Table 23. Suctioning Clear Amniotic Fluid at Birth

Outcomes (importance)	Participants (studies), n	Certainty of the evidence (GRADE)	RR (95% CI)	Anticipated absolute effects, n	
				Risk with no suctioning	RD with suctioning
Assisted ventilation (important)	742 (3 RCTs) Bancalari et al,[190] 2019 Kelleher et al,[195] 2013 Modarres Nejad et al,[196] 2014	Very low	0.72 (0.40–1.31)	64/1000	18 fewer/1000 (39 fewer–20 more)
Advanced resuscitation and stabilization interventions (important)	742 (3 RCTs) Bancalari et al,[190] 2019 Kelleher et al,[195] 2013 Modarres Nejad et al,[196] 2014	Very low	0.72 (0.40–1.31)	64/1000	18 fewer/1000 (39 fewer–20 more)
Oxygen saturations at 5 min (important)	280 (3 RCTs) Bancalari et al,[190] 2019 Modarres Nejad et al,[196] 2014 Takahashi,[197] 2009	Very low	Not applicable	Mean oxygen saturation, 84%	MD, 0.26% lower (1.77% lower–1.26% higher)
HR at 5 min (important)	84 (1 RCT) Bancalari et al,[190] 2019	Very low	Not applicable	Mean HR, 162 bpm without suctioning	MD, 1.00 bpm lower (7.96 bpm lower–5.96 bpm higher)

GRADE indicates Grading of Recommendations Assessment, Development, and Evaluation; HR, heart rate; MD, mean difference; RCT, randomized controlled trial; RD, risk difference; and RR, risk ratio.

- Time frame: All years and all languages were included if an English abstract was available. The literature search was performed on September 21, 2021.

Consensus on Science

The SysRev identified 11 studies (9 RCTs including 1138 participants[190–198] and 2 observational studies[199,200]) for inclusion. The studies enrolled predominantly healthy, low-risk term newborn infants. For 2 of the RCTs[193,194] enrolling 280 participants, the task force had concerns about the reliability of the oxygen saturation and heart rate data. Therefore, results of these studies have been excluded from the meta-analysis. In sensitivity analysis, exclusion of these studies did not change the overall outcome.

Data relating to the key critical and important outcomes for this comparison are summarized in Table 23. Evidence for additional outcomes that were evaluated is included in the full online CoSTR.[189]

For all predefined subgroup analyses, insufficient data were available.

Treatment Recommendations

We suggest that suctioning of clear amniotic fluid from the nose and mouth should not be used as a routine step for newborn infants at birth (weak recommendation, very low–certainty evidence).

Airway positioning and suctioning should be considered if airway obstruction is suspected (good practice statement).

Justification and Evidence-to-Decision Framework Highlights

The complete evidence-to-decision table is provided in Supplemental Appendix A.

The NLS Task Force found no justification to routinely use an intervention such as oral and nasal suctioning in the absence of demonstrated benefit. The participants in the included studies were predominantly healthy, term newborn infants, and no benefit was found. There could also be potential for unmeasured harm if routine suctioning caused delay in resuscitation for those who require it.

This SysRev recommendation does not apply to situations when there are concerns about airway obstruction.

Task Force Knowledge Gaps

- The role of suctioning of clear amniotic fluid at birth for newborn infants who are at high risk of needing respiratory support or more advanced resuscitation
- The role of suctioning of clear amniotic fluid at birth for preterm newborn infants
- Adherence to guidelines in relation to suctioning of the upper airway

Tactile Stimulation for Resuscitation Immediately After Birth (SysRev)

Rationale for Review

Tactile stimulation has been included in the initial steps of stabilization of the newborn infant in the treatment recommendations from ILCOR in 1999, 2006, 2010, 2015, and 2020[140,187,188,201,202] largely on the basis of expert opinion. Because the effectiveness of tactile stimulation to facilitate breathing at birth has never been systematically evaluated by ILCOR, this PICO question was prioritized by the NLS Task Force for SysRev (PROSPERO; CRD42021227768).[203] The full text of this CoSTR can be found on the ILCOR website.[204]

PICO, Study Design, and Time Frame

- Population: Term or preterm newborn infants immediately after birth with absent, intermittent, or shallow respirations