臺北市立萬芳醫院 - 委託財團法人臺北醫學大學辦理
Taipei Municipal Wanfang Hospital (Managed by Taipei Medical University)

邁向無痛醫院：疼痛管理最佳實踐
(系列四:無痛分娩)

產 房
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指導者:斯莉婷 護理長

日 期:108/04/30

前言-1

有經驗者都說像被卡車輾過!!!

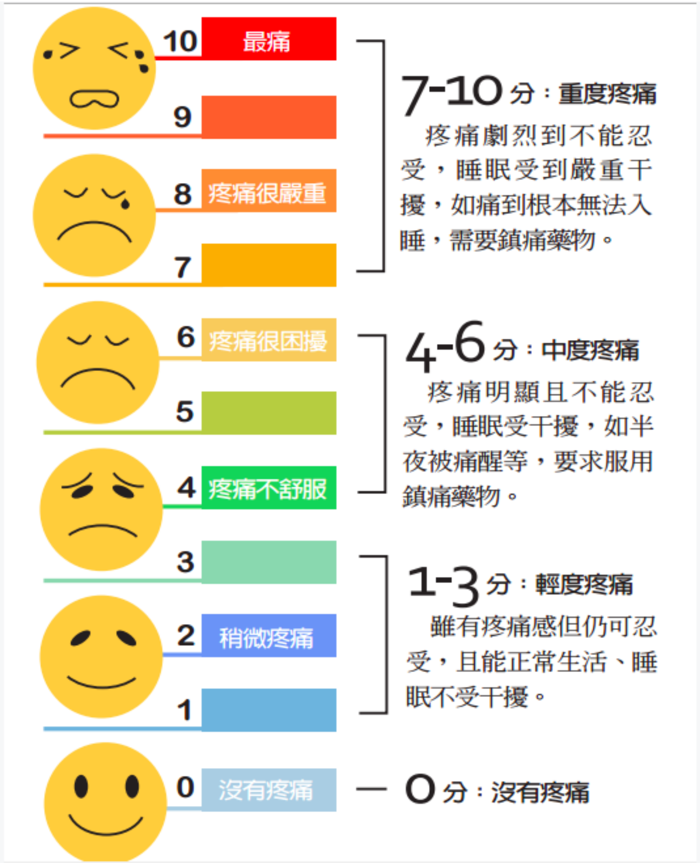
前言-2

- 疼痛是主觀、個別性經驗
- 宮縮引起之疼痛照護，可分為
  醫療性藥物措施-需醫師處方下執行
  非藥物護理措施-個別化的彈性運用
- 待產過程中常需要合併使用以緩解疼痛

現況

- 非藥物介入
  - 產球．花生球
  - 拉梅茲呼吸法
  - 按摩改變臥姿
  - 情緒支持
  - 孕期保姆

- 藥物介入
  - 無痛分娩（8000元）
  - Morphine


10 最痛
9
8 疼痛很嚴重
7
6 疼痛很困擾
5
4 疼痛不舒服
3
2 稍微疼痛
1
0 沒有疼痛

7-10分：重度疼痛
疼痛劇烈到不能忍受，睡眠受到嚴重干擾，如痛到根本無法入睡，需要鎮痛藥物。

4-6分：中度疼痛
疼痛明顯且不能忍受，睡眠受干擾，如半夜被痛醒等，要求服用鎮痛藥物。

1-3分：輕度疼痛
雖有疼痛感但仍可忍受，且能正常生活、睡眠不受干擾。

0分：沒有疼痛

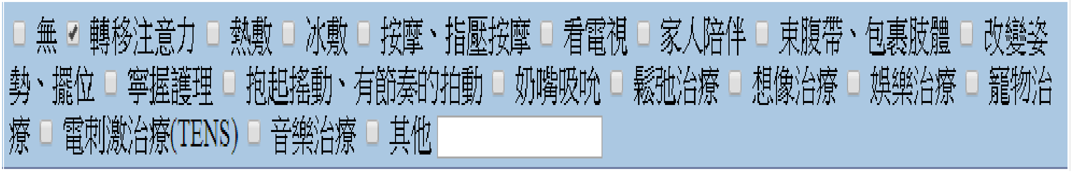
Table 1. Bonapace and Marchand Classification

BIRTH ISSUES IN PERINATAL CARE

Impact Factor 2.239

2014 Non pharmacologic Approaches for Pain Management During Labor Compared with Usual Care: A Meta-Analysis

Theoretical model	*Type of stimulation*	*Activated mechanism*	*Effects*	*Nonpharmacologic approaches*
Gate Control theory 門閥理論	Nonpainful stimulation of the pain site	大神經纖維先達到脊髓引起門閥關閉，阻止訊息進入大腦，疼痛傳導消失 during non-painful stimulation and block part of those that transmit pain	discriminative component of pain (intensity)	溫水 沐浴 ✓按摩，熱敷，產球 ✓走動 ✓臥位 (Cat, Upright) 低頻經皮神經電刺激 TENS (high frequency - low intensity)
Diffuse Noxious Inhibitory Control (DNIC) 疼痛抑制機制	Painful stimulation of any site of the body	Painful stimulation 身體某一部位的持續性疼痛，可以抑制身體另一部位的刺激所引起的疼痛感知，即為人們所熟悉的「以痛鎮痛」 everywhere, except in the stimulated area. This scheme allows the brain to address the second source of pain	Acts on all painful areas discriminative component of pain (intensity)	Painful massage 疼痛按摩 針灸 ✓ 指壓 高強度電針 低頻經皮神經電刺激 冰敷
Control of the higher centers of the central nervous system (CNSC) 高層次的中樞神經控制系統	Activated by thought and mental processes (Attention deviation)	調節大腦對疼痛的記憶，情緒反應，對疼痛部位採取情感的調節 stimulations by conditioning the areas	the motivational-affective component of	✓ 產前教育 冥想 薰香 ✓ 持續支持 ✓ 鬆弛/呼吸 催眠/自我催眠 ✓ 音樂 生物反饋 意象治療



□ 無 ☑ 轉移注意力 □ 熱敷 □ 冰敷 □ 按摩、指壓按摩 □ 看電視 □ 家人陪伴 □ 束腹帶、包裹肢體 □ 改變姿勢、擺位 □ 寧握護理 □ 抱起搖動、有節奏的拍動 □ 奶嘴吸吮 □ 鬆弛治療 □ 想像治療 □ 娛樂治療 □ 寵物治療 □ 電刺激治療(TENS) □ 音樂治療 □ 其他

Adapted from: Bonapace J. Accoucher sans stress avec la méthode Bonapace. Éditions de l'Homme, Montréal, 2009; and Marchand S. Le phénomène de la douleur. 2e edition. Chenelière Éducation, Montréal, 2009.

Gate Control護理措施

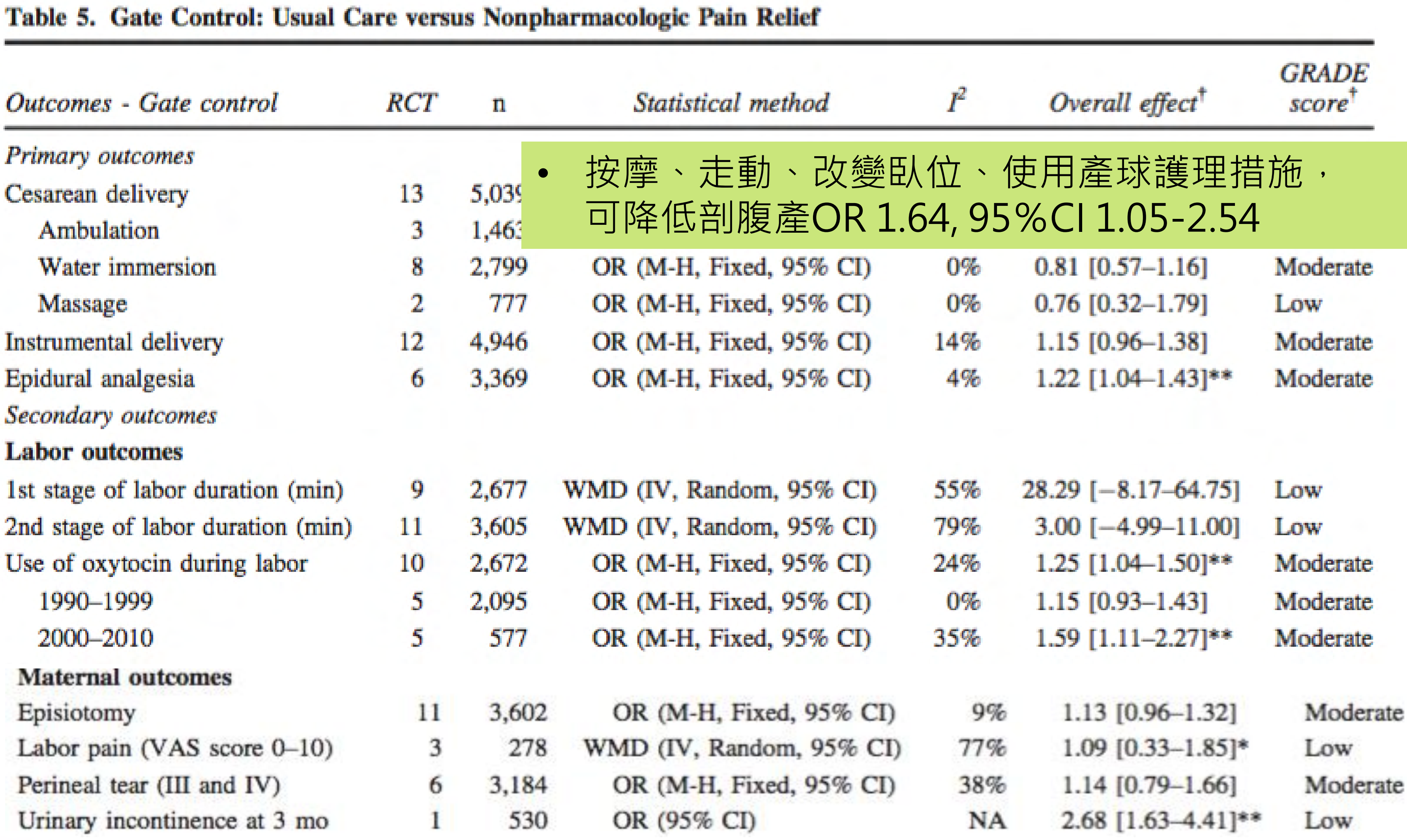


Table 5. Gate Control: Usual Care versus Nonpharmacologic Pain Relief

Outcomes - Gate control	*RCT*	n	*Statistical method*	I^2	*Overall effect*†	*GRADE score*†
Primary outcomes						
Cesarean delivery	13	5,03				
Ambulation	3	1,46				
Water immersion	8	2,799	OR (M-H, Fixed, 95% CI)	0%	0.81 [0.57–1.16]	Moderate
Massage	2	777	OR (M-H, Fixed, 95% CI)	0%	0.76 [0.32–1.79]	Low
Instrumental delivery	12	4,946	OR (M-H, Fixed, 95% CI)	14%	1.15 [0.96–1.38]	Moderate
Epidural analgesia	6	3,369	OR (M-H, Fixed, 95% CI)	4%	1.22 [1.04–1.43]**	Moderate
Secondary outcomes						
Labor outcomes						
1st stage of labor duration (min)	9	2,677	WMD (IV, Random, 95% CI)	55%	28.29 [−8.17–64.75]	Low
2nd stage of labor duration (min)	11	3,605	WMD (IV, Random, 95% CI)	79%	3.00 [−4.99–11.00]	Low
Use of oxytocin during labor	10	2,672	OR (M-H, Fixed, 95% CI)	24%	1.25 [1.04–1.50]**	Moderate
1990–1999	5	2,095	OR (M-H, Fixed, 95% CI)	0%	1.15 [0.93–1.43]	Moderate
2000–2010	5	577	OR (M-H, Fixed, 95% CI)	35%	1.59 [1.11–2.27]**	Moderate
Maternal outcomes						
Episiotomy	11	3,602	OR (M-H, Fixed, 95% CI)	9%	1.13 [0.96–1.32]	Moderate
Labor pain (VAS score 0–10)	3	278	WMD (IV, Random, 95% CI)	77%	1.09 [0.33–1.85]*	Low
Perineal tear (III and IV)	6	3,184	OR (M-H, Fixed, 95% CI)	38%	1.14 [0.79–1.66]	Moderate
Urinary incontinence at 3 mo	1	530	OR (95% CI)	NA	2.68 [1.63–4.41]**	Low

- 按摩、走動、改變臥位、使用產球護理措施，可降低剖腹產OR 1.64, 95%CI 1.05-2.54

DNIC護理措施

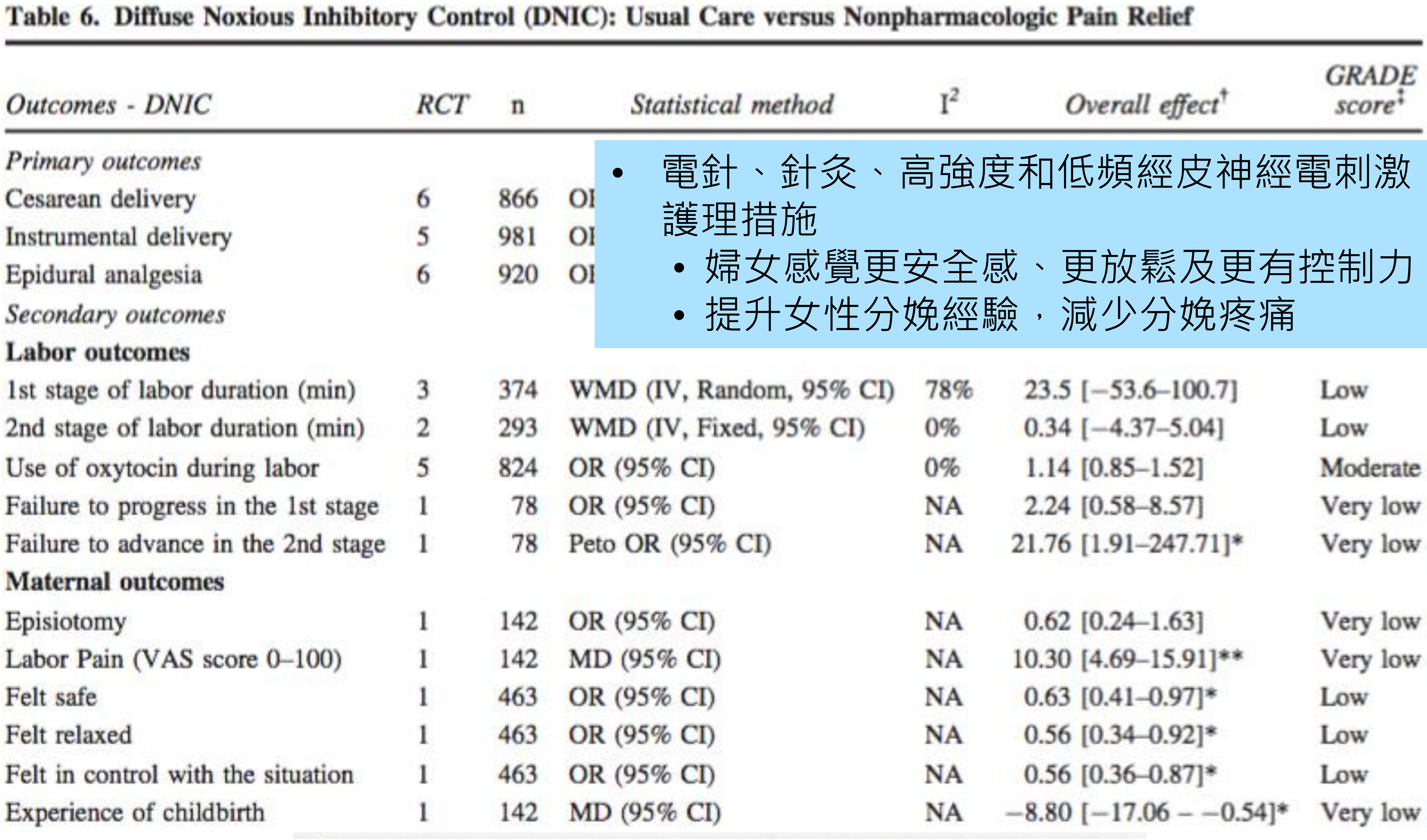


Table 6. Diffuse Noxious Inhibitory Control (DNIC): Usual Care versus Nonpharmacologic Pain Relief

Outcomes - DNIC	*RCT*	n	*Statistical method*	I^2	*Overall effect*†	*GRADE score*‡
Primary outcomes						
Cesarean delivery	6	866	O			
Instrumental delivery	5	981	O			
Epidural analgesia	6	920	O			
Secondary outcomes						
Labor outcomes						
1st stage of labor duration (min)	3	374	WMD (IV, Random, 95% CI)	78%	23.5 [−53.6–100.7]	Low
2nd stage of labor duration (min)	2	293	WMD (IV, Fixed, 95% CI)	0%	0.34 [−4.37–5.04]	Low
Use of oxytocin during labor	5	824	OR (95% CI)	0%	1.14 [0.85–1.52]	Moderate
Failure to progress in the 1st stage	1	78	OR (95% CI)	NA	2.24 [0.58–8.57]	Very low
Failure to advance in the 2nd stage	1	78	Peto OR (95% CI)	NA	21.76 [1.91–247.71]*	Very low
Maternal outcomes						
Episiotomy	1	142	OR (95% CI)	NA	0.62 [0.24–1.63]	Very low
Labor Pain (VAS score 0–100)	1	142	MD (95% CI)	NA	10.30 [4.69–15.91]**	Very low
Felt safe	1	463	OR (95% CI)	NA	0.63 [0.41–0.97]*	Low
Felt relaxed	1	463	OR (95% CI)	NA	0.56 [0.34–0.92]*	Low
Felt in control with the situation	1	463	OR (95% CI)	NA	0.56 [0.36–0.87]*	Low
Experience of childbirth	1	142	MD (95% CI)	NA	−8.80 [−17.06 – −0.54]*	Very low

- 電針、針灸、高強度和低頻經皮神經電刺激護理措施
  - 婦女感覺更安全感、更放鬆及更有控制力
  - 提升女性分娩經驗，減少分娩疼痛

CNSC護理措施

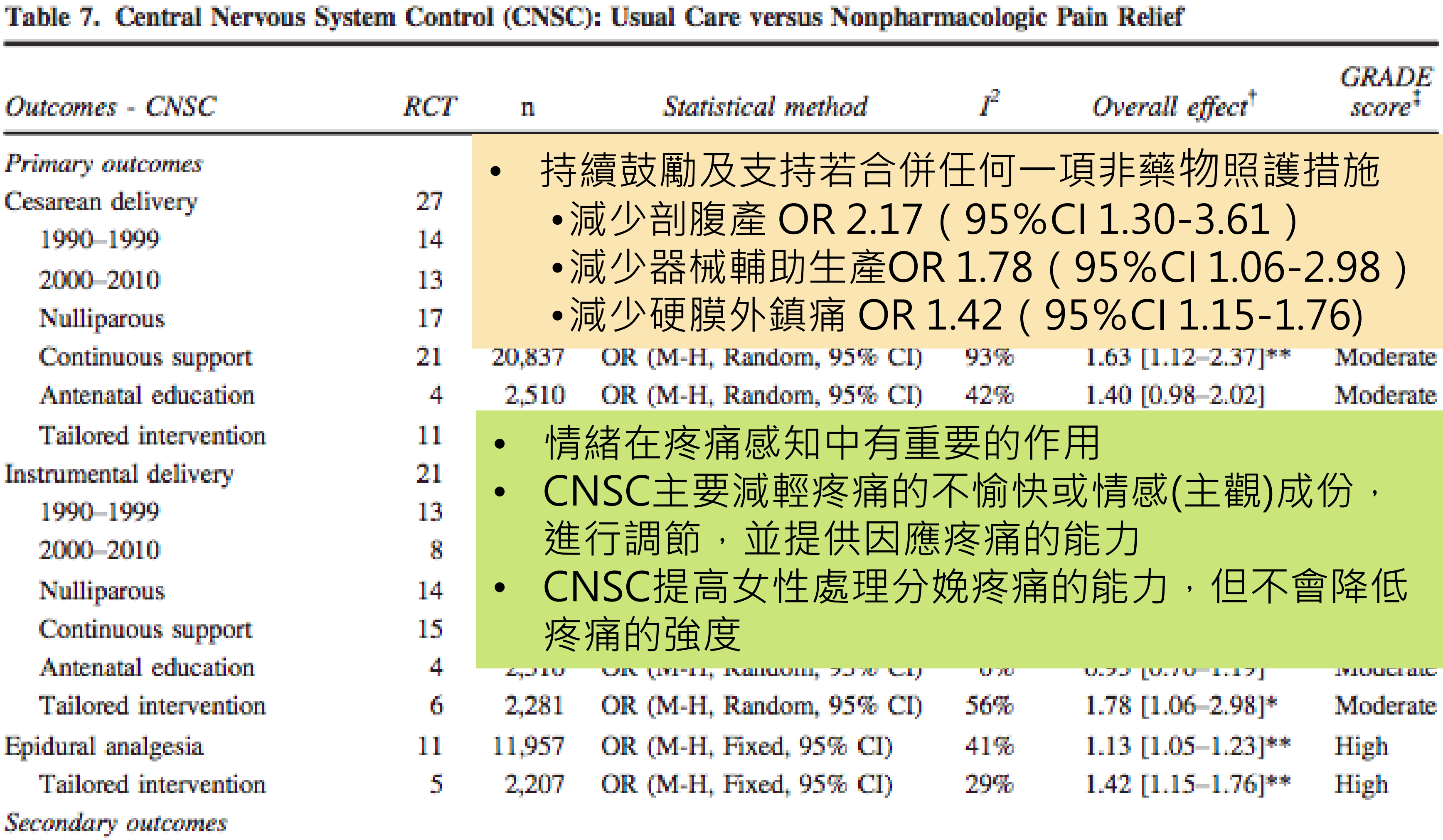


Table 7. Central Nervous System Control (CNSC): Usual Care versus Nonpharmacologic Pain Relief

Outcomes - CNSC	*RCT*	n	*Statistical method*	I^2	*Overall effect*[†]	*GRADE score*[‡]
Primary outcomes						
Cesarean delivery	27					
1990–1999	14					
2000–2010	13					
Nulliparous	17					
Continuous support	21	20,837	OR (M-H, Random, 95% CI)	93%	1.63 [1.12–2.37]**	Moderate
Antenatal education	4	2,510	OR (M-H, Random, 95% CI)	42%	1.40 [0.98–2.02]	Moderate
Tailored intervention	11					
Instrumental delivery	21					
1990–1999	13					
2000–2010	8					
Nulliparous	14					
Continuous support	15					
Antenatal education	4	2,510	OR (M-H, Random, 95% CI)	0%	0.93 [0.70–1.19]	Moderate
Tailored intervention	6	2,281	OR (M-H, Random, 95% CI)	56%	1.78 [1.06–2.98]*	Moderate
Epidural analgesia	11	11,957	OR (M-H, Fixed, 95% CI)	41%	1.13 [1.05–1.23]**	High
Tailored intervention	5	2,207	OR (M-H, Fixed, 95% CI)	29%	1.42 [1.15–1.76]**	High
Secondary outcomes						

- 持續鼓勵及支持若合併任何一項非藥物照護措施
  - 減少剖腹產 OR 2.17（95%CI 1.30-3.61）
  - 減少器械輔助生產OR 1.78（95%CI 1.06-2.98）
  - 減少硬膜外鎮痛 OR 1.42（95%CI 1.15-1.76)

- 情緒在疼痛感知中有重要的作用
- CNSC主要減輕疼痛的不愉快或情感(主觀)成份，進行調節，並提供因應疼痛的能力
- CNSC提高女性處理分娩疼痛的能力，但不會降低疼痛的強度

臨床問題

- 是否可以提早施打無痛分娩？
- 若提早施打，是否會提升剖腹產及器械輔助生產的風險？

BJOG An International Journal of Obstetrics and Gynaecology

Early versus late epidural analgesia and risk of instrumental delivery in nulliparous women: a systematic review.

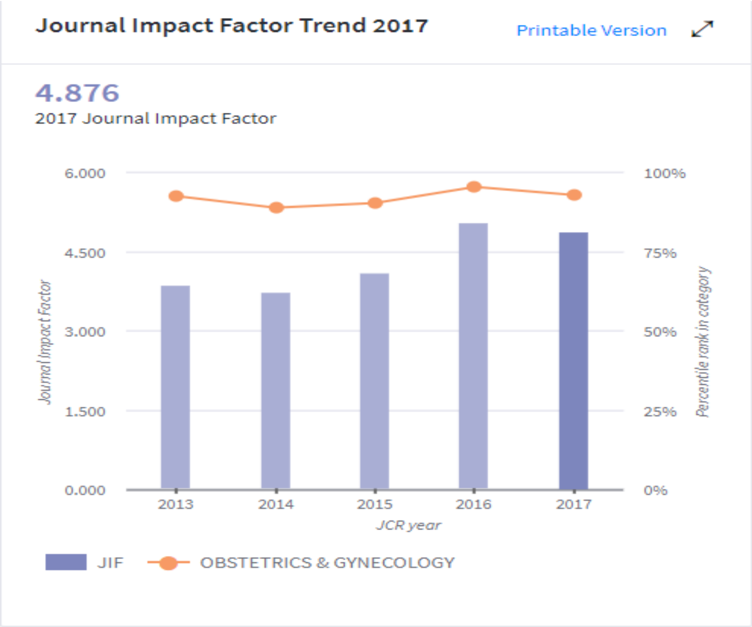
BJOG 2011 May;118(6):655-61.
DOI:10.1111/J.1471-0528.2011.02906.X

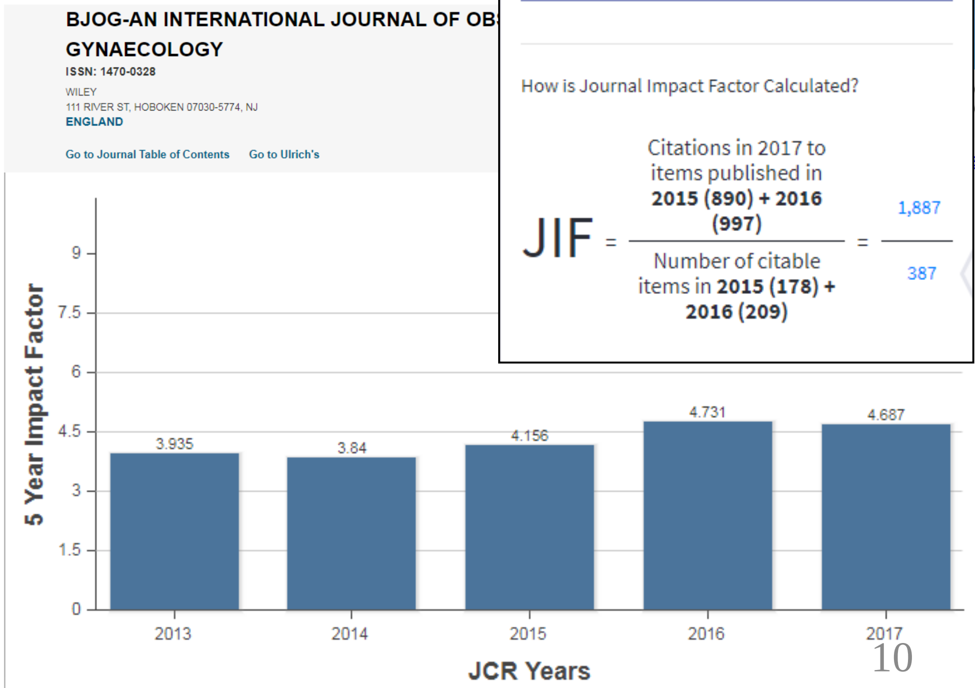
Journal Impact Factor Calculation

$$\text{2017 Journal Impact Factor} = \frac{1{,}887}{387} = 4.876$$

How is Journal Impact Factor Calculated?

$$\text{JIF} = \frac{\text{Citations in 2017 to items published in } \textbf{2015 (890) + 2016 (997)}}{\text{Number of citable items in } \textbf{2015 (178) + 2016 (209)}} = \frac{1{,}887}{387}$$




BJOG-AN INTERNATIONAL JOURNAL OF OB
GYNAECOLOGY
ISSN: 1470-0328
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111 RIVER ST, HOBOKEN 07030-5774, NJ
ENGLAND
Go to Journal Table of Contents Go to Ulrich's

步驟 1：系統性文獻回顧探討的問題為何？

p	初產婦妊娠36週或以上自發或誘發性的陰道分娩
I	早期(≤3公分)施打無痛分娩
C	晚期(>4公分)施打無痛分娩
O	剖腹產及器械輔助陰道生產機率

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)。

- The following terms were used: ‘Analgesia, epidural’ [Mesh] AND [‘caesarean section’ [Mesh] OR ‘instrumental vaginal delivery’ OR ‘Vacuum Extraction, Obstetrical’ [Mesh]AND [early OR timing OR ‘Labor Stage, First’ [Mesh]
- Search strategy: PubMed , EMBASE and Cochrane Library were searched for articles published until 31 July 2010.
- Language restrictions for publication year or published data are not applied.

步驟 2:系統性文獻回顧的品質如何？(FAITH)

F一研究是否找到 (Find) 所有的相關證據？

最好的狀況是？
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- Search:
  RCTs, prospective cohort studies and retrospective cohort studies

- Exclude:
  Reviews and meta-analyses

- Include:
  Only trials with a clear description of the type of analgesia used

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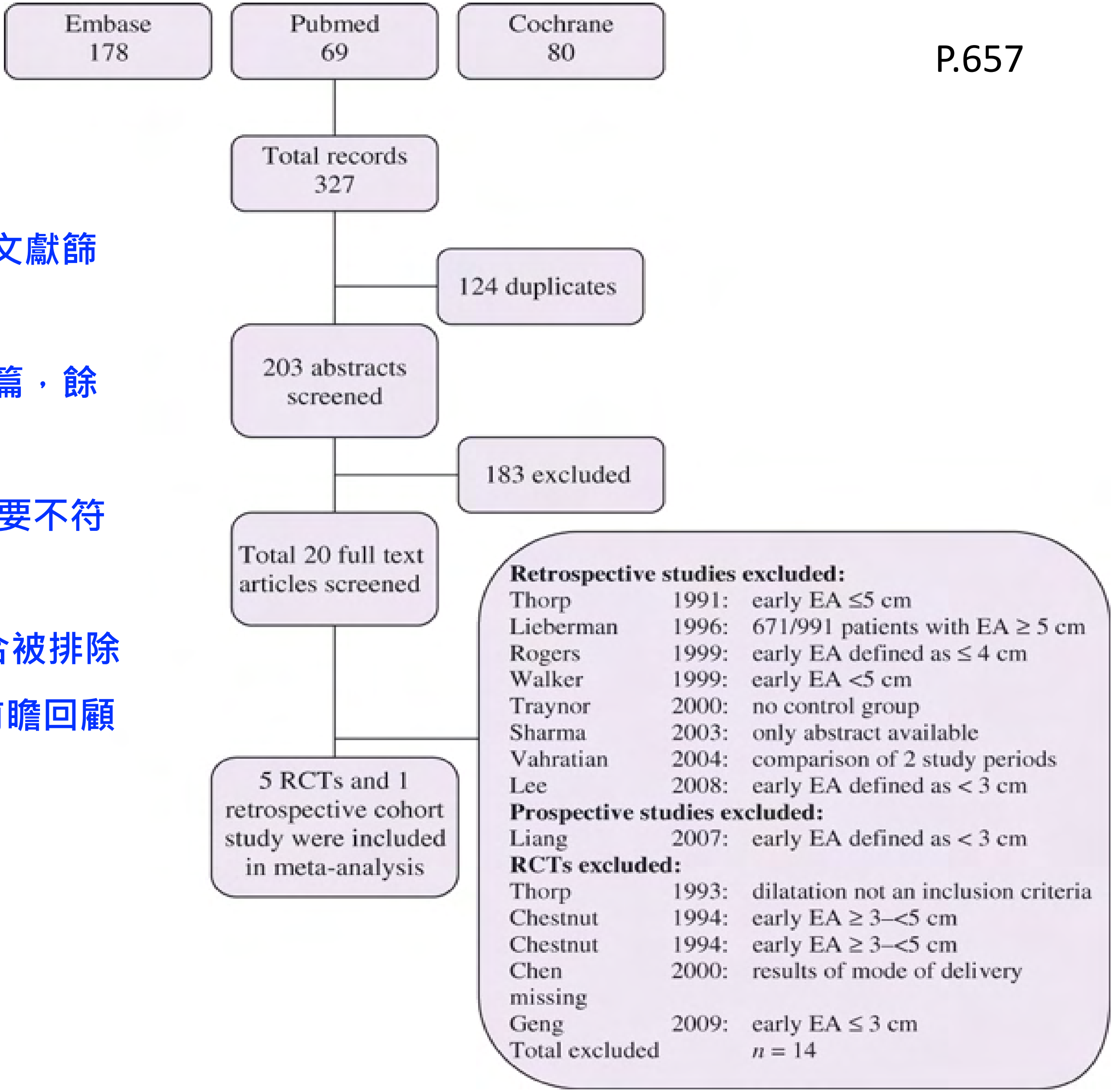
PRISMA流程圖呈現文獻篩選過程

- 327篇刪除重複124篇，餘203篇
- 刪除183篇標題與摘要不符合，餘20篇
- 14篇介入措施不符合被排除
- 6篇(5篇RCT及1篇前瞻回顧性研究)


Embase 178
Pubmed 69
Cochrane 80
Total records 327
124 duplicates
203 abstracts screened
183 excluded
Total 20 full text articles screened
5 RCTs and 1 retrospective cohort study were included in meta-analysis

Retrospective studies excluded:		
Thorp	1991:	early EA ≤5 cm
Lieberman	1996:	671/991 patients with EA ≥ 5 cm
Rogers	1999:	early EA defined as ≤ 4 cm
Walker	1999:	early EA <5 cm
Traynor	2000:	no control group
Sharma	2003:	only abstract available
Vahratian	2004:	comparison of 2 study periods
Lee	2008:	early EA defined as < 3 cm
Prospective studies excluded:		
Liang	2007:	early EA defined as < 3 cm
RCTs excluded:		
Thorp	1993:	dilatation not an inclusion criteria
Chestnut	1994:	early EA ≥ 3–<5 cm
Chestnut	1994:	early EA ≥ 3–<5 cm
Chen	2000:	results of mode of delivery missing
Geng	2009:	early EA ≤ 3 cm
Total excluded		*n* = 14

Early versus late epidural analgesia and risk of instrumental delivery in nulliparous women: a systematic review

BJOG: An International Journal of Obstetrics & Gynaecology, Volume: 118, Issue: 6, Pages: 655-661, First published: 10 March 2011, DOI: (10.1111/j.1471-0528.2011.02906.x)

步驟 2：系統性文獻回顧的品質如何？(FAITH)

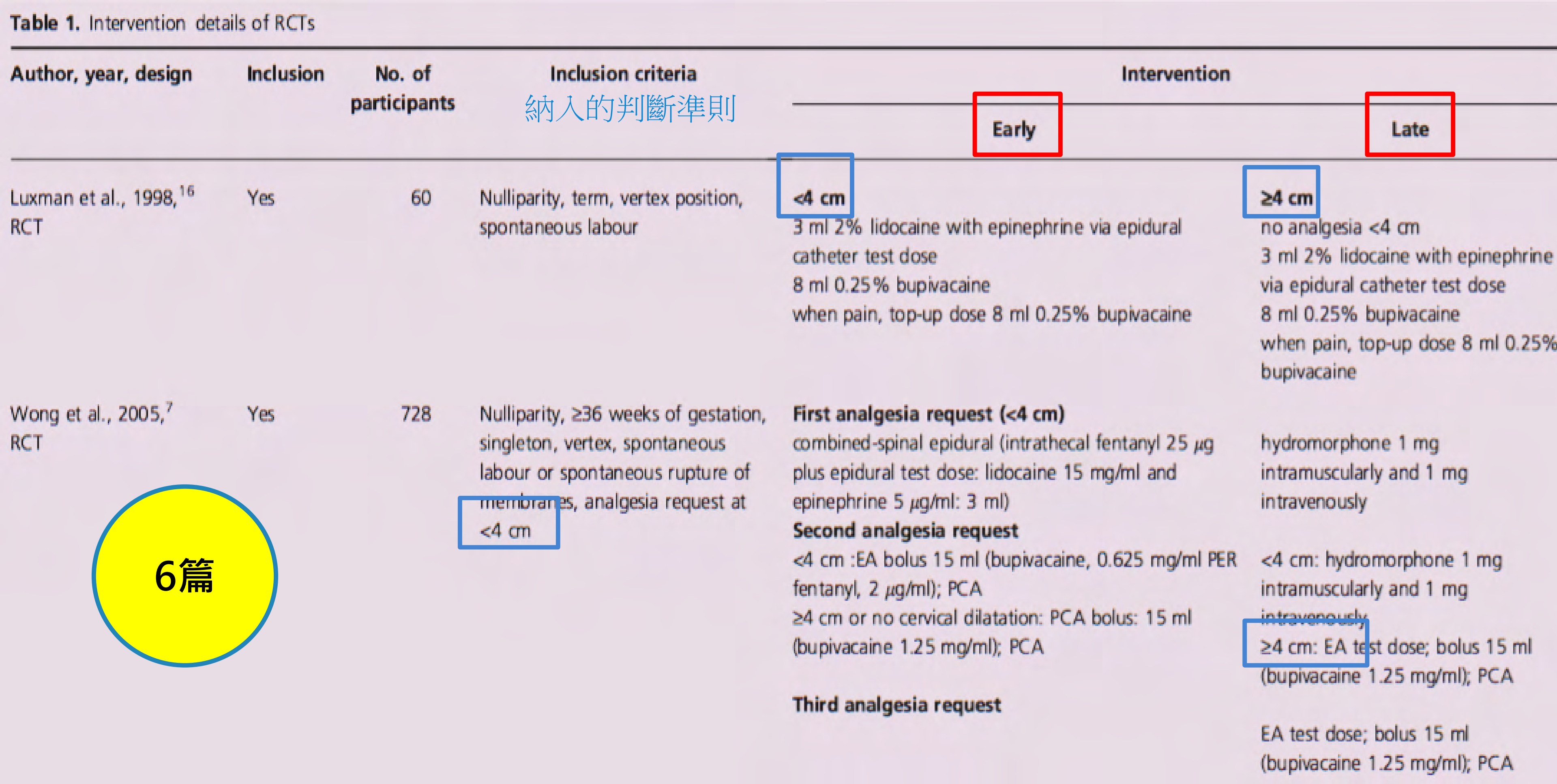


Table 1. Intervention details of RCTs

Author, year, design	**Inclusion**	**No. of participants**	**Inclusion criteria**	**Intervention**	
				Early	**Late**
Luxman et al., 1998,[16] RCT	Yes	60	Nulliparity, term, vertex position, spontaneous labour	**<4 cm** 3 ml 2% lidocaine with epinephrine via epidural catheter test dose 8 ml 0.25% bupivacaine when pain, top-up dose 8 ml 0.25% bupivacaine	**≥4 cm** no analgesia <4 cm 3 ml 2% lidocaine with epinephrine via epidural catheter test dose 8 ml 0.25% bupivacaine when pain, top-up dose 8 ml 0.25% bupivacaine
Wong et al., 2005,[7] RCT	Yes	728	Nulliparity, ≥36 weeks of gestation, singleton, vertex, spontaneous labour or spontaneous rupture of membranes, analgesia request at <4 cm	**First analgesia request (<4 cm)** combined-spinal epidural (intrathecal fentanyl 25 μg plus epidural test dose: lidocaine 15 mg/ml and epinephrine 5 μg/ml: 3 ml)	hydromorphone 1 mg intramuscularly and 1 mg intravenously
				Second analgesia request <4 cm :EA bolus 15 ml (bupivacaine, 0.625 mg/ml PER fentanyl, 2 μg/ml); PCA ≥4 cm or no cervical dilatation: PCA bolus: 15 ml (bupivacaine 1.25 mg/ml); PCA	<4 cm: hydromorphone 1 mg intramuscularly and 1 mg intravenously ≥4 cm: EA test dose; bolus 15 ml (bupivacaine 1.25 mg/ml); PCA
				Third analgesia request	EA test dose; bolus 15 ml (bupivacaine 1.25 mg/ml); PCA

納入的判斷準則

6篇

步驟 2:系統性文獻回顧的品質如何？(FAITH)

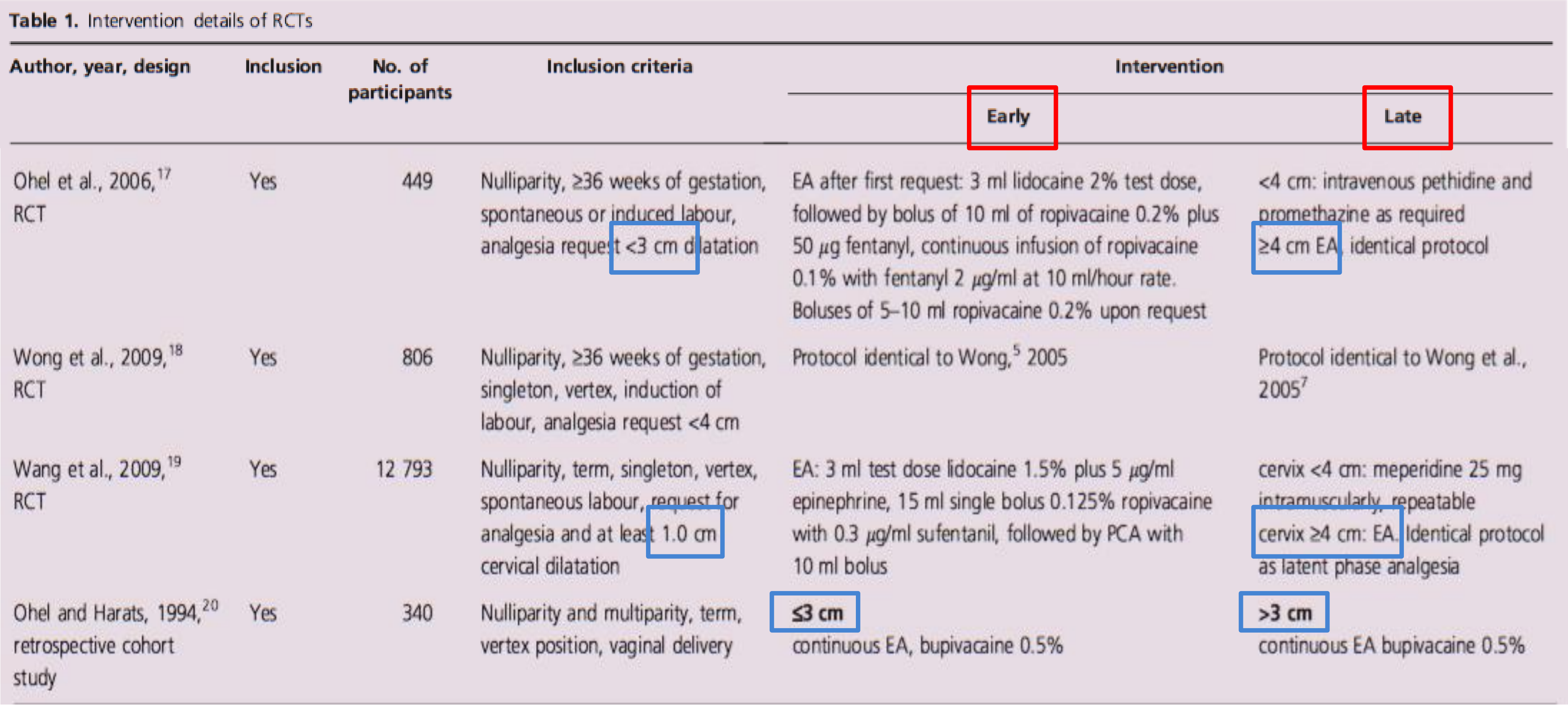


Table 1. Intervention details of RCTs

Author, year, design	**Inclusion**	**No. of participants**	**Inclusion criteria**	**Intervention**	
				Early	**Late**
Ohel et al., 2006,[17] RCT	Yes	449	Nulliparity, ≥36 weeks of gestation, spontaneous or induced labour, analgesia request <3 cm dilatation	EA after first request: 3 ml lidocaine 2% test dose, followed by bolus of 10 ml of ropivacaine 0.2% plus 50 μg fentanyl, continuous infusion of ropivacaine 0.1% with fentanyl 2 μg/ml at 10 ml/hour rate. Boluses of 5–10 ml ropivacaine 0.2% upon request	<4 cm: intravenous pethidine and promethazine as required ≥4 cm EA, identical protocol
Wong et al., 2009,[18] RCT	Yes	806	Nulliparity, ≥36 weeks of gestation, singleton, vertex, induction of labour, analgesia request <4 cm	Protocol identical to Wong,[5] 2005	Protocol identical to Wong et al., 2005[7]
Wang et al., 2009,[19] RCT	Yes	12 793	Nulliparity, term, singleton, vertex, spontaneous labour, request for analgesia and at least 1.0 cm cervical dilatation	EA: 3 ml test dose lidocaine 1.5% plus 5 μg/ml epinephrine, 15 ml single bolus 0.125% ropivacaine with 0.3 μg/ml sufentanil, followed by PCA with 10 ml bolus	cervix <4 cm: meperidine 25 mg intramuscularly, repeatable cervix ≥4 cm: EA. Identical protocol as latent phase analgesia
Ohel and Harats, 1994,[20] retrospective cohort study	Yes	340	Nulliparity and multiparity, term, vertex position, vaginal delivery	**≤3 cm** continuous EA, bupivacaine 0.5%	**>3 cm** continuous EA bupivacaine 0.5%

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)

- Two authors (MW and JZ) reviewed these papers to check whether they met the inclusion and exclusion criteria.
- The third reviewer (FR) will resolve any differences if necessary.
- The methodological quality of the RCTs was assessed by the Jadad criteria.
- A numerical score between zero and five is assigned as a rough measure of study reporting quality (zero being weakest and five being strongest)

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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。

Jadad 品質評量表

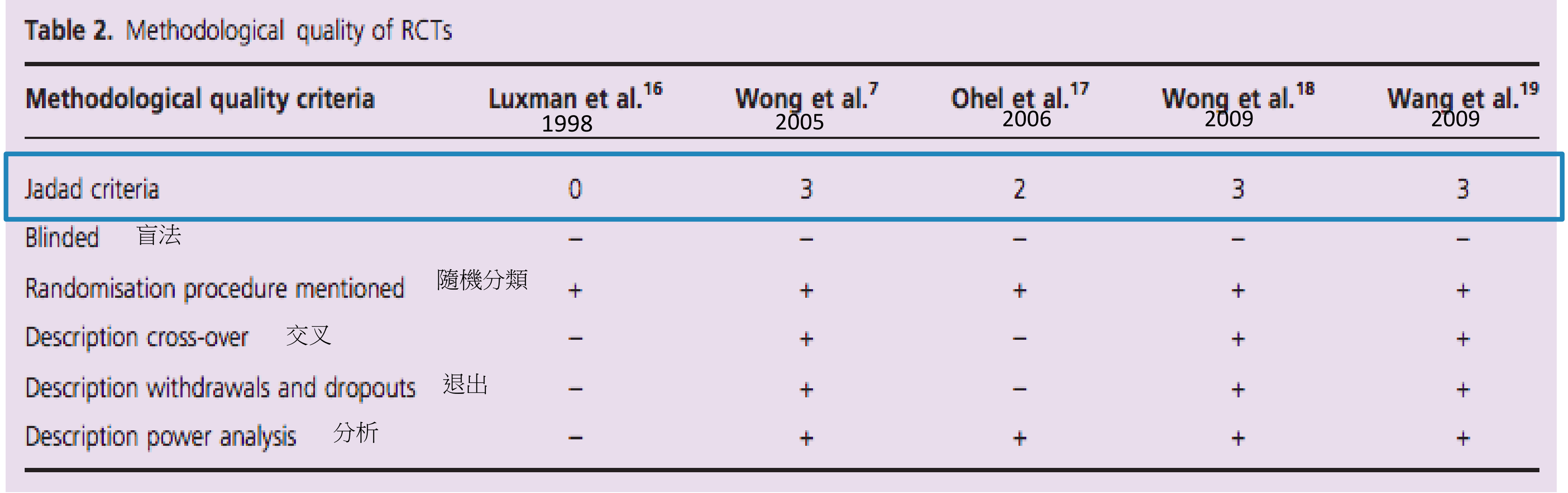

Table 2. Methodological quality of RCTs

Methodological quality criteria	**Luxman et al.**[16] 1998	**Wong et al.**[7] 2005	**Ohel et al.**[17] 2006	**Wong et al.**[18] 2009	**Wang et al.**[19] 2009
Jadad criteria	0	3	2	3	3
Blinded 盲法	–	–	–	–	–
Randomisation procedure mentioned 隨機分類	+	+	+	+	+
Description cross-over 交叉	–	+	–	+	+
Description withdrawals and dropouts 退出	–	+	–	+	+
Description power analysis 分析	–	+	+	+	+

According to the Jadad standard, the highest score for these studies is 3 points.

□ 基本分 1 分：清楚說明退出及失聯的原因
□ 減 1 分（即得 0 分）：沒有說明失去追蹤的原因

評讀結果:■是 □否 □不清楚

P.658

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。

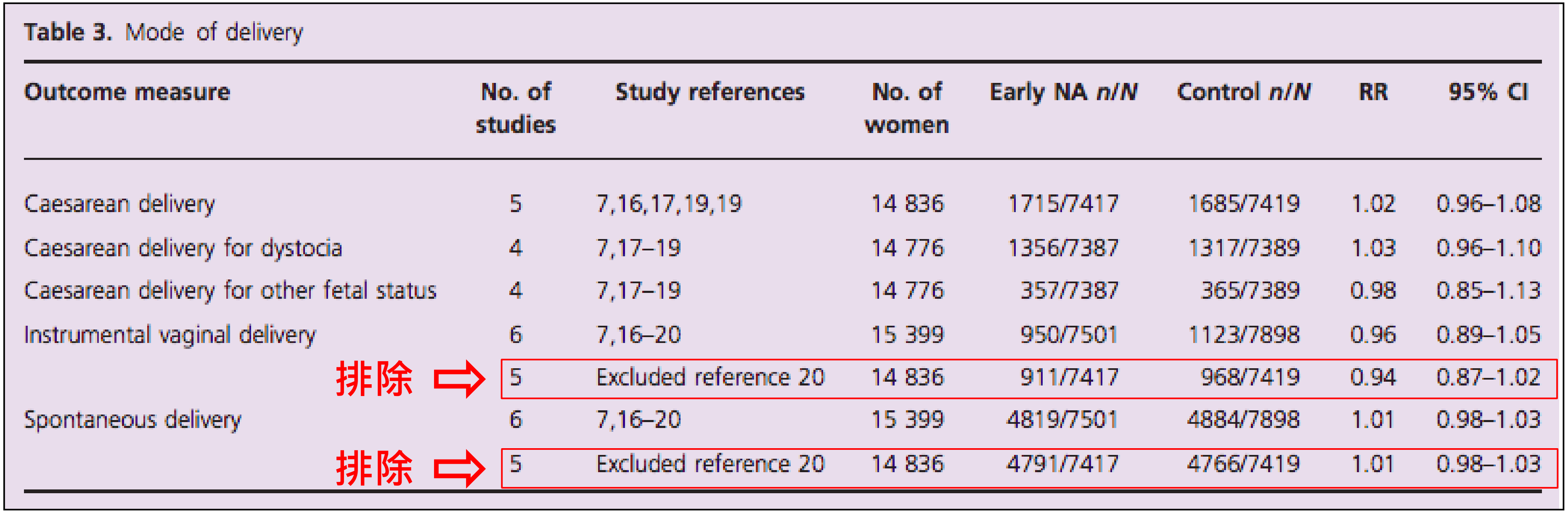

Table 3. Mode of delivery

Outcome measure	No. of studies	Study references	No. of women	Early NA *n/N*	Control *n/N*	RR	95% CI
Caesarean delivery	5	7,16,17,19,19	14 836	1715/7417	1685/7419	1.02	0.96–1.08
Caesarean delivery for dystocia	4	7,17–19	14 776	1356/7387	1317/7389	1.03	0.96–1.10
Caesarean delivery for other fetal status	4	7,17–19	14 776	357/7387	365/7389	0.98	0.85–1.13
Instrumental vaginal delivery	6	7,16–20	15 399	950/7501	1123/7898	0.96	0.89–1.05
排除 ⇨	5	Excluded reference 20	14 836	911/7417	968/7419	0.94	0.87–1.02
Spontaneous delivery	6	7,16–20	15 399	4819/7501	4884/7898	1.01	0.98–1.03
排除 ⇨	5	Excluded reference 20	14 836	4791/7417	4766/7419	1.01	0.98–1.03

Figure 2. Forest plot, individual and pooled risk ratio (RR) with 95% confidence intervals (CI) for rate of caesarean delivery.

步驟 2：系統性文獻回顧的品質如何？(FAITH)

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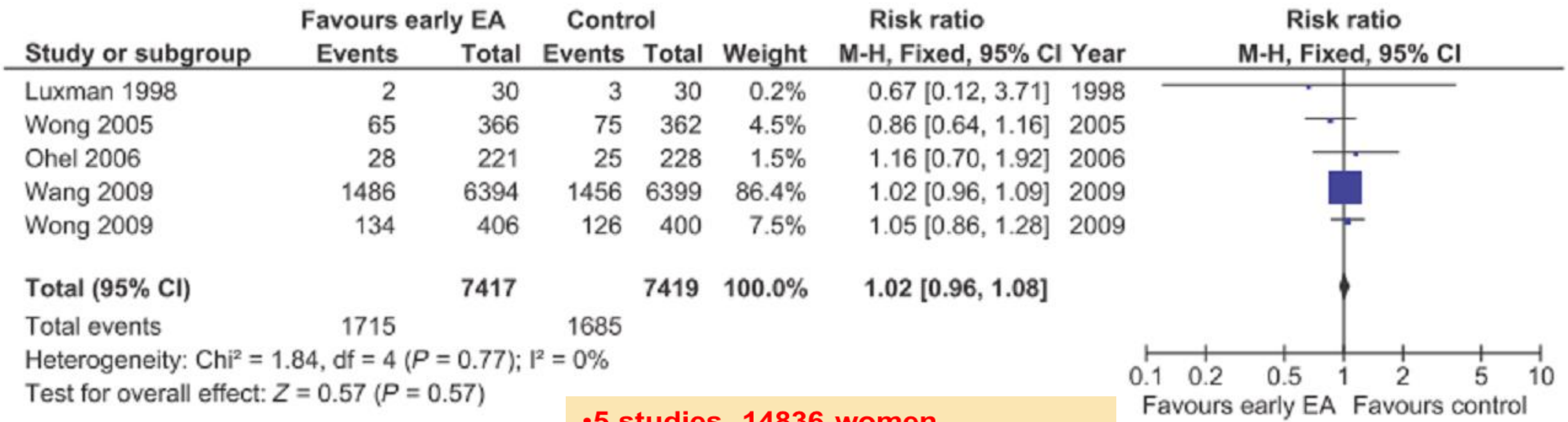
最好的狀況是？應該用至少 1 個摘要表格呈現所納入的試驗結果。若結果相近，可針對結果進行統合分析(meta-analysis)，並以「森林圖」(forest plot)呈現研究結果，最好再加上異質性分析。



Study or subgroup	Favours early EA Events	Favours early EA Total	Control Events	Control Total	Weight	Risk ratio M-H, Fixed, 95% CI	Year
Luxman 1998	2	30	3	30	0.2%	0.67 [0.12, 3.71]	1998
Wong 2005	65	366	75	362	4.5%	0.86 [0.64, 1.16]	2005
Ohel 2006	28	221	25	228	1.5%	1.16 [0.70, 1.92]	2006
Wang 2009	1486	6394	1456	6399	86.4%	1.02 [0.96, 1.09]	2009
Wong 2009	134	406	126	400	7.5%	1.05 [0.86, 1.28]	2009
Total (95% CI)		**7417**		**7419**	**100.0%**	**1.02 [0.96, 1.08]**	
Total events	1715		1685				

Heterogeneity: $\text{Chi}^2 = 1.84$, df = 4 ($P = 0.77$); $I^2 = 0\%$

Test for overall effect: $Z = 0.57$ ($P = 0.57$)

- **5 studies, 14836 women**
- **average RR 1.02, 95% CI 0.96 - 1.08**
- **I^2 =0%**

Figure 2. Forest plot, individual and pooled risk ratio (RR) with 95% confidence intervals (CI) for rate of caesarean delivery.

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)

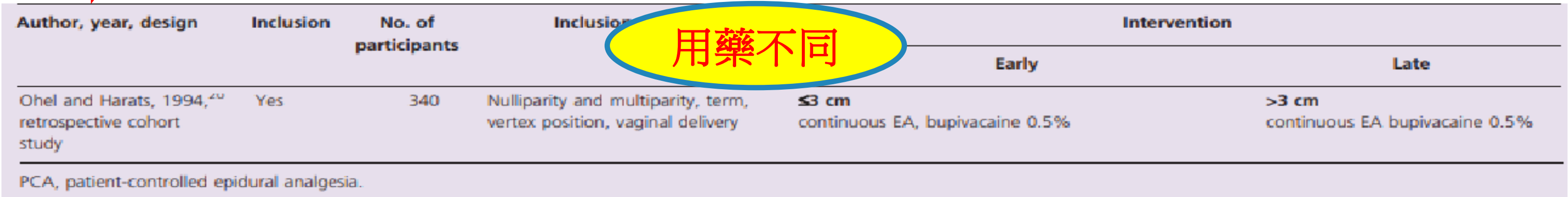
H－試驗的結果是否相近－異質性 (Heterogeneity)？

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。

I^2<25% 性質異低
I^2=25-50% 性質異低的好不
I^2>25% 高性質異

- 剖腹產總體發生率(I^2 = 0.0%, 95% CI 0.0-89.2)
- 難產剖腹產 (I^2 = 0.0%, 95%CI 0.0-88.7)
- 其他胎兒狀態的剖腹產 (I^2 = 35.3%, 95%CI 0.0-96.0)
- 自發陰道分娩 (I^2 = 0.0%, 95%CI -0.0-95.8)
- 器械陰道分娩的統計 (I^2= 57.8%, 95%CI 0.0-92.2)

⇨ 排除異質性(1994) (I^2 = 0.0% , 95%CI 0.0-86.9)



Author, year, design	Inclusion	No. of participants	Inclusion	Intervention	
				Early	Late
Ohel and Harats, 1994,[40] retrospective cohort study	Yes	340	Nulliparity and multiparity, term, vertex position, vaginal delivery	≤3 cm continuous EA, bupivacaine 0.5%	>3 cm continuous EA bupivacaine 0.5%

PCA, patient-controlled epidural analgesia.

評讀結果：■是 □否□不清楚

評讀總表

研究的品質有多好(內在效度)	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

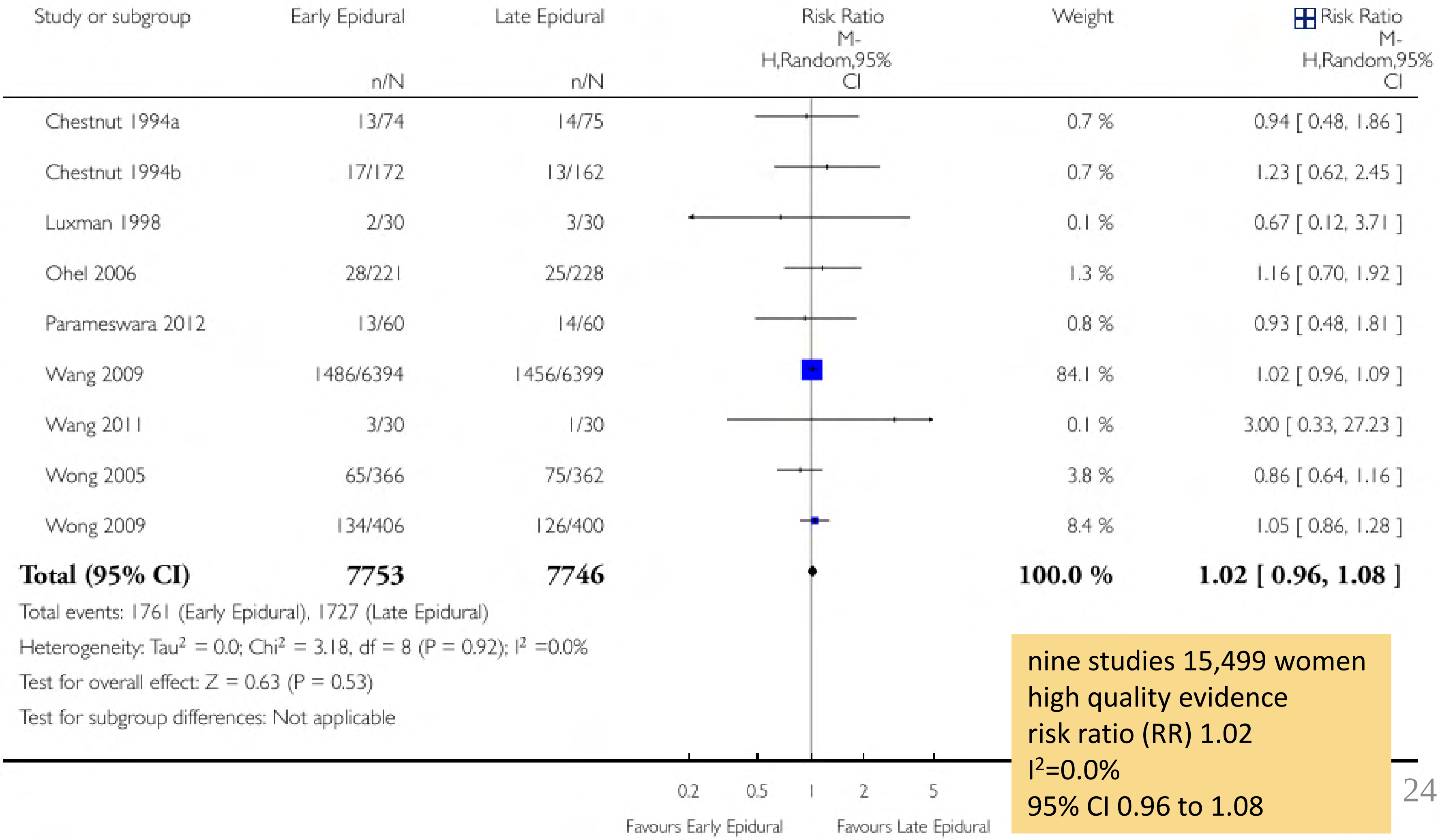
Early versus late initiation of epidural analgesia for labor

Cochrane Database System Rev.
2014 Oct 9;(10):CD007238.
DOI: 10.1002/14651858.CD007238.pub2.

Cochrane
Library

early initiation versus late initiation Outcome

- Caesarean section



Study or subgroup	Early Epidural n/N	Late Epidural n/N	Risk Ratio M-H,Random,95% CI	Weight	Risk Ratio M-H,Random,95% CI
Chestnut 1994a	13/74	14/75		0.7 %	0.94 [0.48, 1.86]
Chestnut 1994b	17/172	13/162		0.7 %	1.23 [0.62, 2.45]
Luxman 1998	2/30	3/30		0.1 %	0.67 [0.12, 3.71]
Ohel 2006	28/221	25/228		1.3 %	1.16 [0.70, 1.92]
Parameswara 2012	13/60	14/60		0.8 %	0.93 [0.48, 1.81]
Wang 2009	1486/6394	1456/6399		84.1 %	1.02 [0.96, 1.09]
Wang 2011	3/30	1/30		0.1 %	3.00 [0.33, 27.23]
Wong 2005	65/366	75/362		3.8 %	0.86 [0.64, 1.16]
Wong 2009	134/406	126/400		8.4 %	1.05 [0.86, 1.28]
Total (95% CI)	**7753**	**7746**		**100.0 %**	**1.02 [0.96, 1.08]**

Total events: 1761 (Early Epidural), 1727 (Late Epidural)

Heterogeneity: Tau^2 = 0.0; Chi^2 = 3.18, df = 8 (P = 0.92); I^2 =0.0%

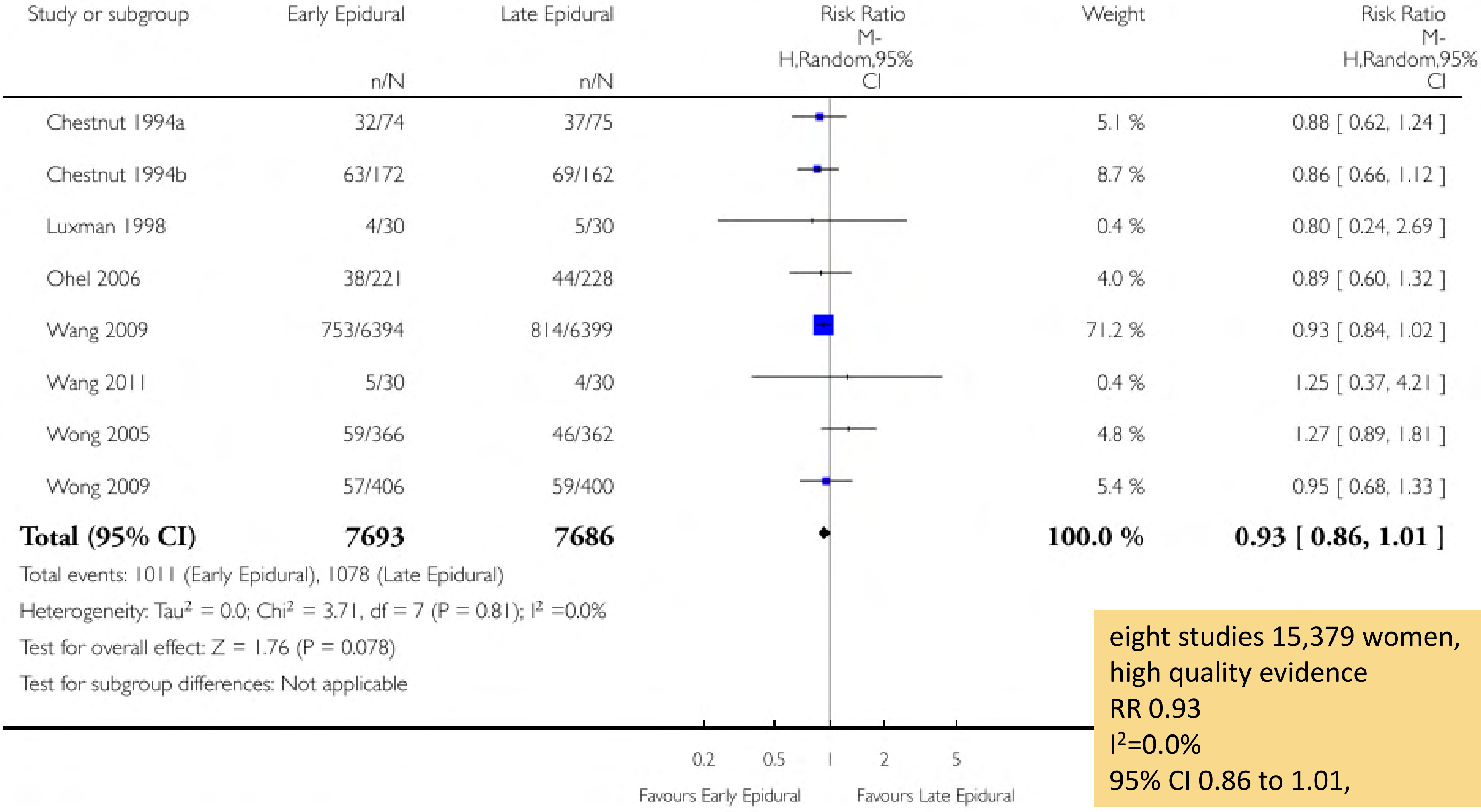
Test for overall effect: Z = 0.63 (P = 0.53)

Test for subgroup differences: Not applicable

nine studies 15,499 women
high quality evidence
risk ratio (RR) 1.02
I^2=0.0%
95% CI 0.96 to 1.08

early initiation versus late initiation Outcome

- **Instrumental birth**



Study or subgroup	Early Epidural n/N	Late Epidural n/N	Weight	Risk Ratio M-H,Random,95% CI
Chestnut 1994a	32/74	37/75	5.1 %	0.88 [0.62, 1.24]
Chestnut 1994b	63/172	69/162	8.7 %	0.86 [0.66, 1.12]
Luxman 1998	4/30	5/30	0.4 %	0.80 [0.24, 2.69]
Ohel 2006	38/221	44/228	4.0 %	0.89 [0.60, 1.32]
Wang 2009	753/6394	814/6399	71.2 %	0.93 [0.84, 1.02]
Wang 2011	5/30	4/30	0.4 %	1.25 [0.37, 4.21]
Wong 2005	59/366	46/362	4.8 %	1.27 [0.89, 1.81]
Wong 2009	57/406	59/400	5.4 %	0.95 [0.68, 1.33]
Total (95% CI)	**7693**	**7686**	**100.0 %**	**0.93 [0.86, 1.01]**

Total events: 1011 (Early Epidural), 1078 (Late Epidural)

Heterogeneity: Tau^2 = 0.0; Chi^2 = 3.71, df = 7 (P = 0.81); I^2 =0.0%

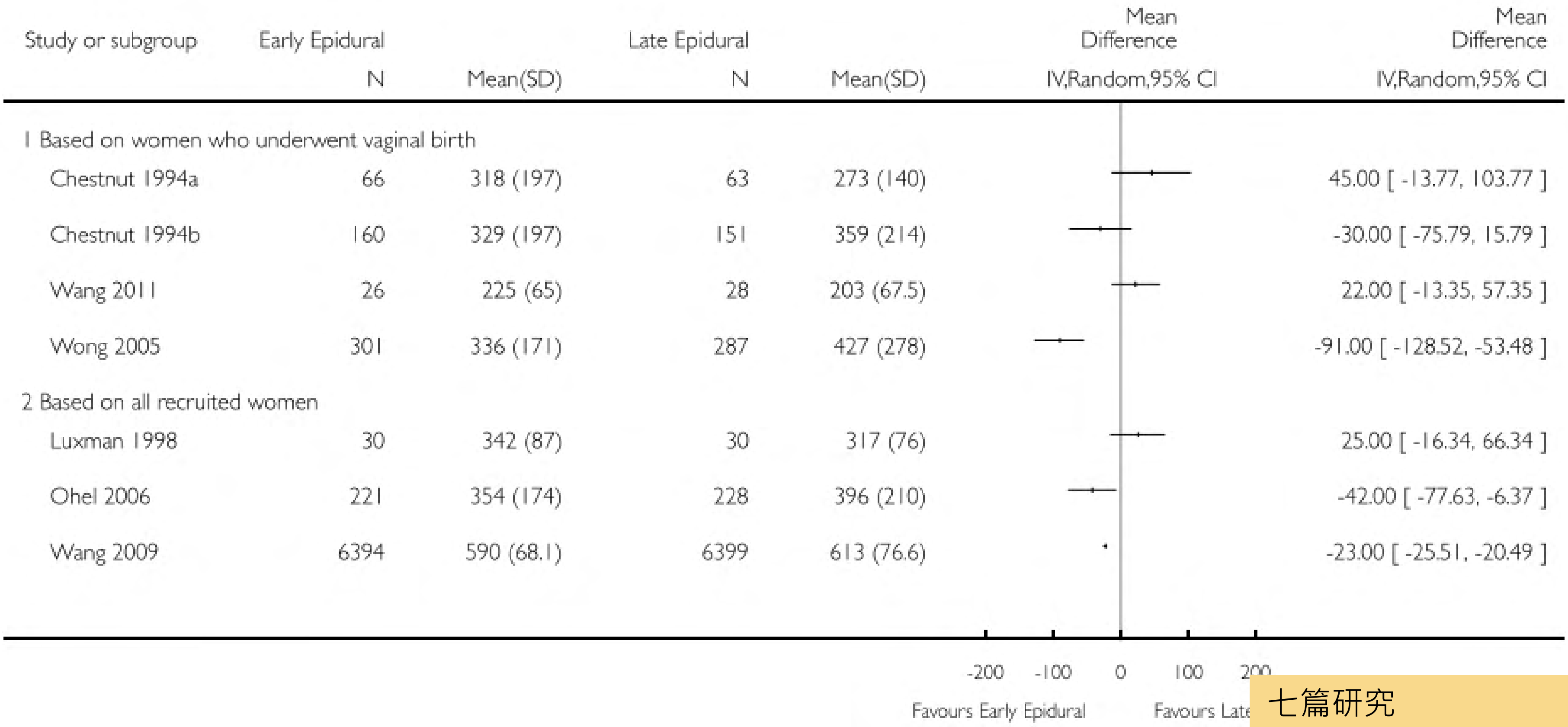
Test for overall effect: Z = 1.76 (P = 0.078)

Test for subgroup differences: Not applicable

eight studies 15,379 women,
high quality evidence
RR 0.93
I^2=0.0%
95% CI 0.86 to 1.01,

early initiation versus late initiation Outcome

- **The duration of first stage**

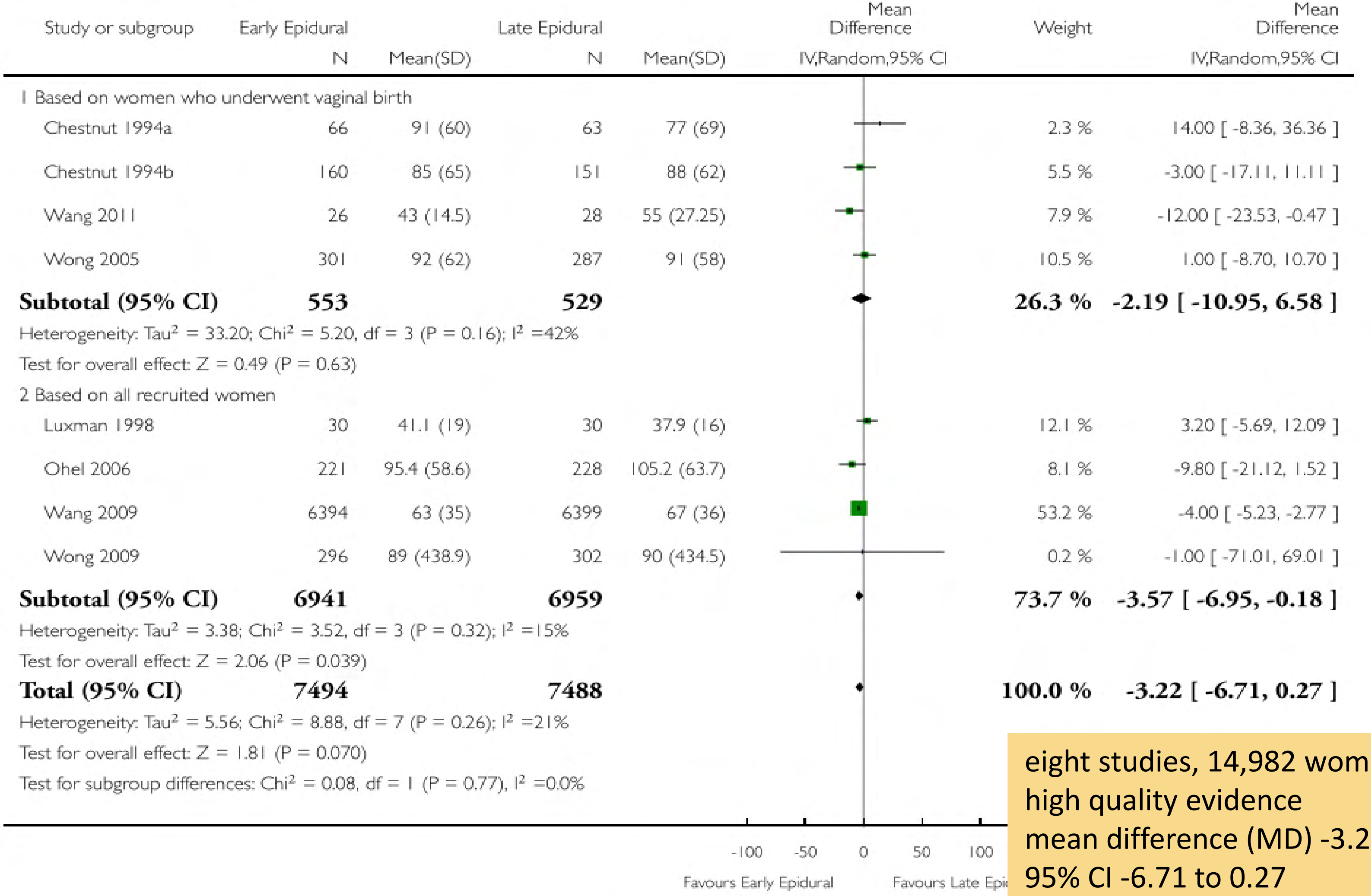


Study or subgroup	Early Epidural N	Mean(SD)	Late Epidural N	Mean(SD)	Mean Difference IV,Random,95% CI	Mean Difference IV,Random,95% CI
1 Based on women who underwent vaginal birth						
Chestnut 1994a	66	318 (197)	63	273 (140)		45.00 [-13.77, 103.77]
Chestnut 1994b	160	329 (197)	151	359 (214)		-30.00 [-75.79, 15.79]
Wang 2011	26	225 (65)	28	203 (67.5)		22.00 [-13.35, 57.35]
Wong 2005	301	336 (171)	287	427 (278)		-91.00 [-128.52, -53.48]
2 Based on all recruited women						
Luxman 1998	30	342 (87)	30	317 (76)		25.00 [-16.34, 66.34]
Ohel 2006	221	354 (174)	228	396 (210)		-42.00 [-77.63, -6.37]
Wang 2009	6394	590 (68.1)	6399	613 (76.6)		-23.00 [-25.51, -20.49]

七篇研究
因異質性太大
故無法完成統合分析

early initiation versus late initiation Outcome

- **The duration of second stage of labor**



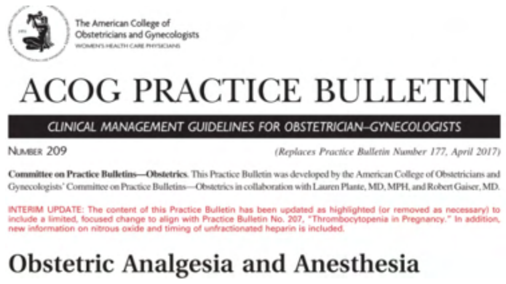
Study or subgroup	Early Epidural N	Early Epidural Mean(SD)	Late Epidural N	Late Epidural Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
1 Based on women who underwent vaginal birth							
Chestnut 1994a	66	91 (60)	63	77 (69)		2.3 %	14.00 [-8.36, 36.36]
Chestnut 1994b	160	85 (65)	151	88 (62)		5.5 %	-3.00 [-17.11, 11.11]
Wang 2011	26	43 (14.5)	28	55 (27.25)		7.9 %	-12.00 [-23.53, -0.47]
Wong 2005	301	92 (62)	287	91 (58)		10.5 %	1.00 [-8.70, 10.70]
Subtotal (95% CI)	**553**		**529**			**26.3 %**	**-2.19 [-10.95, 6.58]**
Heterogeneity: Tau² = 33.20; Chi² = 5.20, df = 3 (P = 0.16); I² =42%							
Test for overall effect: Z = 0.49 (P = 0.63)							
2 Based on all recruited women							
Luxman 1998	30	41.1 (19)	30	37.9 (16)		12.1 %	3.20 [-5.69, 12.09]
Ohel 2006	221	95.4 (58.6)	228	105.2 (63.7)		8.1 %	-9.80 [-21.12, 1.52]
Wang 2009	6394	63 (35)	6399	67 (36)		53.2 %	-4.00 [-5.23, -2.77]
Wong 2009	296	89 (438.9)	302	90 (434.5)		0.2 %	-1.00 [-71.01, 69.01]
Subtotal (95% CI)	**6941**		**6959**			**73.7 %**	**-3.57 [-6.95, -0.18]**
Heterogeneity: Tau² = 3.38; Chi² = 3.52, df = 3 (P = 0.32); I² =15%							
Test for overall effect: Z = 2.06 (P = 0.039)							
Total (95% CI)	**7494**		**7488**			**100.0 %**	**-3.22 [-6.71, 0.27]**
Heterogeneity: Tau² = 5.56; Chi² = 8.88, df = 7 (P = 0.26); I² =21%							
Test for overall effect: Z = 1.81 (P = 0.070)							
Test for subgroup differences: Chi² = 0.08, df = 1 (P = 0.77), I² =0.0%							

eight studies, 14,982 women
high quality evidence
mean difference (MD) -3.22 minutes
95% CI -6.71 to 0.27

總結

BJOG An International Journal of Obstetrics and Gynaecology **Early versus late epidural analgesia and risk of instrumental delivery in nulliparous women: a systematic review.**	■ 初產婦使用無痛分娩，對於剖腹產或器械輔助生產沒有顯著差異 ■ 早期接受無痛分娩者，不會增加剖腹產或器械輔助生產的風險
Cochrane Library **Early versus late initiation of epidural analgesia for labor(Review)**	■ 早期與晚期接受無痛分娩，剖腹產、器械輔助生產、第二產程時間、沒有顯著差異 ■ 無痛分娩的時間取決於產婦的需求
BIRTH ISSUES IN PERINATAL CARE **Non pharmacologic Approaches for Pain Management During Labor Compared with Usual Care: A Meta-Analysis**	■ 配合非藥物護理措施減輕疼痛，不會造成額外的傷害，提供女性顯著益處。

ACOG Practice Bulletin 2019



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG PRACTICE BULLETIN

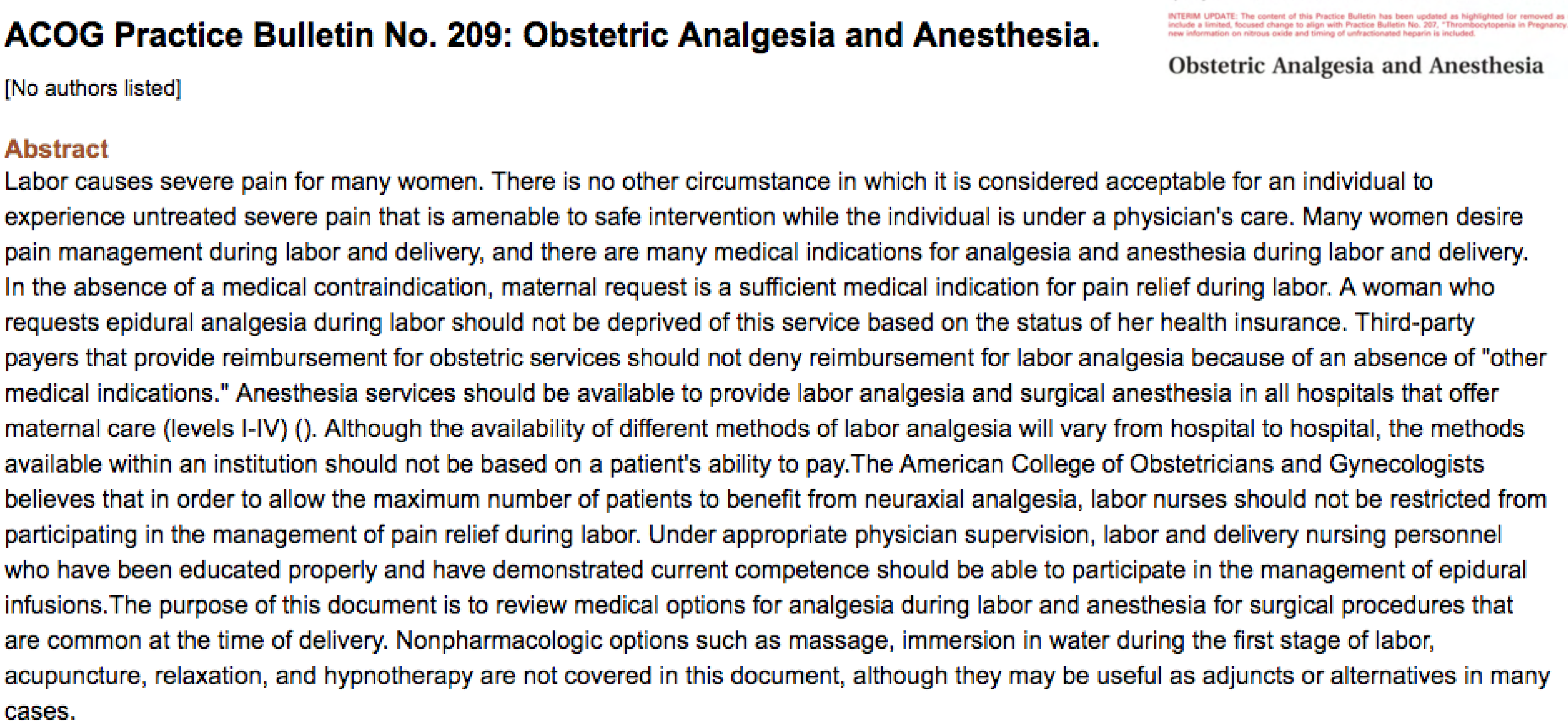
CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN–GYNECOLOGISTS

NUMBER 209 *(Replaces Practice Bulletin Number 177, April 2017)*

Committee on Practice Bulletins—Obstetrics. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Lauren Plante, MD, MPH, and Robert Gaiser, MD.

INTERIM UPDATE: The content of this Practice Bulletin has been updated as highlighted (or removed as necessary) to include a limited, focused change to align with Practice Bulletin No. 207, "Thrombocytopenia in Pregnancy." In addition, new information on nitrous oxide and timing of unfractionated heparin is included.

Obstetric Analgesia and Anesthesia



Obstet Gynecol. 2019 Mar;133(3):e208-e225. doi: 10.1097/AOG.0000000000003132.

ACOG Practice Bulletin No. 209: Obstetric Analgesia and Anesthesia.

[No authors listed]

Abstract

Labor causes severe pain for many women. There is no other circumstance in which it is considered acceptable for an individual to experience untreated severe pain that is amenable to safe intervention while the individual is under a physician's care. Many women desire pain management during labor and delivery, and there are many medical indications for analgesia and anesthesia during labor and delivery. In the absence of a medical contraindication, maternal request is a sufficient medical indication for pain relief during labor. A woman who requests epidural analgesia during labor should not be deprived of this service based on the status of her health insurance. Third-party payers that provide reimbursement for obstetric services should not deny reimbursement for labor analgesia because of an absence of "other medical indications." Anesthesia services should be available to provide labor analgesia and surgical anesthesia in all hospitals that offer maternal care (levels I-IV) (). Although the availability of different methods of labor analgesia will vary from hospital to hospital, the methods available within an institution should not be based on a patient's ability to pay.The American College of Obstetricians and Gynecologists believes that in order to allow the maximum number of patients to benefit from neuraxial analgesia, labor nurses should not be restricted from participating in the management of pain relief during labor. Under appropriate physician supervision, labor and delivery nursing personnel who have been educated properly and have demonstrated current competence should be able to participate in the management of epidural infusions.The purpose of this document is to review medical options for analgesia during labor and anesthesia for surgical procedures that are common at the time of delivery. Nonpharmacologic options such as massage, immersion in water during the first stage of labor, acupuncture, relaxation, and hypnotherapy are not covered in this document, although they may be useful as adjuncts or alternatives in many cases.

產婦子宮頸擴張未達3公分，可提早施打無痛分娩嗎？

🟢 53票 同意

🟡 0票 需要更多文獻支持

🔴 0票 不同意

Pain Relief

https://www.everymum.ie/pregnancy/birth/labour/pain-relief-in-labour-pethidine/

Thank You