



臺北市立萬芳醫院 - 委託臺北醫學大學辦理

Taipei Municipal Wanfang Hospital (Managed by Taipei Medical University)

正常新生兒出生需常規使用抽吸管 抽吸口鼻羊水嗎?對生理指標的影響

產房

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前言

- 出生時，嬰兒的肺部和上呼吸道都充滿液體，這些肺液會被肺部吸收，健康的嬰兒可以通過吞嚥、吸入及打噴嚏清除液體。
- 國際許多地方的做法仍是常規進行口鼻咽抽吸。
- 越來越多的研究表明，常規抽吸可能沒有益處並可能有不良後果。
 - ① 心血管負向反應包含血壓上升（ Limperopoulos et al., 2008 ）、心跳變快或心跳變慢（ Hoellering et al., 2008; Taylor et al., 2011 ），此可能是因為抽吸時對迷走神經的刺激所造成的心跳變化（ Gunderson, Stone, & Hamlin, 1991 ）。
 - ② 抽吸管置入對氣管壁的直接刺激以及抽吸時的負壓皆可能造成黏膜組織的損傷（ Ahn & Hwang, 2003 ），也可能水腫與發炎，甚至出血（ Ahn & Jun, 2003 ）。
- 國際心肺復甦聯合會（ ILCOR ）及世界衛生組織（ WHO ）分別在2010年及2017年發表文獻表示抽吸可能有不良影響，建議「**不再推薦對新生兒進行常規的口鼻咽抽吸。**」



現況-1

- 胎兒娩出時，不論週數及是否有胎便吸入，醫師以吸球進行口鼻抽吸，抱至處理台由護理師擦乾擺位，以抽吸管進行口鼻咽喉抽吸並且評估第一分鐘 Apgar score。

Appearance

Pulse

Grimace

Activity

Respiration

Scoring

- ✓ 7-10 Good Prognosis
- △ 4-6 Impending Respiratory Arrest
- 0-3 Needs Supplemental Oxygen

其中抽吸為刺激反射

APGAR score assess newborns 1 minute and 5 minutes after they are born.

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- 抽吸管尺寸
足月兒-8Fr(藍)、早產兒-6Fr(綠)



現況-2

| 北區醫學 中心 | 執行方式 | | |
|------------|---------------|---------------|------------------|
| | <u>吸球+抽吸管</u> | <u>必要時抽吸管</u> | <u>吸球+必要時抽吸管</u> |
| 萬芳醫院 | v | | |
| A院 | | | v |
| B院 | v | | |
| C院 | | v | |
| D院 | | v | |
| E院 | v | | |
| F院 | v | | |



臨床問題

正常新生兒出生需常規使用抽吸管 抽吸羊水嗎？

P 新生兒

I 不常規抽吸口鼻羊水

C 常規抽吸口鼻羊水

O 主要結果:輔助通氣
次要結果:新生兒復甦術
給予氧氣
抽吸的不良反應
入住新生兒加護病房



文獻搜尋

| Search | Actions | Details | Query | Results | Time |
|--------|---------|---------|---|-----------|----------|
| #7 | ... | > | Search: (((new born) OR (neonate)) OR (infants)) AND (suction) AND (assisted ventilation) Filters: Systematic Review, in the last 5 years | 2 | 19:08:23 |
| #6 | ... | > | Search: (((new born) OR (neonate)) OR (infants)) AND (suction) AND (assisted ventilation) Filters: in the last 5 years | 9 | 19:08:16 |
| #5 | ... | > | Search: (((new born) OR (neonate)) OR (infants)) AND (suction) AND (assisted ventilation) | 61 | 19:08:05 |
| #4 | ... | > | Search: ((new born) OR (neonate)) OR (infants) AND (suction) | 2,790 | 19:07:03 |
| #3 | ... | > | Search: infants | 1,413,633 | 19:03:25 |
| #2 | ... | > | Search: neonate | 869,682 | 19:03:09 |
| #1 | ... | > | Search: new born | 29,670 | 19:02:43 |



Suctioning of clear amniotic fluid at birth: A systematic review.

2 Fawke J, Wyllie J, Udaeta E, Rüdiger M, Ersdal H, Wright MD, Wyckoff MH, Liley HG, Rabi Y, Weiner GM;

Cite International Liaison Committee On Resuscitation Neonatal Life Support Task Force.

Resusc Plus. 2022 Sep 17;12:100298. doi: 10.1016/j.resplu.2022.100298. eCollection 2022 Dec.

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PMID: 36157918 [Free PMC article.](#) Review.

Negative effects could exceed benefits of **suction**. QUESTION: In **infants born** through clear amniotic fluid (P) does **suctioning** of the mouth and nose (I) vs no **suctioning** (C) improve outcomes (O). ...Meta-analyses were performed if 2 RCTs were ava ...



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Review

Suctioning of clear amniotic fluid at birth: A systematic review ☆

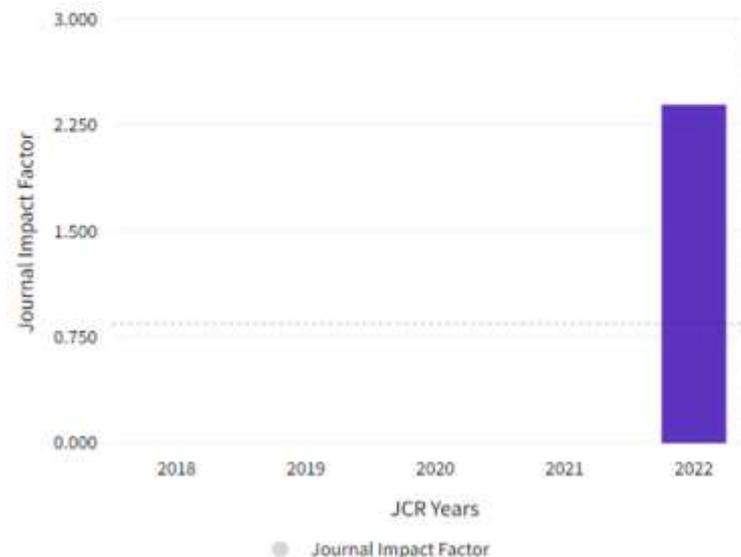


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文獻簡介

- 系統性文獻回顧
 - 研究族群:出生一小時內之新生兒，介入組為未抽吸口鼻咽羊水，對照組為抽吸，探討兩組的血氧、心跳、呼吸。
 - 9項RCT (n=1096)和2項觀察性研究(n=418)
 - ①3項RCT (n=702):主要結果沒有差異
 - ②2項RCT(n=200)和2項前瞻性觀察性研究(n=418):進行抽吸的嬰兒在出生後10分鐘內氧飽和度較低
 - ③2項RCT(n=200):抽吸組需要更長的時間才能達到血氧飽和度(86~92%)。



文獻名詞定義

- 新生兒：出生第一個小時
- 心搏過緩：抽吸過程中或抽吸後 (<20 秒) 心率低於100 次/分，持續 10 秒或更長
- 心律不整：初次口鼻咽抽吸期間或抽吸後(20 秒)內出現呼吸暫停超過20 秒或心搏過緩
- 輔助通氣：正壓通氣，包括持續性正壓呼吸器 (CPAP)
- 進階復甦及介入措施：產房內插管或胸外按壓或腎上腺素
- 不良反應：呼吸暫停、心搏過緩、氧飽和度、心跳、感染、Apgar score低、心律不整
- 非預期轉NICU：非基於出生體重轉新生兒加護病房



Table 1 – Study Characteristics.

| Study Year Country | Design | Eligibility | Enrolled (n) | Suction | No suction | Outcomes | Main Findings |
|-----------------------|--------|--------------------------------------|--------------|--|--|--|---|
| Bancalari 2019 Chile | RCT | Term infants born by C-section | 84 | n = 42 Catheter tube size 8 introduced 6 cm Negative pressure < 30cmH2O Procedure 15 sec | n = 42 No suction Routine care; cleaning | Continuous readings of oxygen saturations and heart rate over the first 10 minutes of life and at 15,30 and 60 minutes | Mean ± SD SaO ₂ at 1 minute of life was 52.6 ± 7.6% (ONPS) vs 56.1 ± 10.8% (no ONPS) with no significant difference (p = 0.28). Mean ± SD HR at 1 minute of life was 148 ± 13 (suction) vs 148 ± 13 (no suction). No significant difference was found in the subsequent minutes |
| | | 剖腹產出生的足月兒 | | | | 出生10/15/30/60分鐘的血氧及心跳 | 無顯著差異 |
| Carrasco 1996 Uruguay | RCT | Singleton, term infants, cephalic | 30 | n = 15 Suction with catheter tube 3R polyethylene, first nasopharynx then nose no more 6 cm for 8 to 10 sec, negative pressure < 30cmH ₂ O | n = 15 No suction | Continuous readings of oxygen saturations and heart rate | The ONPS group had a significantly lower SaO ₂ at 1 minute of life (52.6% vs 56.1%) and a significantly longer time to reach 86-92% SaO ₂ (1.8 min vs 1.2 min) |
| | | 單胎、足月兒、頭位陰道分娩、無母嬰病變、產前未用藥 | | | | 出生20分鐘內持續監測血氧及心跳及血氧達到86-92%的時間 | 抽吸組在出生後第1-6分鐘血氧較低並需要更長時間才能達到86-92% |
| Estro 2005 Uruguay | RCT | Singleton, term infants | 40 | n = 20 Suction with catheter tube 3R polyethylene, first nasopharynx then nose no more 6 cm for 8 to 10 sec, negative pressure < 30cmH ₂ O | N = 20 No suction | Spirometric assessment at 10, 30, 120 minutes | No significant differences between suction and no suction groups were seen in terms of respiratory rate, tidal volume, or functional residual capacity |
| | | 胎兒/母體無併發症、單胎、足月兒狀況良好 胎膜完好或破裂<24小時 | | | | 出生10/30/120分鐘的肺功能評估 | 無顯著差異 |
| Gungor 2005 Turkey | RCT | Term infants, vaginal delivery | 140 | n = 70 Catheter tube 8 Ch, polyethylene, negative pressure < 30cmH2O procedure 15 sec | n = 70 No suction or wipe away any visible matter | SaO ₂ measured minute-by-minute from the first minute of life | The no suction group showed lower mean heart rates through the 2nd and 3rd minutes of life (148 vs 158 bpm) and a significantly longer time to reach 86-92% SaO ₂ (1.8 min vs 1.2 min). The difference in time to reach 86-92% SaO ₂ was significant (p < 0.001). HR and SaO ₂ is remarkably similar in the 2005 and 2006 Gungor studies. |
| | | 足月兒、陰道分娩 | | | | 出生開始測量血氧值到92%及達到86%和92%的組別比例以及第一/五分鐘的Apgar score | 未抽吸組在出生後3-6分鐘顯示平均心率較低，及血氧較高達到86-92%的時間也較短 |

Table 1 (continued)

| Study Year Country | Design | Eligibility | Enrolled (n) | Suction | No suction | Outcomes | Main Findings |
|--------------------------|--------|--|--------------|---|--|--|---|
| Gungor 2006 Turkey | RCT | Term infants, caesarean section | 140 | n = 70 Catheter tube 8 Ch, polyethylene, negative pressure < 30cmH2O procedure 15 sec | n = 70 No suction or wipe away any visible matter | SaO ₂ measured minute-by-minute from the first minute of life until 92% was | Mean SaO ₂ values through 2nd to 6th min of life were significantly higher in the no suction group (p = 0.001). All neonates without suction had an Apgar score of 10 at five mins, while the mean ± SD for ONPS group was 9.34 ± 0.48 (p < 0.001). |
| | | 足月兒、剖腹產 | | | | 出生開始測量血氧直到92%及達到 86%和 92% 的組別比例以及第一/五分鐘的 Apgar score | 未抽吸組在出生後 2-6分鐘平均血氧顯著較高，且所有新生兒在第 5 分鐘時的 Apgar 評分均為 10分 |
| Kelleher 2013 USA | RCT | Infants ≥35 weeks gestation | 448 | n = 242 suction mouth and nostrils with bulb syringe | n = 246 Gentle wiping externally over face, mouth and nose with towel | Primary outcome: respiratory rate (RR) in first 24 hours after birth | Mean RR in the first 24 hours was significantly lower in the no suction group (p = 0.001). |
| | | 妊娠≥35週的嬰兒 | | | | 出生後 24 小時內的呼吸頻率 | 前24小時內未抽吸組平均呼吸為每分鐘 51次呼吸，抽吸組為每分鐘50次呼吸 |
| Modarres Nejad 2014 Iran | RCT | Term infants vaginal delivery | 170 | n = 85 Suction: < 15 sec after birth with polyethylene catheter Negative pressure < 30cmH ₂ O | n = 85 No suction: was only to remove any visible material. | SaO ₂ measured minute-by-minute from the first minute | Maximum time to reach SaO ₂ of 92% was shorter in the no suction group (p = 0.001). There was no statistically significant differences in the mean of HR, RR and Apgar scores between the groups. |
| | | 足月兒、陰道分娩 | | | | 出生開始測量血氧直到92%及第一/五分鐘的 Apgar score | 未抽吸組血氧達到92%時間較短 |
| Takahashi 2009 Japan | RCT | Term, weight 2500-4000g | 26 | n = 13 | n = 13 | SaO ₂ and heart rate | There was no statistically significant difference in the time to stabilise SaO ₂ between the groups. Obv birth sig suc both SpO ₂ and HR earlier than the suction group. |
| | | 足月 體重 2500-4000g Apgar ≥8(陰道分娩 1分鐘和 5分鐘) | | | | 出生後第五分鐘開始直到兩小時，每30秒記錄一次血氧及心跳 | 無明顯差異，但未抽吸組更早穩定血氧及心跳 |

Table 1 (continued)

| Study Year Country | Design | Eligibility | Enrolled (n) | Suction | No suction | Outcomes | Main Findings |
|---------------------------|--------|---|--------------|--|---|--|--|
| Waltman 2004 USA | RCT | Term infants, vaginal delivery 足月兒、陰道分娩 | 20 | n = 10 Suction mouth and nose one time each with 2-ounce soft rubber bulb syringe or ear/ulcer syringe 1.5 inches deep, and finger pressure, when the head was delivered, and mouth and nose wiped with a towel if any visible matter 吸球抽吸 | n = 10 No suction, mouth and nose wiped with a towel if any visible matter | Apgar scores, heart rates, and oxygen saturation levels in the first 20 minutes of life | Newborns receiving bulb suctioning had a lower heart rate (P = 0.042) during the first 20 minutes and a significantly higher SaO ₂ level. Differences in Apgar scores between groups. |
| Konstantelos 2015 Germany | Obs | All newborns with a GA > 28 completed weeks were included Term & preterm subgroups analysed 所有 > 28 週的新生兒 | 115 | | 231 | Single-centre analysis of video-recorded delivery room management after c-section. Time point, duration, and frequency of suctioning in term and preterm newborns were analysed along with (heart rate (HR) and saturation values). Respiratory support (yes/no) reported | 36/60 term infants needing respiratory support were suctioned before face mask application in 31% of the suctioned newborns requiring respiratory support. Term infants who did not require respiratory support showed significantly higher saturation values at 3, 5, 6, 7, 8, 9, and 10 min if they were not suctioned. No severe bradycardia (<60 bpm) Suctioning had no effect on HR and SaO ₂ in preterm infants but was associated with significantly higher HR in term infants requiring |

出生後20分鐘的 Apgar 評分、心率和血氧

抽吸組在出生後20分鐘心率較低，而到15分鐘時血氧顯著升高，Apgar 評分無顯著差異

未抽吸組在出生後3、5、6、7、8、9、10分鐘血氧較抽吸組高

分析足月和早產兒抽吸的時間點、持續時間和頻率、心率和血氧及是否需要輔助通氣

文獻簡介

Table 1 (continued)

| Study Year Country | Design | Eligibility | Enrolled (n) | Suction | No suction | Outcomes | Main Findings |
|--------------------------|--------|--|--------------|---------------------|---------------|--|--|
| Pocivalnik 2015 | Obs | Term neonates after elective caesarean section | 72 | 36 suction catheter | 36 no suction | Heart rate (HR) and pre/post SaO ₂ ductal arterial oxygen saturation measured by pulse oximetry | respiratory support. All neonates in both groups had normal Apgar scores (Apgar 9/10/10) and no events of apnoea or bradycardia induced by suctioning. SpO ₂ pre values were slightly lower in the suction group than in the no suction group after birth. Suctioning did not affect ductal arterial oxygen saturation in the first 15 min after birth. |

選擇性剖腹產的足月新生兒

新生兒出生15分鐘後的心跳及血氧，同時使用紅外線光譜法檢測腦部/前後動脈導管周圍肌肉組織

抽吸組在出生後2-4分鐘血氧略低，其他無顯著差異。





FAITH 系統性文獻回顧快速評讀



步驟 1：系統性文獻回顧探討的問題為何？

| | |
|----------------------------------|--|
| 研究族群/問題 (Population/ Problem) | 新生兒 |
| 介入措施 (Intervention) | 不常規抽吸口鼻羊水 |
| 比較 (Comparison) | 常規抽吸口鼻羊水 |
| 結果 (Outcomes) | 主要結果:輔助通氣 次要結果:新生兒復甦術 給予氧氣 抽吸的不良反應 入住新生兒加護病房 |



步驟 2：系統性文獻回顧的品質如何？(FAITH)

F - 研究是否找到 (Find) 所有的相關證據？

最好的狀況是？

良好的文獻搜尋至少應包括二個主要的資料庫(如：Medline, Cochrane 考科藍實證醫學資料庫, EMBASE 等)，並且加上文獻引用檢索(參考文獻中相關研究、Web of Science, Scopus 或 Google Scholar)、試驗登錄資料等。文獻搜尋應不只限於英文，並且應同時使用 MeSH 字串及一般檢索詞彙(text words)。

- **關鍵字**: 'new born' OR 'neonate' OR 'infants' AND 'suction' AND 'no suction' AND 'assisted ventilation'
- 使用 **Medline**、**Embase**、**Cochrane**、**Abstracts of Reviews of Effects** 資料庫和 **CINAHL** 進行文獻搜索，納入具有明確選擇策略的隨機對照試驗 (RCTs)、非隨機對照試驗 (non-RCTs) 和觀察性研究。



步驟 2：系統性文獻回顧的品質如何？(FAITH)

F - 研究是否找到 (Find) 所有的相關證據？

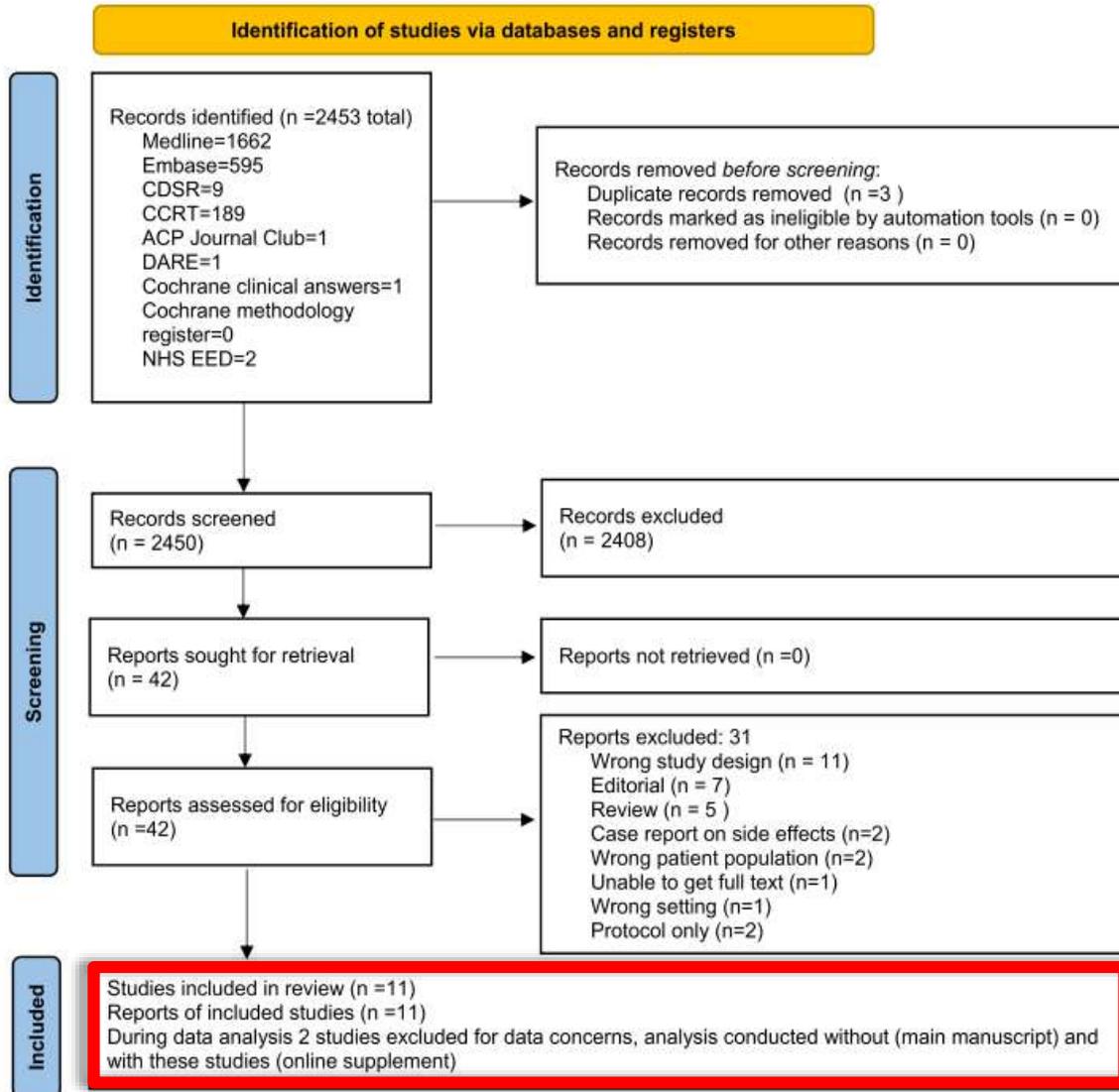
最好的狀況是？

良好的文獻搜尋至少應包括二個主要的資料庫(如：Medline, Cochrane考科藍實證醫學資料庫, EMBASE 等)，並且加上文獻引用檢索(參考文獻中相關研究、Web of Science, Scopus或 Google Scholar)、試驗登錄資料等。文獻搜尋應不只限於英文，並且應同時使用MeSH字串及一般檢索詞彙(text words)。

- **納入標準:**
 - ① 隨機對照試驗 (RCT) 和非隨機研究 (非隨機對照試驗、中斷時間序列、對照前後研究、隊列研究)
 - ② **根據明確的診斷標準:**出生第一小時之新生兒
 - ③ **實驗組:**不常規抽吸口鼻羊水 **對照組:**常規抽吸口鼻羊水
- **排除條件:**未發表的研究、評論文章、病例報告、動物研究



步驟 2：系統性文獻回顧的品質如何？(FAITH)



PRISMA流程圖呈現文獻篩選過程

- 檢索:**
 透過資料庫檢索之文獻n=2453
 排除重複文獻n=3 餘2450篇
- 篩選:**
 排除不符合之文獻n=2408
 檢索的紀錄n=42
 評估資格n=42
 再排除不符合之文獻n=31
- 納入:**
 納入評論及研究進行系統性文獻回顧n=11

評讀結果：是 否 不清楚



步驟 2：系統性文獻回顧的品質如何？(FAITH)

A - 文獻是否經過嚴格評讀 (Appraisal) ？

最好的狀況是？

應根據不同臨床問題的文章類型，選擇適合的評讀工具，並說明每篇研究的品質(如針對治療型的臨床問題，選用隨機分配、盲法、及完整追蹤的研究類型)。

- 兩名研究者獨立完成品質評價和數據選取，依Cochrane系統評價標準來評讀研究品質。
- 使用GRADE評估證據的確定性。
- 使用Review Manager分析數據，並使用GRADEPro證據摘要表格。
- 如果有兩個以上的RCT可用，則進行Meta分析。

評讀結果：是 否 不清楚



步驟 2：系統性文獻回顧的品質如何？(FAITH)

I - 是否只納入(Included)具良好效度的文章？

最好的狀況是？

僅進行文獻判讀是不足夠，系統性文獻回顧只納入至少要有一項研究結果是極小偏誤的試驗。

Table 2 - Certainty of evidence by outcome, relative risks and anticipated absolute effects.

| No. of studies | Certainty assessment | | | | Summary of findings | | | | Certainty |
|---|----------------------|---------------|--------------|--------------|---------------------|--------------------|--------------------------|--|-----------|
| | RoB | Inconsistency | Indirectness | Imprecision | Number of patients | | Effect | | |
| Participants | | | | | suctioning | No suctioning | Relative 95% CI | Absolute 95%CI | |
| Receipt of Assisted ventilation (primary outcome) | | | | | | | | | |
| 3 742 | very serious | serious | very serious | very serious | 17/369 (4.6%) | 24/373 (6.4%) | RR 0.72 (0.4 to 1.31) | 18 fewer per 1000 (39 fewer to 20 more) | Very Low |
| Advanced Resuscitation and stabilisation interventions (intubation, chest compressions, epinephrine (adrenaline) in delivery room) | | | | | | | | | |
| 3 742 | very serious | serious | very serious | very serious | 17/369 (4.6%) | 24/373 (6.4%) | RR 0.72 (0.4 to 1.31) | 18 fewer per 1000 (39 fewer to 20 more) | Very Low |
| Saturations at 5 minutes | | | | | | | | | |
| 3 280 | serious | serious | very serious | not serious | 140 | 140 | | Saturation % MD 0.26 lower (1.77 lower to 1.26 higher) | Very Low |
| Saturations at 9 minutes | | | | | | | | | |
| 3 | very serious | serious | very serious | not serious | 140 | 140 | | Saturation % MD 1.52 lower (2.69 lower to 0.35 higher) | Very Low |
| Saturations at 10 minutes | | | | | | | | | |
| 2 | serious | serious | very serious | not serious | 55 | 55 | | Saturation % MD 0.14 lower (1.17 lower to 0.89 higher) | Very Low |
| Respiratory rate > 60 in first 24 hours | | | | | | | | | |
| 1 | not serious | not serious | serious | not serious | 112/246 (46.3) | 113/246 (45.9%) | RR 0.99 (0.82 to 1.2) | 5 fewer per 1000 (83 fewer to 92 more) | Moderate |
| Heart rate at 5 minutes | | | | | | | | | |
| 1 84 | serious | not serious | very serious | Not serious | 42 | 42 | | MD -1.00 (-7.96 lower to 5.96 higher) | Very Low |
| Unanticipated admission to NNU | | | | | | | | | |
| 1 448 | serious | not serious | serious | very serious | 30/242 (12.4%) | 45/246 (18.6%) | RR 1.50 (0.96 to 2.3) | 91 more per 1000 (7 fewer to 238 more) | Very Low |

No.: number, RoB: risk of bias, CI: confidence interval, NNU: Neonatal Unit.



步驟 2：系統性文獻回顧的品質如何？(FAITH)

T - 作者是否以表格和圖表「總結」(total up) 試驗結果？

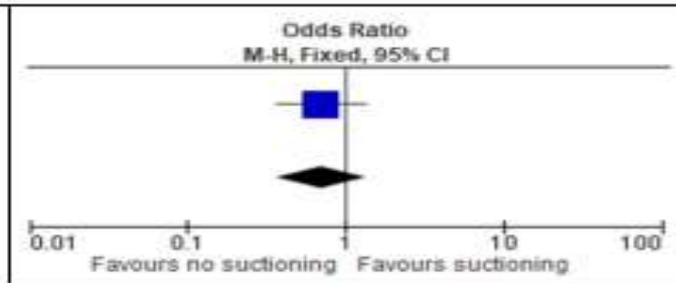
最好的狀況是？

應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析 (meta-analysis)，並以「森林圖」(forest plot) 呈現研究結果，最好再加上異質性分析

Assisted ventilation and Oxygen saturations at 1, 5, 9 and 10 minutes

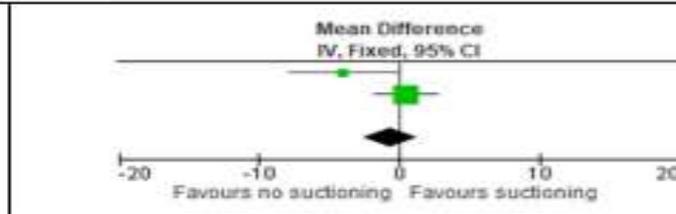
Assisted ventilation

| Study or Subgroup | no suctioning | | suctioning | | Weight | Odds Ratio M-H, Fixed, 95% CI |
|--|---------------|-------|------------|-------|--------|----------------------------------|
| | Events | Total | Events | Total | | |
| Bancalari 2019 | 0 | 0 | 0 | 0 | | Not estimable |
| Kelleher 2013 | 17 | 242 | 24 | 246 | 100.0% | 0.70 [0.37, 1.34] |
| Modarres 2014 | 0 | 0 | 0 | 0 | | Not estimable |
| Total (95% CI) | | 242 | | 246 | 100.0% | 0.70 [0.37, 1.34] |
| Total events: | 17 | | 24 | | | |
| Heterogeneity: Not applicable | | | | | | |
| Test for overall effect: Z = 1.08 (P = 0.28) | | | | | | |



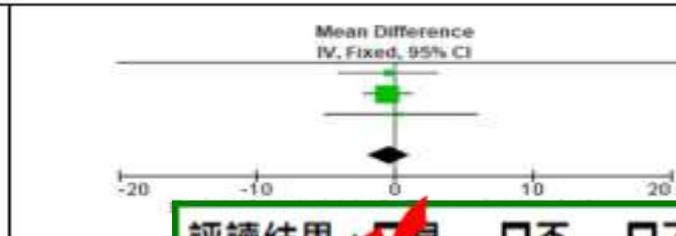
1 minute

| Study or Subgroup | suctioning | | | no suctioning | | | Weight | Mean Difference IV, Fixed, 95% CI |
|---|------------|------|-------|---------------|------|-------|--------|--------------------------------------|
| | Mean | SD | Total | Mean | SD | Total | | |
| Bancalari 2019 | 52 | 8 | 42 | 56 | 10 | 42 | 25.2% | -4.00 [-7.87, -0.13] |
| Modarres 2014 | 75.91 | 6.95 | 85 | 75.46 | 7.98 | 85 | 74.8% | 0.45 [-1.80, 2.70] |
| Total (95% CI) | | | 127 | | | 127 | 100.0% | -0.67 [-2.62, 1.27] |
| Heterogeneity: Chi ² = 3.79, df = 1 (P = 0.05); I ² = 74% | | | | | | | | |
| Test for overall effect: Z = 0.68 (P = 0.50) | | | | | | | | |



5 minutes

| Study or Subgroup | suctioning | | | no suctioning | | | Weight | Mean Difference IV, Fixed, 95% CI |
|--|------------|-----|-------|---------------|-----|-------|--------|--------------------------------------|
| | Mean | SD | Total | Mean | SD | Total | | |
| Bancalari 2019 | 80.7 | 9 | 42 | 81.2 | 8 | 42 | 17.3% | -0.50 [-4.14, 3.14] |
| Modarres 2014 | 85 | 4.9 | 85 | 85.5 | 6.6 | 85 | 75.1% | -0.50 [-2.25, 1.25] |
| Takahashi 2009 | 87.5 | 7.6 | 13 | 87.1 | 6.7 | 13 | 7.6% | 0.40 [-5.11, 5.91] |
| Total (95% CI) | | | 140 | | | 140 | 100.0% | -0.43 [-1.95, 1.08] |
| Heterogeneity: Chi ² = 0.09, df = 2 (P = 0.95); I ² = 0% | | | | | | | | |
| Test for overall effect: Z = 0.56 (P = 0.58) | | | | | | | | |



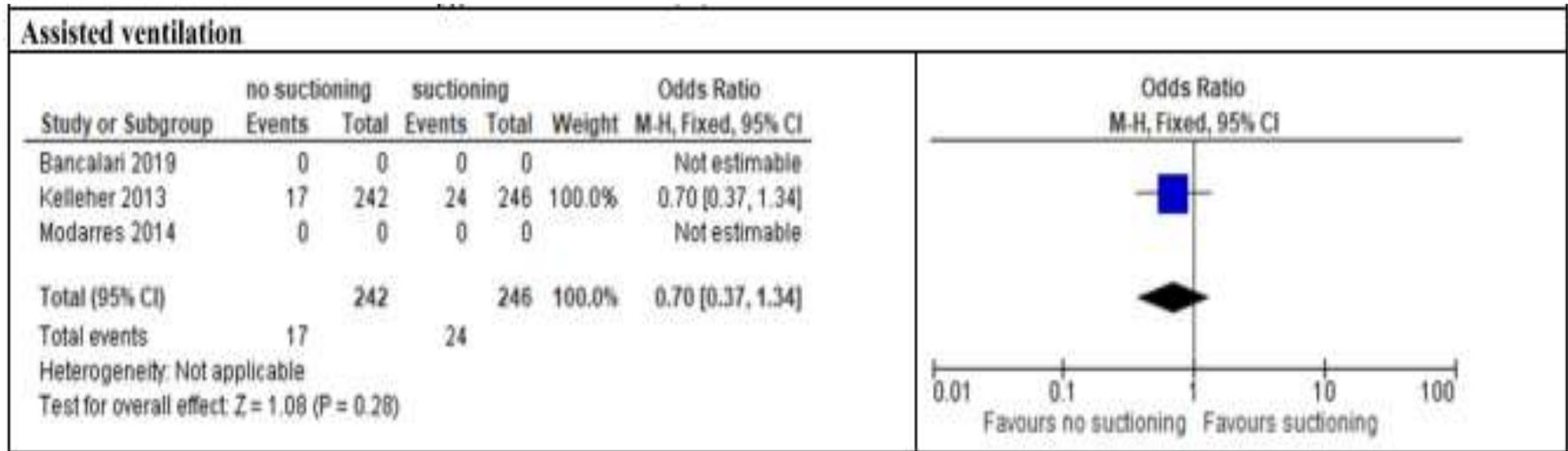
評讀結果：是 否 不清楚

步驟 2：系統性文獻回顧的品質如何？(FAITH)

H - 試驗的結果是否相近-異質性(Heterogeneity)？

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的PICO及研究方法，探討造成異質性的原因。



- 輔助通氣
3 studies 488 baby, 95% CI 0.37 to 1.34

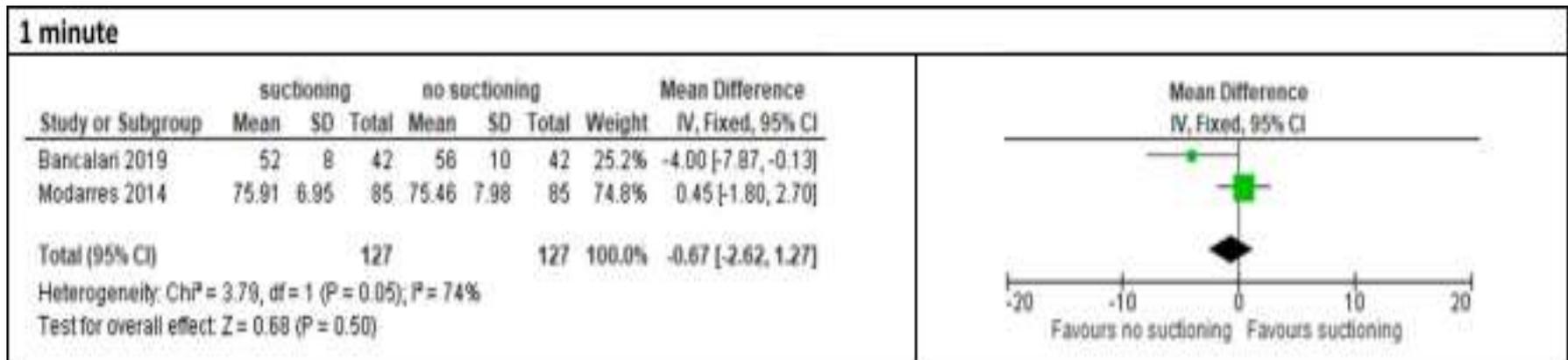
$I^2 < 25\%$ 低異質
 $I^2 = 25-50\%$ 不好的低異質性
 $I^2 > 25\%$ 高異質性

步驟 2：系統性文獻回顧的品質如何？(FAITH)

H - 試驗的結果是否相近-異質性(Heterogeneity)？

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的PICO及研究方法，探討造成異質性的原因。



- 出生1分鐘時的氧飽和度
2 studies 254 baby, MD -0.67 $I^2 = 74\%$
95% CI -2.62 to 1.27

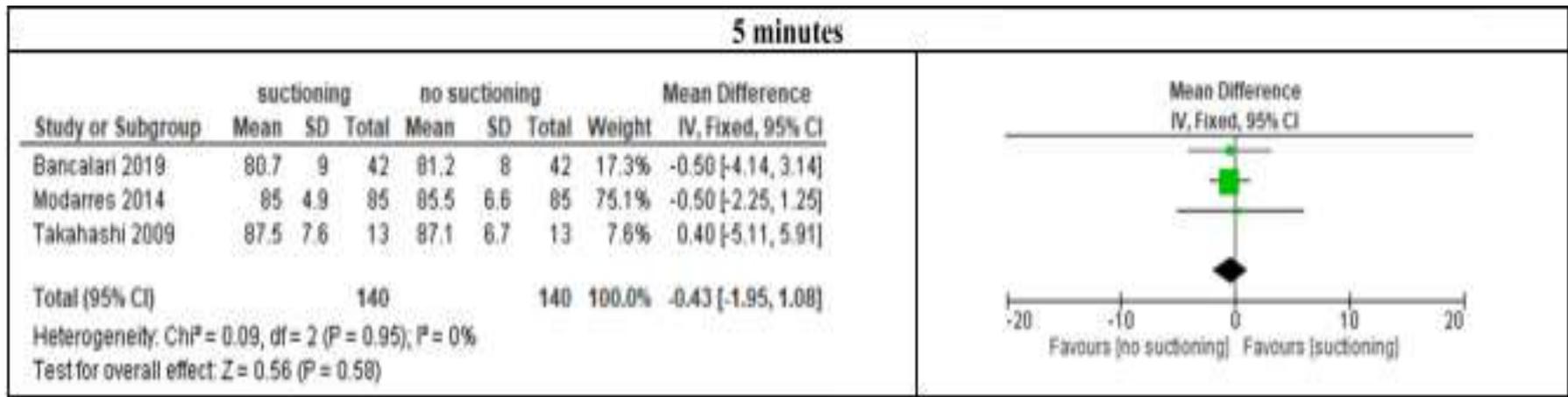


步驟 2：系統性文獻回顧的品質如何？(FAITH)

H - 試驗的結果是否相近-異質性(Heterogeneity)？

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性。若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的PICO及研究方法，探討造成異質性的原因。



- 出生5分鐘時的氧飽和度
3 studies 280 baby, MD -0.43 $I^2 = 0\%$
95% CI -1.95 to 1.08

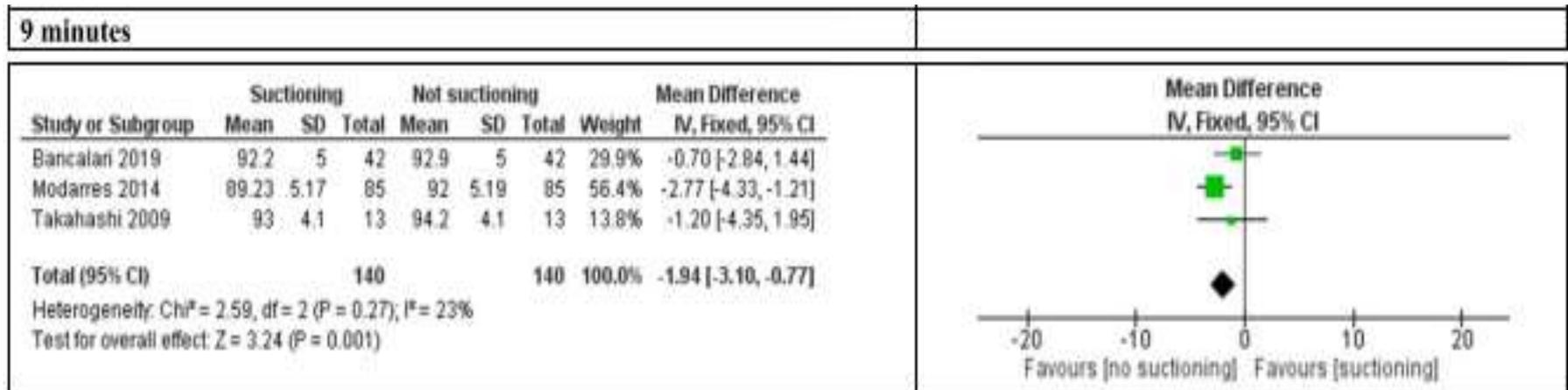


步驟 2：系統性文獻回顧的品質如何？(FAITH)

H - 試驗的結果是否相近-異質性(Heterogeneity)？

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的PICO及研究方法，探討造成異質性的原因。



- 出生9分鐘時的氧飽和度
3 studies 280 baby, MD -1.94 $I^2 = 23\%$
95% CI -3.10 to -0.77
- 統計學上有差異但臨床無意義

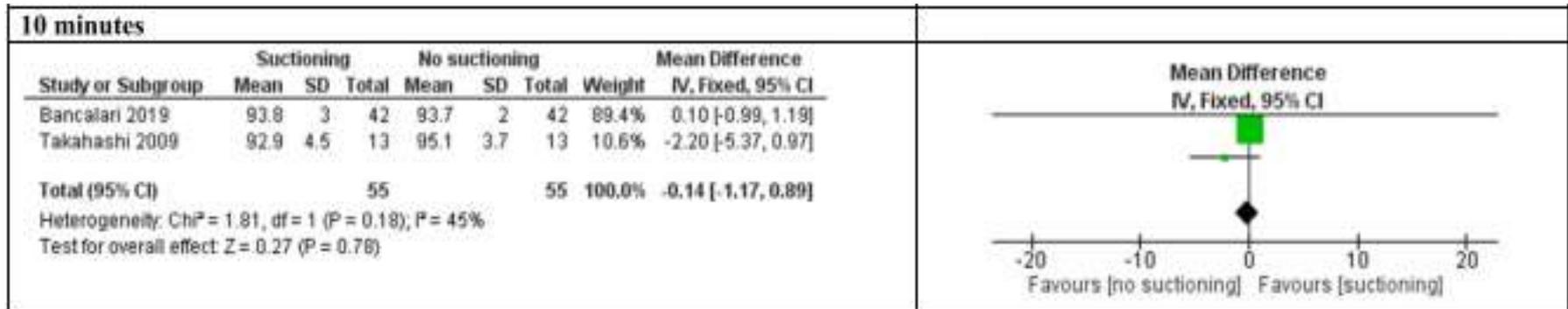


步驟 2：系統性文獻回顧的品質如何？(FAITH)

H - 試驗的結果是否相近-異質性(Heterogeneity)？

最好的狀況是？

在理想情況下，各個試驗的結果應相近或具同質性，若具有異質性，作者應評估差異是否顯著(卡方檢定)。根據每篇個別研究中不同的PICO及研究方法，探討造成異質性的原因。



- 出生10分鐘時的氧飽和度
2 studies 110 baby, MD -0.14 $I^2 = 45\%$
95% CI -1.17 to 0.89



評讀結果：是 否 不清楚

評讀總表

| <u>研究的品質有多好(內在效度)</u> | 評讀結果 |
|----------------------------------|------|
| 研究是否找到 (Find) 所有的相關證據？ | 是 |
| 文獻是否經過嚴格評讀 (Appraisal)? | 是 |
| 是否只納入 (included) 具良好效度的文章？ | 是 |
| 作者是否以表格和圖表「總結」(total up) 試驗結果？ | 是 |
| 試驗的結果是否相近 - 異質性 (Heterogeneity)? | 是 |



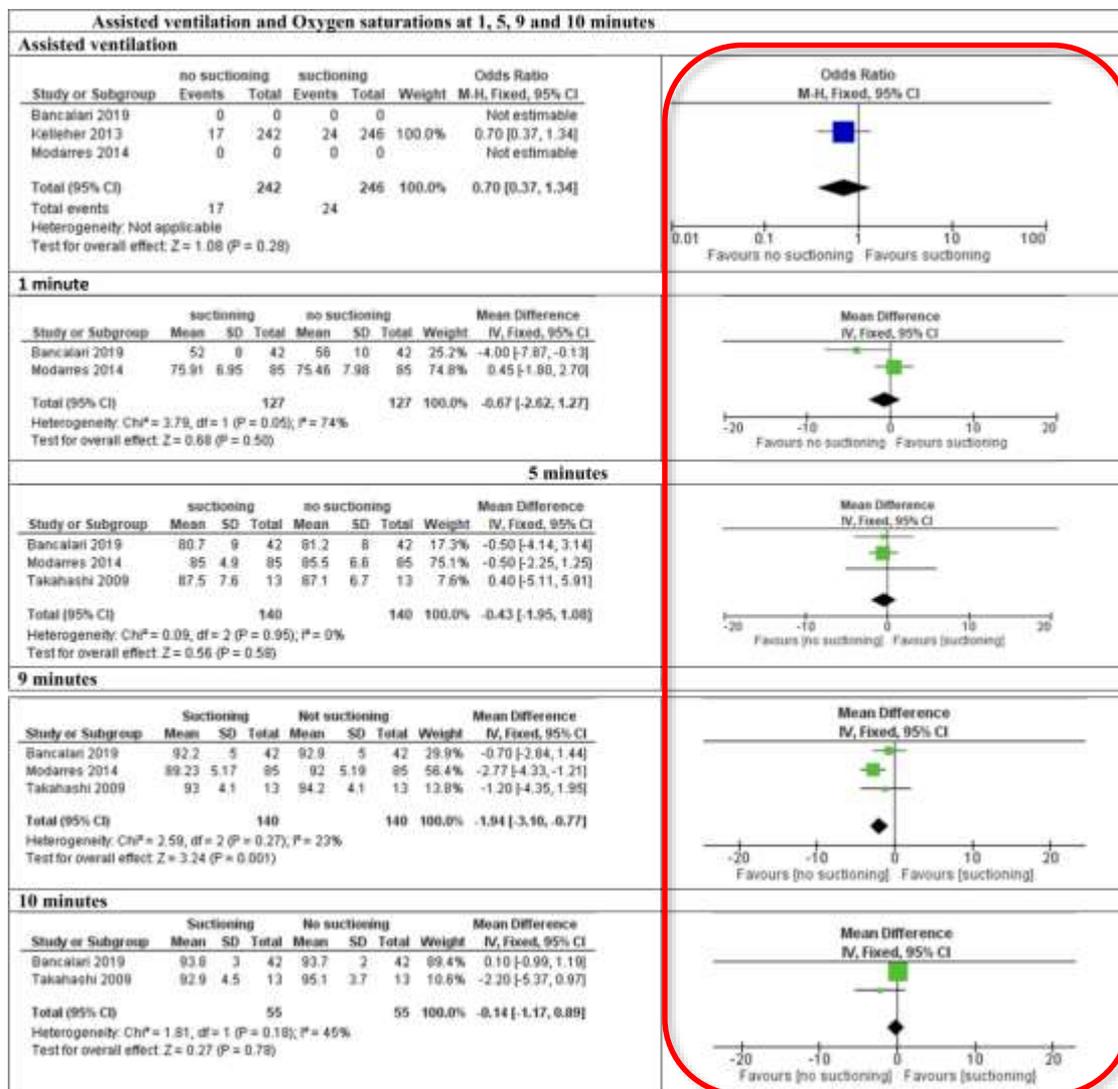
結論

- 新生兒進行常規抽吸沒有證據顯示有明顯益處，儘管這些證據的確定性低，仍有少量證據表明，以抽吸管抽吸可能會暫時影響血氧濃度。
- 主要結果-輔助通氣：三個 RCTS(n=702) 發現，與不抽吸相比，不能排除抽吸的臨床益處或危害 (RR 0.72 ; 95% CI 0.40, 1.31 p = 0.28)。
- **建議不要對正常的新生兒進行上呼吸道的常規抽吸。**



證據利益及風險

- 抽吸並無明顯益處，故無需常規使用抽吸管清除口鼻分泌物



舉牌題

正常新生兒出生不需常規使用抽吸管抽吸口鼻羊水？



21票 同意



0票 需更多文獻支持



0票 不同意





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敬請指導 感謝聆聽

