.73 [95% CI, 0.54-0.97]).<sup>6</sup> Compared with ECC, UCM decreased the risk of intraventricular hemorrhage (OR, 0.58 [95% CI, 0.38-0.84]), while there was no significant difference between UCM and DCC for any outcome. Thus, it seems more than reasonable to argue that UCM is more beneficial than ECC or, at the very least, it is not more dangerous. This conclusion seems to be shared by many neonatologists, since a recent systematic review of clinical practice guidelines on DCC and UCM, including statements from 35 national and international professional societies, reported that among 23 recommendations on UCM in 20 statements, 15 "suggested that UCM may be considered when DCC is infeasible and when there is significant maternal bleeding, when there is a need for immediate neonatal support, or in emergency situations."<sup>7(p6)</sup>

Therefore, our view is that the statement that UCM "should be avoided in babies less than 28 weeks' gestational age, because it is associated with brain injury"<sup>1(pS168)</sup> is not supported by the current literature and implies that ECC is the only allowed umbilical cord management approach in infants who need resuscitation. Moreover, the improper association of UCM with an increased risk of brain injury in this fragile population will make it very difficult to perform further high-quality studies comparing outcomes of ECC, UCM, and DCC in infants who need resuscitation, limiting the

expansion of knowledge in this crucial area of neonatal care. In fact, the application of this recommendation<sup>1</sup> might lead to the abandonment of UCM, although current evidence<sup>4-6</sup> demonstrates that UCM allows a better outcome than ECC in infants born extremely preterm who cannot be assisted with DCC.

It has recently been demonstrated that portable resuscitation trolleys for neonatal assistance with intact placental circulation at the mother's bedside allow DCC in many infants born preterm who need resuscitation, making the choice between UCM and ECC less critical.<sup>8</sup> However, for now, to our knowledge, there are no evidence-based reasons to recommend against UCM in favor of ECC because of adverse neurological effects.

In conclusion, we believe that the 2020 neonatal resuscitation guidelines<sup>1</sup> are very important and their authors deserve our

gratitude, but the recommendation against UCM in infants of less than 28 weeks' gestational age is not supported by evidence and should be moderated, because there are studies which suggest that UCM can have beneficial associations with neonatal outcomes in comparison with ECC when DCC is infeasible. From this point of view, previous neonatal resuscitation guidelines, which have advised against the routine use of UCM and encouraged more randomized clinical trials involving infants born at less than 29 weeks' gestation, are more balanced and constructive than the latest version.<sup>1</sup> Therefore, we believe that scientific societies should take these considerations into account and reevaluate their statements on UCM, acknowledging that there is a great need for in-depth study of umbilical cord management in infants born preterm, which should be favored by guidelines.

#### ARTICLE INFORMATION

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#### VIEWPOINT

## Addressing Suicide Among Black Youths A Call to Action Within and Outside Clinical Practice

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**Historically**, epidemiological research has found the rate of suicide to be lower among Black populations compared with White populations in the US. This finding, however, has been used among research, funding, and clinical communities to justify the lack of knowledge about and targeted interventions for suicidality among Black individuals. The suicide rate among Black children younger than 12 years is double that of White children, and the gap between suicide rates among White and Black adolescents has been narrowing.<sup>1</sup> While recent funding bodies (eg, the National Institute of Mental Health) have called for research in understanding suicidality among Black individuals, especially among youths, the anticipated research will likely be slow and ultimately insufficient to address the urgency of suicide in Black youths.

In this Viewpoint, we discuss 3 areas (assessment, intervention, and advocacy) in which clinicians can begin to address suicide in Black youths. However, we first want to highlight that suicide among Black youths exists within a complex historical, sociological, and cultural system. Clinicians must first understand why Black commu-

nities distrust health care professionals and the health care system. The roots of this distrust are likely traced back to slavery, epitomized by the Tuskegee Syphilis study, and exacerbated by systemic barriers to care and clinician-held racial biases.<sup>2</sup> This distrust may be particularly salient for US Black youths, who are more likely to receive mental health services through law enforcement or involuntary treatment because of these continued biases.<sup>2</sup> Black youths encounter numerous other structural barriers (eg, lack of insurance coverage, transportation problems, long waiting lists) and attitudinal barriers (eg, cultural mismatches with clinicians, perception of services as ineffective or unneeded, stigma) in accessing mental health services.<sup>3</sup> Furthermore, even if Black youths use mental health services, their care may lack quality and cultural competency, rendering it inadequate.

#### Assessment

Recent suicide prevention initiatives emphasize the importance of universal screening for suicidality across health care settings. While we echo this call, expressions of suicidality and risk factors may differ for Black youths.