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**The timing of labor epidurals in COVID-19 parturients: a balance of risk and benefit**

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To the Editor

Thank you to Bauer et al for their narrative review summarizing the obstetric management of parturients with COVID-19 infection.<sup>1</sup> In this article the authors recommend “early epidural placement” for parturients with suspected or confirmed COVID-19. The purpose of this recommendation is, firstly, to avoid exacerbation of the patient’s respiratory symptoms and, secondly, to minimize the risk of virus transmission to healthcare workers by avoiding the aerosol generation associated with general anesthesia. However, a potential unintended consequence of this recommendation is an increased incidence and severity of intrapartum pyrexia. Labor epidural analgesia increases the risk of intrapartum pyrexia two and a half-fold and this risk increases with duration of epidural analgesia.<sup>2</sup> Additionally, due to the increase in metabolic rate associated with a systemic inflammatory response, the rate of temperature rise is likely to be greater in parturients with COVID-19.<sup>3</sup>

An increased incidence of intrapartum pyrexia during the COVID-19 pandemic has two potentially significant consequences. Firstly, it creates additional logistical challenges for already overstretched maternity departments and, secondly, it may increase the risk of adverse neonatal neurological outcome. During the COVID-19 pandemic, a parturient who develops intrapartum pyrexia should be treated as a suspected case and measures instituted to reduce the risk of transmission, including use of personal protective equipment (PPE), isolation of the patient and disinfection of the patient’s environment. This can result in treatment delays for the affected patient and for other parturients. For example, donning PPE for an emergency caesarean delivery may prolong the patient’s decision-to-delivery interval, whilst recovery of the patient in the operating theatre and cleaning of the theatre following discharge may delay emergency deliveries of other parturients. The increased risk of adverse neonatal neurological outcome may be less

apparent to healthcare workers on the frontline. However, intrapartum pyrexia of any cause is associated with an increased risk of neonatal encephalopathy and cerebral palsy<sup>4</sup> and epidural hyperthermia per se is associated with adverse short-term neonatal outcomes, including early-onset seizures.<sup>5</sup>

The optimal time to site an epidural in a parturient with suspected or confirmed COVID-19 is not therefore as simple as “the earlier the better”. We believe the decision should be made on a case-by-case basis and should take into account the parturient’s respiratory status, the likelihood of progression to emergency caesarean delivery and the likelihood of a prolonged labor. For example, in the case of a primiparous parturient with minimal respiratory symptoms and an otherwise uncomplicated pregnancy, it may be reasonable to adopt a “business as usual approach”, rather than siting the epidural “early”. We believe that adopting such a strategy minimizes the risk of respiratory symptom exacerbation and COVID-19 transmission, whilst also minimizing the risk of indirect harm to the neonate and to other parturients.

## References

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