實證醫學

指導醫師：鄭為仁 醫師、林新瑜 醫師

報告人員：陳柏太 Scenario+Ask(PICO)
　　　　　吳根培 Acquire
　　　　　張芳瑜、魏禎瑩 Appraise
　　　　　鄭存翔 Apply + Audit + 統整

Scenario 臨床情境

- 游先生，58歲，半年前因MCA infarction入院並接受昇昇醫師的針灸治療，苦命實習醫師C在Duty診詢問病史時，家屬表示病人頻頻嗆咳，希望改善吞嚥功能，對於昇昇醫師的針灸治療有效/無效感到困惑？

- 他的主要問題是

  – 針灸是否能改善中風後的吞嚥困難？

Ask－PICO

- 提問：由臨床資料提出可回答的臨床問題。

Problem病人問題	Dysphagia caused by stroke
Intervention介入處置	Acupuncture
Comparison對照的處置	Non-acupuncture treatment
Outcome臨床結果	Dysphagia的改善程度

- 屬於一個治療型的臨床問題。

Acquire

- Problem: stroke, dysphagia
- Intervention: acupuncture
- Comparison: placebo, no acupuncture
- Outcome: beneficial in the rehabilitation

Acquire - secondary database UpToDate

Acquire - secondary database
Cochrane library

Acquire - secondary database
本土資料庫

Acquire - primary database
Pubmed

Acquire- primary database pubmed

14. ☐ Does the addition of specific **acupuncture** to standard swallowing training improve outcomes in patients with **dysphagia** after **stroke**? a randomized controlled trial.
Xia W, Zheng C, Zhu S, Tang Z.
Clin Rehabil. 2016 Mar;30(3):237-46. doi: 10.1177/0269215515578698. Epub 2015 Mar 26.
PMID: 25819076   **Free PMC Article**
Similar articles

15. ☐ [Observation on theraputic effect of five-needle-in-nape **acupuncture** for treatment of poststroke pesudobulbar paralysis **dysphagia**].
Li M, Sun JH, Lu JW, Liu LY, Geng H.
Zhongguo Zhen Jiu. 2009 Nov;29(11):873-5. Chinese.
PMID: 19994683
Similar articles

16. ☑ A meta-analysis of the efficacy of **acupuncture** in treating **dysphagia** in patients with a **stroke**.
Long YB, Wu XP.
Acupunct Med. 2012 Dec;30(4):291-7. doi: 10.1136/acupmed-2012-010155. Epub 2012 Sep 22.
PMID: 23000511
Similar articles

17. ☐ **Acupuncture** for **dysphagia** in poststroke patients: a videofluoroscopic study.
Seki T, Iwasaki K, Arai H, Sasaki H, Hayashi H, Yamada S, Toba K.
J Am Geriatr Soc. 2005 Jun;53(6):1083-4. No abstract available.
PMID: 15935049
Similar articles

18. ☐ **Acupuncture** and swallowing reflex in poststroke patients.
Seki T, Kurusu M, Tanji H, Arai H, Sasaki H.
J Am Geriatr Soc. 2003 May;51(5):726-7. No abstract available.
PMID: 12752859
Similar articles

19. ☐ **Acupuncture** for **stroke**: evidence of effectiveness, safety, and cost from systematic reviews.
Zhao XF, Du Y, Liu PG, Wang S.
Top **Stroke** Rehabil. 2012 May-Jun;19(3):226-33. doi: 10.1310/tsr1903-226. Review.

搜尋結果

- Pubmed: 51

  （評讀 "A meta-analysis of the efficacy of acupuncture in treating dysphagia in patients with a stroke."）

- UpToDate: 0
- Cochrane library: 3
- 華藝線上圖書館: 8

Level of evidence

Strength	Level	Design	Randomization	Control
High	Level 1	Randomized control trial (RCT)	Yes	Yes
		Meta-analysis of RCT with homogeneous results	No	
	Level 2	Prospective comparative study (therapeutic)	No	Yes
		Meta-analysis of Level 2 studies or Level 1 studies with inconsistent results	No	
	Level 3	Retrospective Cohort Study	No	Yes
		Case-control Study	No	Yes
		Meta-analysis of Level 3 studies	No	
	Level 4	Case Series	No	No
	Level 5	Case Report	No	No
		Expert Opinion	No	No
Low		Personal Observation	No	No

A meta-analysis of the efficacy of acupuncture in treating dysphagia in patients with a stroke

Yao-Bin Long, Xiao-Ping Wu

acupuncture
IN MEDICINE

Impact factor: 2.156

Appraisal

- Validity (Reliability) 信度
    - Can we believe it？(研究方法的探討)
        - 錯誤errors
        - 偏誤bias
- Impact (Importance) 重要性
    - We believe it！But does it matter? (研究結果的分析)
- Practice (Applicability) 臨床適用性
    - If we believe it - does it apply to our patients?
      (如何在臨床運用)

C ritical
A ppraisal
S kills
P rogramme

Appraisal - Validity

- Q1. Did the review address a clearly focused question? ✓
  - The population studied ✓
  - The intervention given ✓
  - The outcome considered ✓

Acupuncture treatment might have an important role in the treatment of dysphagia, but the evidence is weak. We performed a systematic revi[I] and meta-analysis to investigate whether acupuncture is effective in the treatment [P] dysphagia in patients with a stroke.

O **Outcome measure**
The effect of treatment was evaluated according to criteria as follows[14]:
1. Recovery: the complete resolution of dysphagia.
2. Markedly improved: nearly complete resolution of dysphagia.
3. Improved: partial resolution of dysphagia but swallowing difficulty remains in the sitting position.
4. No improvement: slight change or no change in dysphagia.
   The effective rate of improvement in two groups was calculated using the following formula:
   effective rate=(recovery+markedly improved+improved)/total number.

C
in the control group, medicine and/or rehabilitation training only were used.

| Wang X, 2011 | 28/30 | 25/30 | WST |
| Liu J, 2011 | 25/30 | 23/30 | Non-WST |

Non-WST, included video-fluoroscopic swallowing study test or other measures; WST, water swallowing test.

Appraisal - Validity

- Q2. Did the authors look for the right type of papers? ✓

  - Have an appropriate study design ✓

The inclusion criteria for the study were:
1. Study type: randomised controlled trials (RCTs).
2. Subjects included in the study: all patients with a stroke who met the diagnostic criteria of dysphagia.
3. Interventions: in the treatment group, medicine and/or rehabilitation training plus acupuncture were used; in the control group, medicine and/or rehabilitation training only were used.
4. The baseline information was comparable.

Appraisal - Validity

- Q3. Do you think all the important, relevant studies were included? ✗
    - Which bibliographic databases were used ✓
    - Follow up from reference lists ❓
    - Personal contact with experts ✓
    - Search for unpublished as well as published studies ✗
    - Search for non-English language studies ✗

Relevant studies were sought using the search engines of PubMed, Embase, Cochrane Library and CBM disc (China Biological Medicine Database) on 1 September 2011. The search

Exclusion criteria
The exclusion criteria for the study were:
1. Review articles and editorials.
2. Case reports.
3. Management not using acupuncture.
4. The design of the study did not include acupuncture and control groups.
5. Quasi-RCTs and case–control trials.

higher quality if they met two of these criteria—that is, acceptable method of randomisation; blinded assessor; full adjustment for all withdrawals and dropouts.[16] To achieve as full an implementation as possible, authors of the papers were contacted by email or telephone, when possible.

Appraisal - Validity

- Q4. Did the review's authors do enough to assess the quality of the included studies? ✓

Decisions about the studies to be included were made by the two authors independently. Titles and abstracts were

We appraised the study quality by a randomisation method, blinding of the assessor of outcome and full adjustment for withdrawals and dropouts, as originally described by Jadad et al.[15] We considered studies to be of

Jadad Quality Score

Quality of the included studies
Most of the reports included were brief and gave no information about randomisation or participant and assessor blinding, or details of withdrawals and dropouts. Four studies included met our criteria for higher quality. Studies by Han,[70] Qu[21] and Su and Lai[78] were correctly randomised and used a blinded assessor. Xie et al[58] was correctly randomised, used a blinded assessor, and made full adjustment for withdrawals and dropouts.

Jadad Quality Score

Jadad 分數表

評估項目	分數	說明
1.是否隨機分派 (randomized)	2	詳細說明如何進行隨機分派方式且正確
	1	提及採隨機分派，但未說明方式
	0	未採隨機方式如類實驗法
2.是否雙盲實驗 (double- blind)	2	具體說明如何進行雙盲實驗，且被認為恰當
	1	提及採雙盲實驗，但未說明如何進行
	0	使用單盲或未採盲化
3.對失聯及退出樣本的追蹤 (withdrawals & drop-out)	1	清楚說明個案退出及失聯原因
	0	未說明個案退出及失聯原因

Scores ≥3 was considered with high-quality.

Appraisal - Validity

- Q5. If the results of the review have been combined, was it reasonable to do so? ✓
    - The results were similar from study to study ✓
    - The results of all the included studies are clearly displayed ✓
    - The results of the different studies are similar ✓
    - The reasons for any variations in results are discussed ✓

data and 95% CIs.[19] [20] Heterogeneity between included studies was tested using a χ^2 test.

patients with a stroke. The p value of the heterogeneity test was 0.0003 and a random-effects model was used.

The four higher-quality studies[21] [58] [70] [78] were included in a subgroup analysis, which again demonstrated a statistically significant effect for acupuncture in comparison with no acupuncture (OR=2.34, 95% CI 1.34 to 4.07, p=0.003; p value of the heterogeneity test 0.87).

Appraisal - Impact

- Q6. What are the overall results of the review?
- Q7. How precise are the results?

a. a pooled OR of 5.17 (95% CI 4.18 to 6.38)

b. a highly significant difference between the acupuncture treatment group and non-acupuncture group (p<0.00001)

Fig 1.
Evaluation of the effective rate for acupuncture

72 RCTs

Odds Ratio / M-H, Random, 95% CI

Favors control

Favors acupuncture
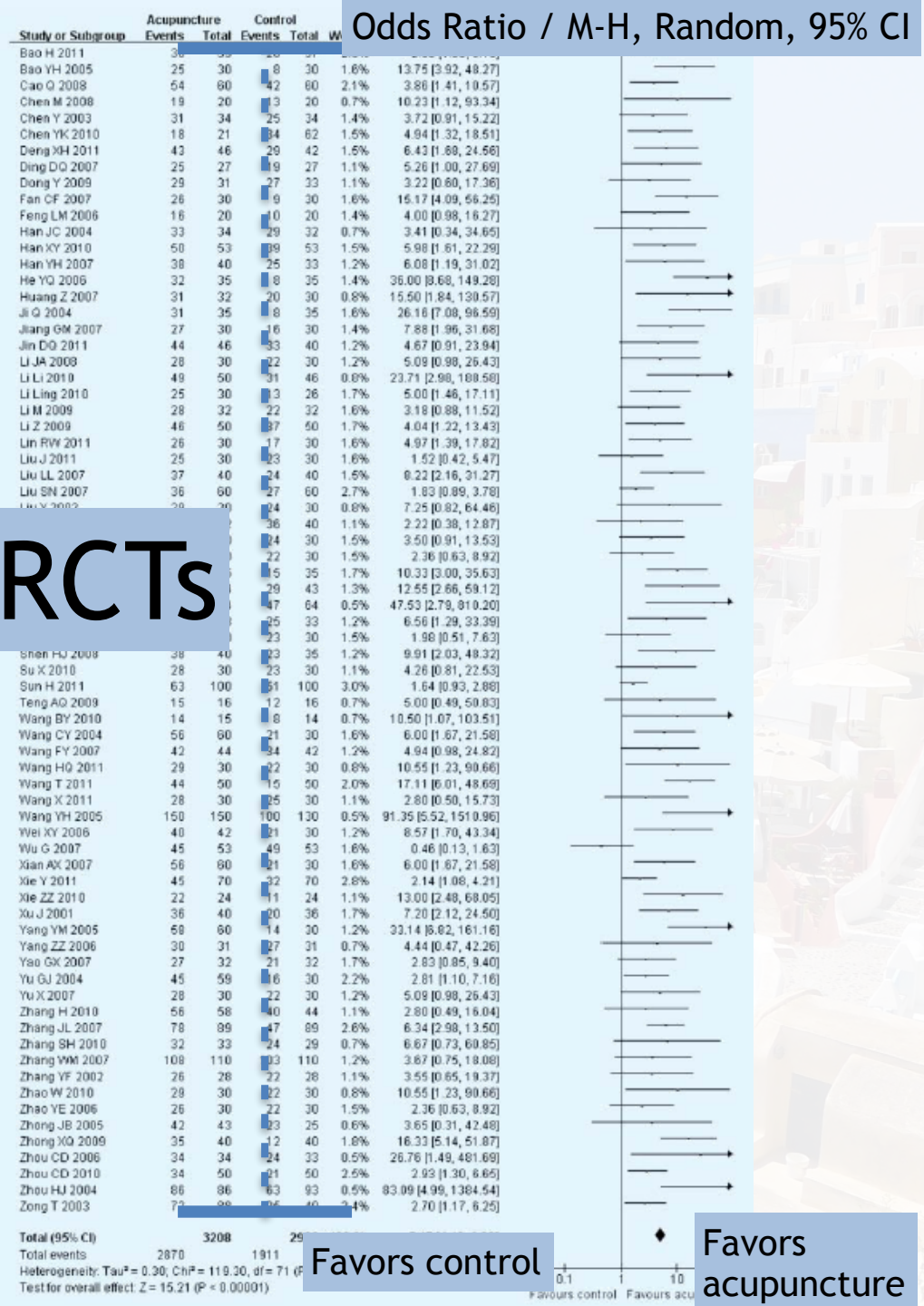
Appraisal - **Practice**

- Q8. Can the results be applied to the local population?

Yes.
All these RCTs were conducted in China.

Appraisal - Practice

- Q9. Were all important outcomes considered?

Subgroup analysis

A. 47 RCTs with criteria of the water swallowing test
   OR=5.57

   95% CI 4.21 to 7.38, p<0.00001;
   p value of the heterogeneity test 0.0002

B. 4 higher-quality studies
   OR=2.34

   95% CI 1.34 to 4.07, p=0.003
   p value of the heterogeneity test 0.87

Fig 2.
Subgroup of evaluation of the effective rate for acupuncture
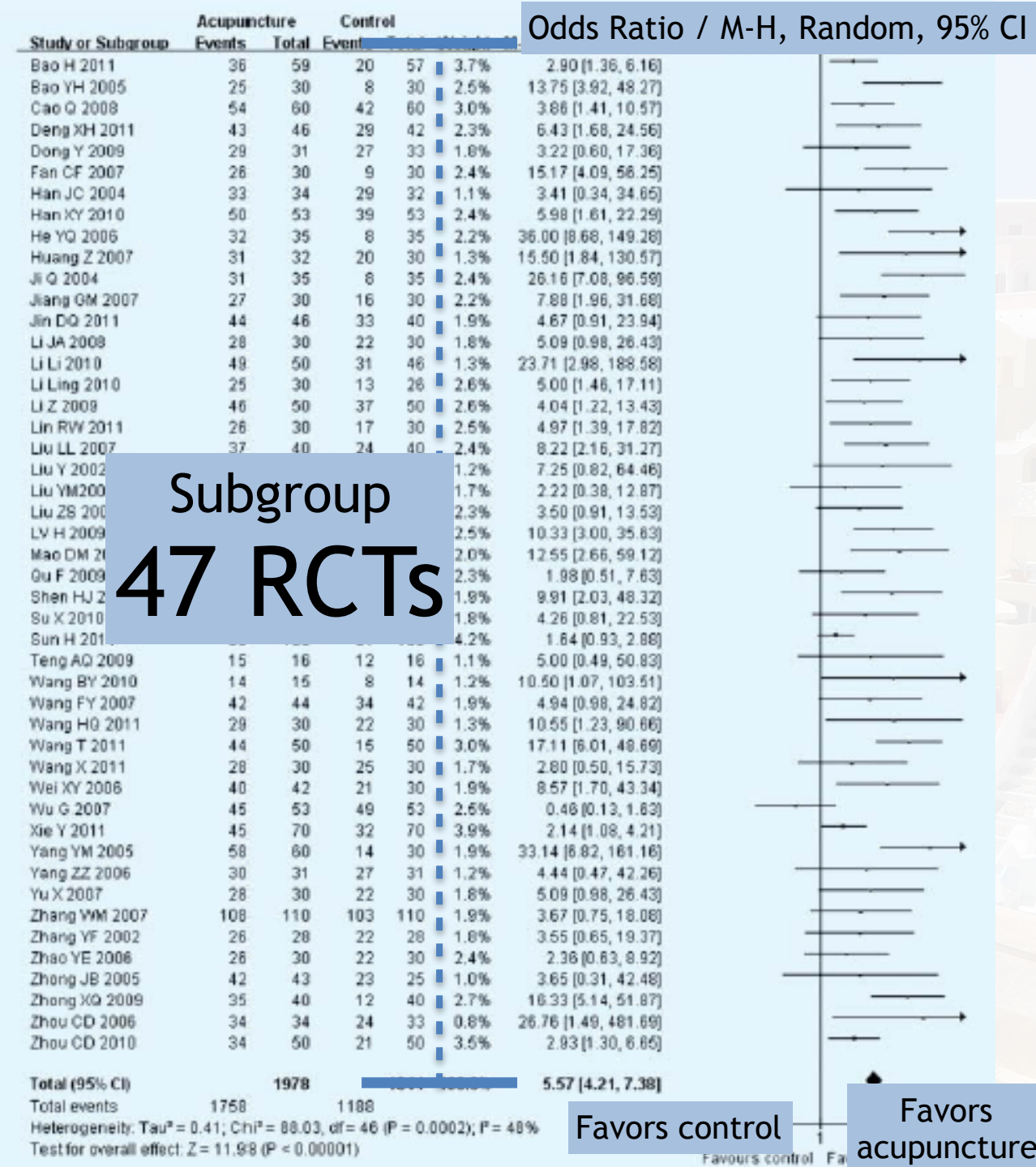(water swallowing test)

Study or Subgroup	Acupuncture Events	Total	Control Events	Total	Weight	Odds Ratio / M-H, Random, 95% CI
Bao H 2011	36	59	20	57	3.7%	2.90 [1.36, 6.16]
Bao YH 2005	25	30	8	30	2.5%	13.75 [3.92, 48.27]
Cao Q 2008	54	60	42	60	3.0%	3.86 [1.41, 10.57]
Deng XH 2011	43	46	29	42	2.3%	6.43 [1.68, 24.56]
Dong Y 2009	29	31	27	33	1.8%	3.22 [0.60, 17.36]
Fan CF 2007	26	30	9	30	2.4%	15.17 [4.09, 56.25]
Han JC 2004	33	34	29	32	1.1%	3.41 [0.34, 34.65]
Han XY 2010	50	53	39	53	2.4%	5.98 [1.61, 22.29]
He YQ 2006	32	35	8	35	2.2%	36.00 [8.68, 149.28]
Huang Z 2007	31	32	20	30	1.3%	15.50 [1.84, 130.57]
Ji Q 2004	31	35	8	35	2.4%	26.16 [7.08, 96.58]
Jiang GM 2007	27	30	16	30	2.2%	7.88 [1.96, 31.68]
Jin DQ 2011	44	46	33	40	1.9%	4.67 [0.91, 23.94]
Li JA 2008	28	30	22	30	1.8%	5.09 [0.98, 26.43]
Li Li 2010	49	50	31	46	1.3%	23.71 [2.98, 188.58]
Li Ling 2010	25	30	13	26	2.6%	5.00 [1.46, 17.11]
Li Z 2009	46	50	37	50	2.6%	4.04 [1.22, 13.43]
Lin RW 2011	26	30	17	30	2.5%	4.97 [1.39, 17.82]
Liu LL 2007	37	40	24	40	2.4%	8.22 [2.16, 31.27]
Liu Y 2002					1.2%	7.25 [0.82, 64.46]
Liu YM200					1.7%	2.22 [0.38, 12.87]
Liu ZS 200					2.3%	3.50 [0.91, 13.53]
LV H 2009					2.5%	10.33 [3.00, 35.63]
Mao DM 2(					2.0%	12.55 [2.66, 59.12]
Qu F 2009					2.3%	1.98 [0.51, 7.63]
Shen HJ 2					1.9%	9.91 [2.03, 48.32]
Su X 2010					1.8%	4.26 [0.81, 22.53]
Sun H 201					4.2%	1.64 [0.93, 2.88]
Teng AQ 2009	15	16	12	16	1.1%	5.00 [0.49, 50.83]
Wang BY 2010	14	15	8	14	1.2%	10.50 [1.07, 103.51]
Wang FY 2007	42	44	34	42	1.9%	4.94 [0.98, 24.82]
Wang HQ 2011	28	30	22	30	1.3%	10.55 [1.23, 90.66]
Wang T 2011	44	50	15	50	3.0%	17.11 [6.01, 48.69]
Wang X 2011	28	30	25	30	1.7%	2.80 [0.50, 15.73]
Wei XY 2006	40	42	21	30	1.9%	8.57 [1.70, 43.34]
Wu G 2007	45	53	49	53	2.6%	0.46 [0.13, 1.63]
Xie Y 2011	45	70	32	70	3.9%	2.14 [1.08, 4.21]
Yang YM 2005	58	60	14	30	1.9%	33.14 [6.82, 161.16]
Yang ZZ 2006	30	31	27	31	1.2%	4.44 [0.47, 42.26]
Yu X 2007	28	30	22	30	1.8%	5.09 [0.98, 26.43]
Zhang WM 2007	108	110	103	110	1.9%	3.67 [0.75, 18.08]
Zhang YF 2002	26	28	22	28	1.8%	3.55 [0.65, 19.37]
Zhao YE 2006	26	30	22	30	2.4%	2.36 [0.63, 8.92]
Zhong JB 2005	42	43	23	25	1.0%	3.65 [0.31, 42.48]
Zhong XQ 2009	35	40	12	40	2.7%	16.33 [5.14, 51.87]
Zhou CD 2006	34	34	24	33	0.8%	26.76 [1.49, 481.69]
Zhou CD 2010	34	50	21	50	3.5%	2.93 [1.30, 6.65]
Total (95% CI)		1978				5.57 [4.21, 7.38]
Total events	1758		1188			

Subgroup
47 RCTs

Heterogeneity: Tau² = 0.41; Chi² = 88.03, df = 46 (P = 0.0002); I² = 48%
Test for overall effect: Z = 11.98 (P < 0.00001)

Favors control

Favors acupuncture

Favours control Fa

Appraisal - Practice

- Q10. Are the benefits worth the harms and costs?

Yes

Apply－4E

Evidence: Level I, Meta-analysis of RCTs with homogeneous result

Expertise: 醫師是否擅長針灸

Expectation: 家屬希望改善吞嚥

Economy: 針對中風病人本院有試辦計畫

游先生，58歲，半年前因MCA infarction入院並接受昇昇醫師的針灸治療，

- Economy：游先生背景不詳，但MCA infarction接受針灸治療是不用自費的

苦命實習醫師C在Duty診詢問病史時，家屬表示病人頻頻嗆咳，希望改善吞嚥功能(Expectation)，對於昇昇醫師的針灸治療有效/無效感到困惑？

- Expertise：昇昇醫師的背景不詳，合理猜測為某教學醫院主治醫師，專業沒問題。

Audit

- 病：到底是有效還是沒效？
- 醫：針灸改善中風病人的吞嚥功能是有效的。有針灸跟沒針灸的病人相比之下，吞嚥功能改善的人數是5倍。
- 病：讚讚，那要針灸。

感謝聆聽