Our suggestions and recommendations are provided in the context of both immediate cord clamping and later (delayed) clamping being commonly practiced following preterm delivery. We are also aware that there have been historical and regional changes in cord management practices over recent decades {Downey 2012 325}. We acknowledge the perception of immediate clamping as a medical intervention, and of deferring clamping as a ‘natural’ or ‘physiological’ approach, and the paradox that many studies defined immediate clamping as the control. {Hooper 2016 4}

We accept that in making our recommendations, we are, influenced by current cord management practices with respect to preterm delivery. If our current norm for cord management were delayed clamping, we would have rejected early clamping and recommended further study of cord milking as an alternative in infants born at ≥28 weeks gestational age. However, if our current norm were early clamping, our recommendations to change current practice would have to be more cautious given the weak evidence.

There are findings from animal studies that cardiorespiratory transition after birth occurs more effectively when cord clamping is deferred {Niermeyer 2013 385}. There are also the issues of societal, maternal, and practitioner preferences in deciding the timing of cord clamping.

With respect to equity, acceptability, accessibility, and cost, deferring cord clamping for ≥30s and intact-cord milking are inexpensive, readily available, universally applicable interventions that can be performed irrespective of setting {Bhutta 2013 452}. We acknowledge that some additional costs may be involved in training neonatal and maternal caregivers and in explaining these practices to mothers and families. We believe that our use of national income to subdivide studies may have been methodologically flawed as individual countries may have a mixture of well and poorly resourced settings. We feel that the beneficial effect of delayed clamping in high-income countries is likely to be generalizable and it should therefore be offered in all settings.

In studying cord management, there remains a concern about maternal well-being. Although differences in maternal safety outcomes were not found, the data on maternal outcomes are limited.

We are influenced by the recent study suggesting potential harm from intact-cord milking at less than 28 weeks gestational age. {Katheria 2019 1877} Even though recruitment ended early because of concerns about safety, the available data raised concerns regarding milking in the extremely preterm infant.

Most trials allowed that infants who were perceived to require resuscitation could have had early cord clamping, even if they were assigned to later (delayed) clamping in an RCT. Therefore, their optimal cord management remains unresolved. Several studies of resuscitation with the cord intact are planned or underway. They may answer how the cord should be managed in this sub-population. We defer our recommendation until these studies are completed.

With respect to the upper limit of duration of later (delayed) cord clamping, we note that in comparison 1, 20 out of 23 studies intended clamping between 30 and 90 seconds, and 3 studies intended clamping at 120 seconds or more.

Individual patient meta-analyses such as the iCOMP network meta-analysis will include a larger number of studies and more options for comparisons, with or without resuscitation, and may help identify the optimal cord management strategy. {Seidler 2020 e034595}

The Task Force debated the certainty of evidence for the overall recommendation of later (delayed) cord clamping. Even though evidence for survival was ‘moderate certainty’, the doubt raised by the post hoc analysis of mortality justified downgrading our primary recommendation to ‘low certainty of evidence’.

Exclusion criteria from clinical trials were a significant concern for the Task Force. Many pregnancies were excluded from studies for the following reasons:

* Multiple fetuses
* Congenital anomalies and hydrops
* Placental abnormalities, including placenta previa, vasa previa, and abruption
* Alloimmunization and/or fetal anemia
* Fetal compromise including fetal growth restriction
* Maternal conditions or obstetrical concern

We were unable to draw conclusions from subgroup analyses with respect to these exclusion criteria. We therefore suggest caution when making cord management decisions in the presence of any of these conditions. In the absence of evidence from these subgroups, decisions regarding cord management should be individualized and based on the severity of the presenting condition(s) and an assessment of risk to the mother or baby during and after delivery.

Many of the included studies did not record the exact time of cord clamping. The details of cord management including the timing of clamping should be routinely recorded in clinical practice and research studies.

In summary, given the current evidence, we value the trend towards improved survival rates with later (delayed) cord clamping compared to early cord-clamping, the lack of evidence for harm from this deferral, and the fact that with both delayed cord-clamping and intact-cord milking, fewer infants received inotropic support and transfusions.