

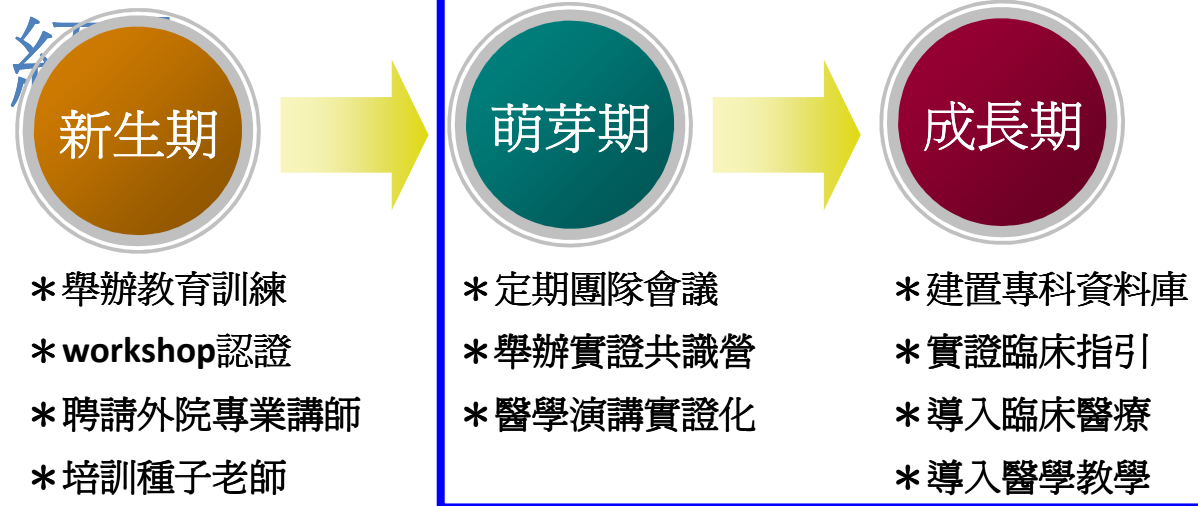
實證醫學 文獻查證競賽

報告者：
郭亮增醫師

嘉義長庚紀念醫院



【嘉義長庚醫院實證醫學中心介紹】



實證醫學中心的成員包含相關部門與執行單位，除了基礎臨床醫療作業單位之外，仍須資訊單位建置網路學習園地、圖書館人員對資料庫的搜集整理等，均有專責人員互相緊密配合，並且定期開會檢討。

◎92年成立「實證醫學中心」，推動教育訓練。

◎舉辦「EBM+PBL Tutor」種子教師研習營，推展至各單位。

◎小組方式教導住院醫師及實習醫學生實際演練。

◎年度EBM系列課程，推展至各醫事類人員。

◎建構具地方醫療特色之臨床診療指引。

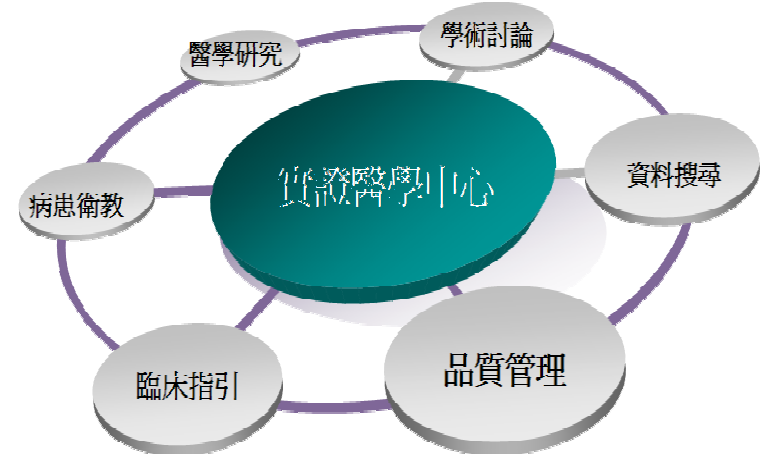


【推動實證醫學】

實證醫學系列課程

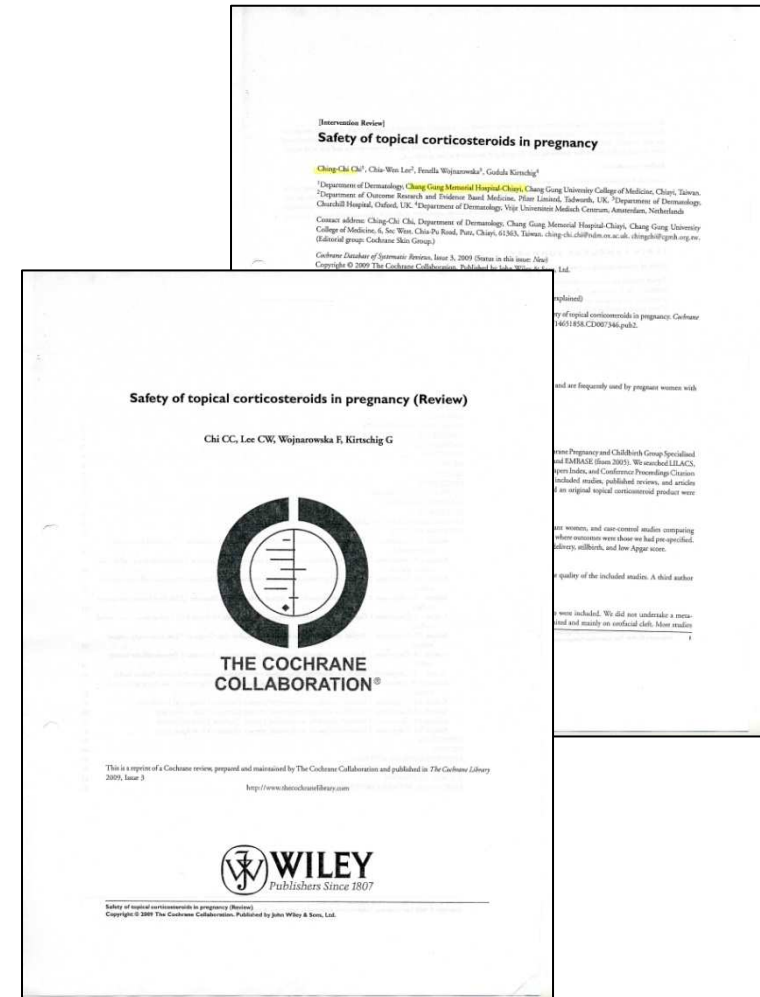
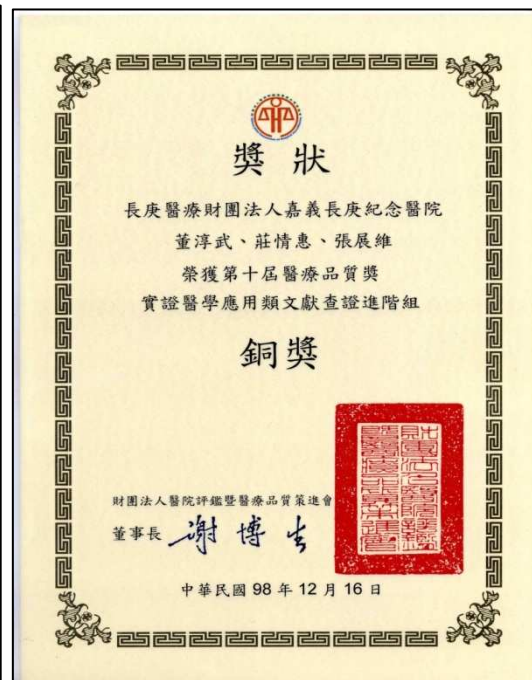


專屬網頁



【成長足跡】



- ※2007年：
全國78所各級醫院競賽中，本院初試啼聲，榮獲醫策會第八屆實證醫學文獻查證應用進階組金獎。
- ※2009年：
發表論文於EBM標竿刊物—Cochrane review。
全國24所各級醫院參與第十屆實證醫學文獻查證進階組競賽，榮獲醫策會銅獎。



發表論文於標竿刊物-Cochrane review

榮獲醫策會實證醫學文獻查證進階組金獎及銅獎

【參賽成員介紹】

	姓名	資歷簡介
組長	 郭亮增 (報告者)	長庚大學醫學系畢業 現職：嘉義長庚醫院 骨科部住院醫師 實證醫學推動小組成員
組員	 蔡艷秋	高雄醫學大學藥學研究所碩士畢業 現職：嘉義長庚醫院 臨床藥師 實證醫學推動小組成員
組員	 莊情惠	高雄醫學大學護理研究所碩士 現職：長庚技術學院重症護理學兼任講師 嘉義長庚醫院 病房護理長 嘉義長庚醫院實證醫學成員

實證醫學 文獻查證競賽

臨床情境

王先生，60歲，身高165公分，體重80公斤，有30年抽煙史，已戒菸3年，此次住院診斷 **COPD合併肺炎**，FEV1 38%，王先生之前每次爬完樓梯都很喘，有點怕作運動。目前肺炎症狀已穩定控制沒有使用呼吸器，但照護仍有痰多、咳嗽、呼吸困難(dyspnea)，醫護人員與家屬溝通出院自我照顧問題，家屬詢問除藥物治療外，有無其他改善病患症狀的方法？如**是否需要每天拍痰**？是否要做**運動**？作運動是否會加重病情？



Classification of severity of COPD

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Classification of severity of COPD

Stage	Characteristics
I: Mild COPD	FEV1/FVC >70 percent
III: Severe COPD	FEV1/FVC <70 percent 30 percent \leq FEV1 <50 percent predicted
IV: Very Severe COPD	FEV1/FVC <70 percent FEV1 <30 percent predicted or FEV1 <50 percent predicted plus chronic respiratory failure

FEV1: forced expiratory volume in one second; FVC: forced vital capacity; respiratory failure: arterial partial pressure of oxygen (PaO₂) less than 60 mm Hg (8.0 kPa) with or without arterial partial pressure of CO₂ (PaCO₂) greater than 50 mm Hg (6.7 kPa) while breathing air at sea level. Reproduced from the Global Initiative for Chronic Obstructive Pulmonary Disease, Executive Summary: Global Strategy for the Diagnosis, Management, and Prevention of COPD, 2006, www.goldcopd.com (Accessed March 13, 2007).

臨床問題 Question Framing

問題一

病人照護仍有痰多、咳嗽、呼吸困難(dyspnea) 出院自我照顧問題，家屬詢問除藥物治療外，是否需要每天拍痰？

PICO 建構問題 Question Framing

		Keyword
P atient	COPD合併肺炎，FEV1 38%。	Severe chronic obstructive Pulmonary Disease
I ntervention	物理治療	Chest percussion inhalation...
C omparison	placebo	placebo
O utcome	肺功能、合併症	Complication, dyspnea Pulmonary Function

臨床問題 Question Framing

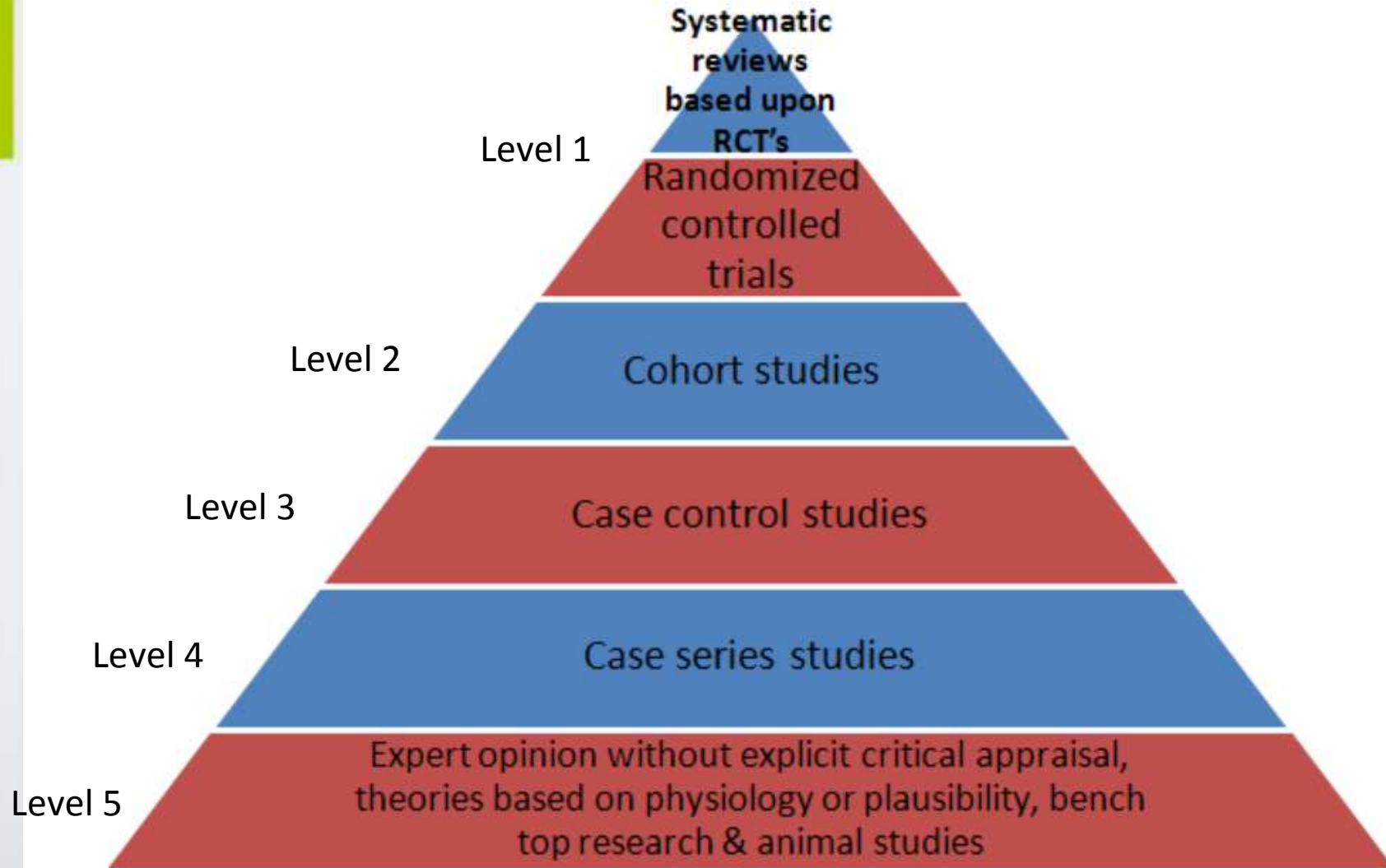
問題二

病人是否要做運動？作運動是否會加重病情？

PICO 建構問題 Question Framing

		Keyword
P atient	肺炎症狀已穩定控制沒有使用呼吸器，但照護仍有痰多、咳嗽、呼吸困難(dyspnea)	Chronic obstructive Pulmonary Disease
I ntervention	Respiratory muscle training	Respiratory muscle training
C omparison	placebo	placebo
O utcome	日常生活功能量表、肺功能	ADL, Quality of life breathlessness score Complications

Level of evidence pyramid (for therapy/prevention, aetiology/harm)



28th Aug 2010

(Oxford)



Different levels of evidence for different fields

Therapy/prevention, aetiology/harm:

systematic review (SR) of RCTs, RCT, cohort study,....

Prognosis:

SR (with homogeneity*) of inception cohort studies, validated Clinical Decision Rule (CDR)

Diagnosis:

SR (with homogeneity*) of Level 1 diagnostic studies; CDR

Differential diagnosis/symptom prevalence study:





SR (with homogeneity*) of prospective cohort studies

Economic and decision analyses:

SR (with homogeneity*) of Level 1 economic studies



Search strategy

	Databases	Key word
<i>Secondary database</i>		chest care AND Chronic obstructive Pulmonary Disease
		Chronic obstructive pulmonary disease and physical therapy
<i>Primary database</i>		postural drainage AND chest percussion AND copd
		Chronic obstructive Pulmonary Disease AND exercise and Chest percussion 2008~2010



BROWSE

Cochrane Reviews: [By Topic](#) | [New Reviews](#) | [Updated Reviews](#) | [A-Z](#) | [By Review Group](#)
Other Resources: [Other Reviews](#) | [Clinical Trials](#) | [Methods Studies](#) | [Technology Assessments](#) | [Economic Evaluations](#)

SEARCH

Enter search term Title, Abstract or full text
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Search Results

Show Results in:

[Cochrane Reviews](#) [1] | [Other Reviews](#) [1] | [Clinical Trials](#) [4] | [Methods Studies](#) [0] | [Technology Assessments](#) [0] | [Economic Evaluations](#) [0] | [Cochrane Groups](#) [0]

There are 1 result

Chronic obstructive pulmonary disease and physical therapy

View: 1

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Record Information

Issue: [Current](#) | [All](#) Restrict to: [Reviews](#) | [Prot](#)



[Bronchopulmonary hygiene physical therapy for chronic obstructive pulmonary disease and bronchiectasis](#)

Arthur P Jones, Brian H Rowe

October 2008

Review

1/1

[Select All](#) (to export citations)

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PubMed Advanced Search **postural drainage AND chest percussion AND COPD**

Search Box [Limits](#) [Details](#) [Help](#)

Search Builder
 All Fields AND
[Show Index](#)

[Search Builder Instructions](#)

Search History

Search	Most Recent Queries	Time	Result
#40	Search (postural drainage AND chest percussion AND chronic bronchitis) AND systematic[sb]	22:15:44	1
#36	Search postural drainage AND chest percussion AND copd	22:09:31	11
#35	Search	22:08:11	0
#33	Search postural drainage AND chest percussion AND chronic bronchitis Limits: Humans, Randomized Controlled Trial, Middle Aged: 45-64 years	22:07:39	0
#34	Search postural[Title] AND drainage[Title] AND chest[Title] AND percussion[Title] AND chronic[Title] AND bronchitis[Title]	22:07:39	1

[Search History Instructions](#)

PubMed Clinical Queries

Search

Results of searches on this page are limited to specific clinical research areas. For comprehensive searches, use [PubMed](#) directly.

Clinical Study Categories

Category:
 Scope:

Results: 1 of 1

Bronchopulmonary hygiene physical therapy in bronchiectasis and chronic obstructive pulmonary disease: a systematic review. [Heart Lung. 2000]

[See all \(1\)](#)

[Filter](#) citations to a specific clinical study category and scope. These search filters were developed by [Haynes RB et al.](#)

Systematic Reviews

Results: 3 of 3

Chest physiotherapy for patients admitted to hospital with an acute exacerbation of chronic obstructive pulmonary disease (COPD): a sy: [Physiotherapy. 2010]

Bronchopulmonary hygiene physical therapy for chronic obstructive pulmonary disease and bronchiectasis. [Cochrane Database Syst Rev. 2000]

Bronchopulmonary hygiene physical therapy in bronchiectasis and chronic obstructive pulmonary disease: a systematic review. [Heart Lung. 2000]

[See all \(3\)](#)

Medical Genetics




Topic:

Results: 0 of 0

[See all \(0\)](#)

[Filter](#) citations to topics in medical genetics.

Literature Selection Process

 <p>THE COCHRANE LIBRARY Independent high-quality evidence for health care</p>	<p>1 Publication type is systematic review or meta-analysis</p>	
	<p>1 Potentially Relevant Citations From Initial Search</p>	<p>9 not relevant (2/11)</p>
	<p>1 Publication type is systematic review or meta-analysis</p>	
	<p>1 Potentially Relevant Citations From Initial Search</p>	<p>21 not relevant (1/22)</p>
	<p>12 Publication type is systematic review or meta-analysis (與 Pubmed重複)</p>	

解讀證據 Critical Appraisal

- ◆ 文獻結果是否有效度：Validity
- ◆ 文獻結果是否有臨床重要性：Importance
- ◆ 文獻結果是否適用於我們的病人：
Applicability

Bronchopulmonary hygiene physical therapy for chronic obstructive pulmonary disease and bronchiectasis (Review)

Jones AP, Rowe BH



**THE COCHRANE
COLLABORATION®**

This is a report of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library*
2008, Issue 4

<http://www.thecochranelibrary.com>



ELSEVIER

Physiotherapy 96 (2010) 108–119

Physiotherapy



Systematic review

The impact of home-based physiotherapy interventions on breathlessness during activities of daily living in severe COPD: A systematic review

Martin J. Thomas^{a,*}, Janet Simpson^a, Richard Riley^b, Emily Grant^a

^a *University of Liverpool, Directorate of Physiotherapy, The Quadrangle, Brownlow Hill, Liverpool L69 3BG, UK*

^b *Centre for Medical Statistics and Health Evaluation, School of Health Sciences, University of Liverpool, Liverpool L69 3GS, UK*

Table 1 Basic information about the trial

First author	Martin J. Thomas
Publication year	2010
Title	The impact of home-based physiotherapy interventions on breathlessness during activities of daily living in severe COPD: A systematic review
Country	Multicountries
Funding source	None

Table 2 What the trial is about?

Participants/ Problem	individuals over 18 years of age with severe COPD (defined as forced expiratory volume in 1 second \leq 50% predicted) without cardiovascular co-morbidities, home-based interventions and valid, reliable breathlessness ADL outcome measures.
Intervention	Manual interventions, any home-based physiotherapy intervention
Comparison	No intervention, placebo, coughing; mechanical interventions, such as positive-expiratory pressure and mechanical vibration
Outcome	<ol style="list-style-type: none"> 1) Pulmonary functions: FVC, FEV1, PEFr. 2) Oxygenation: Arterial oxygen tension or saturation; 3) Pulmonary clearance: 4) Adverse reactions: such as arrhythmia, tachypnoea 4) Symptoms: such as dyspnea 5) General outcomes: Resolution of chest radiograph, mortality,length of hospital stay.

Are the results of the trial valid?

Item 1	Appraisal	Comments
Is this a systematic review of randomised trials?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unclear <input type="checkbox"/> No	所有enrolled的study爲RCT

Table 2
Methodological quality of included studies.

PEDro item	Study						
	Covey 2001 [44]	Puente-Maestu 2000 [41]	Sanchez Riera 2001 [42]	Singh 2003 [43]	Weiner 2003 [38]	Weiner 2003 [39]	Weiner 2003 [40]
1. Eligibility	N	Y	Y	N	N	N	Y
2. Random allocation	Y	Y	Y	Y	Y	Y	Y
3. Concealed allocation	N	Y	N	N	N	N	N
4. Baseline comparability	Y	Y	Y	Y	Y	Y	Y
5. Blind subjects	N	N	N	N	N	N	N
6. Blind therapist	N	N	N	N	N	N	N
7. Blind assessor	Y	N	Y	N	Y	Y	Y
8. Adequate follow-up	N	N	Y	N	Y	Y	N
9. Intention-to-treat analysis	N	N	Y	N	Y	Y	N
10. Between-group comparison	Y	Y	Y	Y	Y	Y	Y
11. Point estimates and variability	Y	Y	Y	Y	Y	Y	Y
Total score/10	5	5	7	4	7	7	5

N, no; Y, yes.

Are the results of the trial valid?

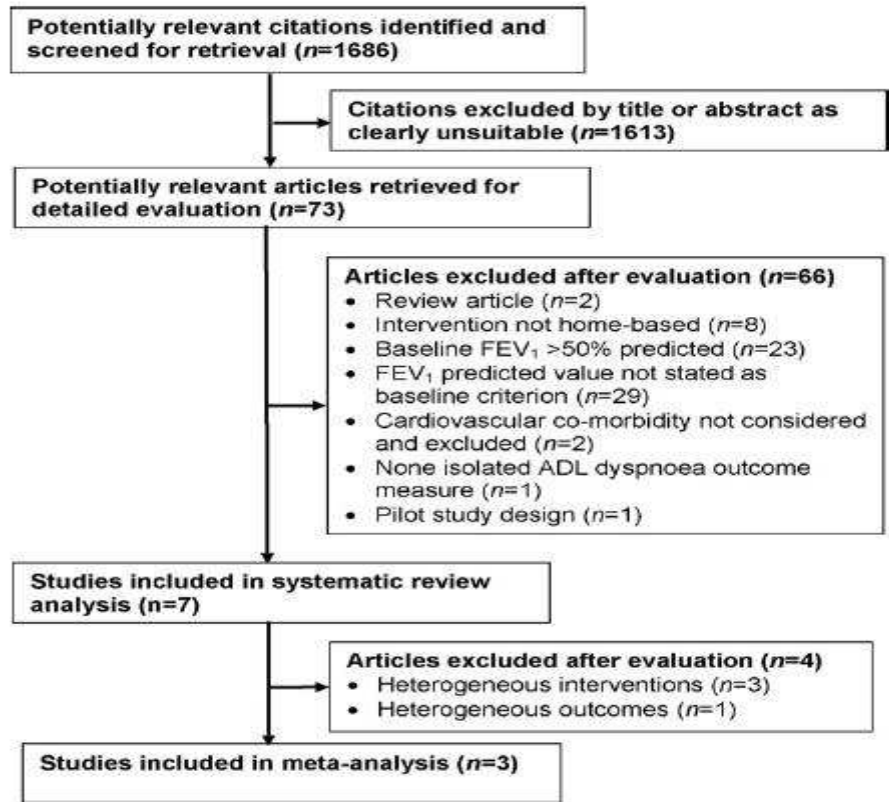
Item 2	Appraisal	Comments
Does it describe a comprehensive and detailed search for relevant trials?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unclear <input type="checkbox"/> No	Comprehensive and detailed search

Box 1: Search strategy.

1 = COPD
 2 = Breathlessness
 3 = Dyspnoea
 4 = Home-based

1 + 2
 1 + 3
 1 + 4
 1 + 2 or 3 + physiotherapy
 1 + 2 or 3 + acupuncture
 1 + 2 or 3 + breathing control
 1 + 2 or 3 + breathing exercises
 1 + 2 or 3 + diaphragmatic breathing
 1 + 2 or 3 + domiciliary
 1 + 2 or 3 + electrical stimulation
 1 + 2 or 3 + home rehabilitation
 1 + 2 or 3 + inspiratory muscle training
 1 + 2 or 3 + pacing
 1 + 2 or 3 + positioning
 1 + 2 or 3 + pursed lip breathing
 1 + 2 or 3 + relaxation
 1 + 2 or 3 + respiratory muscle training
 1 + 2 or 3 + self-management
 1 + exercise
 1 + pulmonary rehabilitation
 1 + 4 + exercise
 1 + 4 + pulmonary rehabilitation

+ = and.



Are the results of the trial valid?




Item 3	Appraisal	Comments
Were the individual studies assessed for validity?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unclear <input type="checkbox"/> No	All trials were examined for validity




Table 3

Baseline characteristics of study populations of trials included in this review.

Study	Treatment group						Control group			
	PEDEro score/10	Group if $n > 1$	Sample size ^a	Male/female	Age (years) ^e	FEV ₁ ^d	Sample size ^a	Male/female	Age (years) ^e	FEV ₁ ^d
Singh 2003 [43]	4		20	ns	ns	28 (7.5)	20	ns	ns	26 (7.1)
Puente-Maestu 2000 [41]	5		20	20/0	65.6 (4.7)	40 (6)	21	21/0	63.3 (4.3)	41 (6)
Covey 2001 [44]	5		12	ns	65 (6)	35 (9)	15	ns	67 (10)	40 (11)
Weiner 2004 [40]	5		12 (19) ^b	15/4	66.3 (3.4)	45 (2.6)	9 (19) ^b	16/3	64.9 (3.2)	47 (2.2)
Sanchez Riera 2001 [42]	7		10	9/1	67 (4)	38 (13)	10	9/1	67.6 (5)	41 (11)
Weiner 2003 [38]	7		12	9/3	63.3 (2.9)	37 (2.4)	11	10/1	61.1 (2.8)	39 (2.9)
Weiner 2003 [39]	7	i	8	7/1	65.4 (3.3)	43 (2.6)	8	7/1	61.8 (3.2)	43 (2.9)
		ii	8	6/2	63.1 (3.1)	44 (3.2)	-	-	-	-
		iii	8	6/2	62.7 (3.0)	45 (3.0)	-	-	-	-
Total within groups			117	72/13			104	63/6		
Overall total groups combined ^e			221	135/19						
Overall mean (\pm SD) within groups (treatment or control)					64.8 (3.8)	40 (5.5)			64.3 (4.8)	40 (6.2)
Overall mean (\pm SD) groups combined (treatment + control)					64.6 (4.2)	39.5 (5.8)				

n, number; ns, not stated; SD, standard deviation; FEV₁, forced expiratory volume in 1 second.

Randomized controlled trial	
Description of detailed search	
Validity of individual study	

Yes	
Unclear	
No	

Are the results of the trial valid?
Yes

If the results of the trial are valid, how important are they?

Item 1	Results	Comments
Are the results consistent across studies?		YES

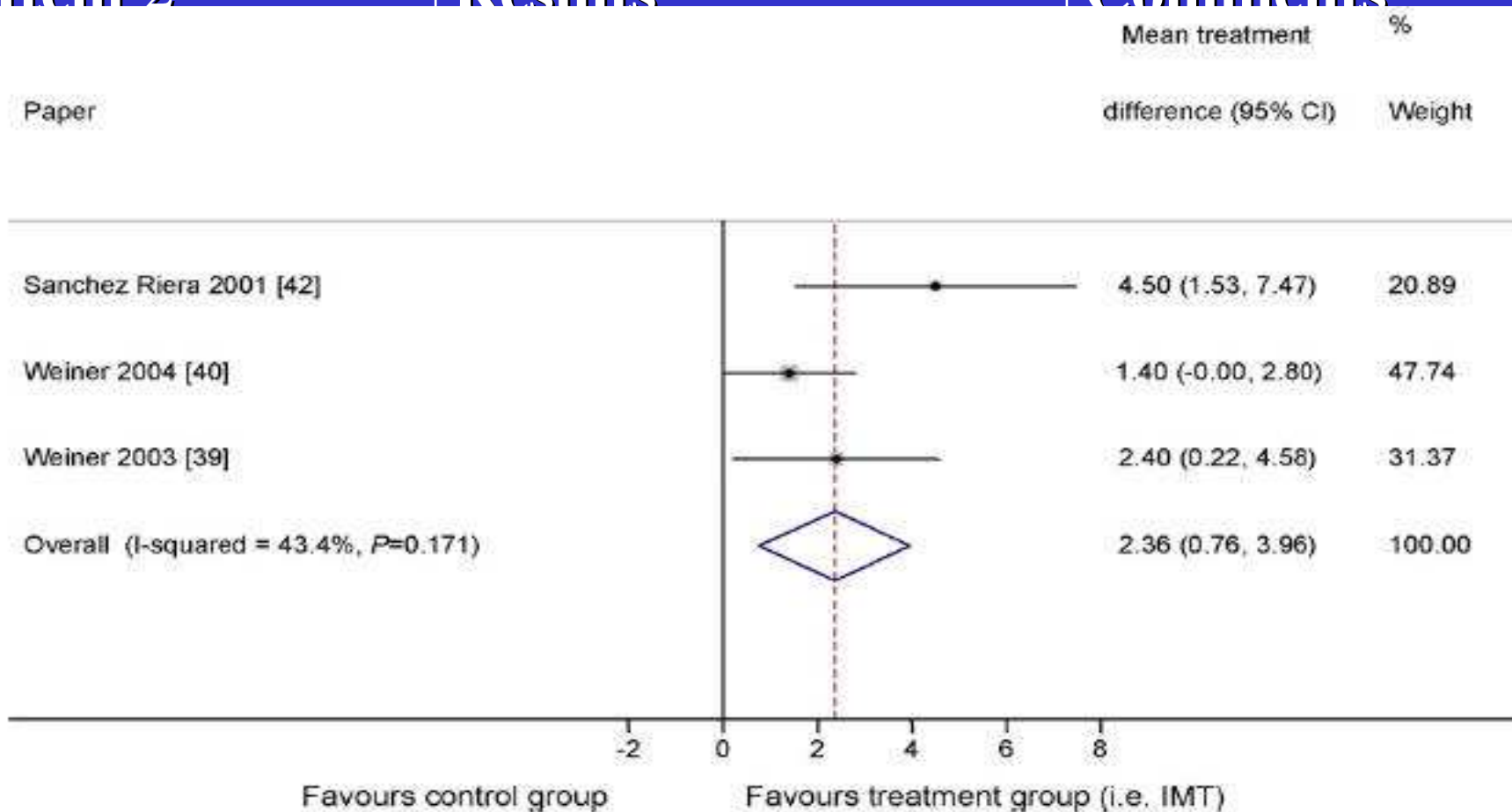
This review examined the impact of home-based physiotherapy interventions on breathlessness during ADL in patients with severe COPD. The inclusion of seven studies revealed nine data sets considering physiotherapy interventions that could be implemented at home. All findings are drawn from studies ranging from 4 to 7 out of 10 on the PEDro scale. Statistically significant improvements were reported for all intervention groups, with the exception of EMT groups in two studies, where neither statistical nor clinical significance was achieved [38,39]. It may be

If the results of the trial are valid, how important are they?

Item 2

Results

Comments



If the results of the trial are valid, how important are they?

Item 3	Results	Comments
How precise is the estimate of the intervention effect?	95% CI: 0.76~3.96	

Critically Appraised — Results

Systematic Review

- NNT =

$$1 - [PEER * |(1-OR)|]$$

$$(1-PEER) * (PEER) * |(1-OR)|$$

Are the results of the systematic review important?



Can we apply the results of the trial to our patients?

Item 1	Appraisal	Comments
Is our patient similar to those in the trial ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unclear	>18 yrs Severe COPD

Review methods Inclusion criteria consisted of individuals over 18 years of age with severe COPD (defined as forced expiratory volume in 1 second $\leq 50\%$ predicted) without cardiovascular co-morbidities, home-based interventions and valid, reliable breathlessness ADL outcome measures. The PEDro scale assessed methodological quality. Data extraction included baseline characteristics, treatment intervention, frequency of training, level of supervision, breathlessness ADL outcome measure and results. Where possible, a random-effects meta-analysis was applied to appropriate trial data to produce overall quantitative results.

Can we apply the results of the trial to our patients?

Item 2	Appraisal	Comments
Is the intervention feasible in our setting?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unclear	

Can we apply the results of the trial to our patients?

Item 3	Appraisal
What are our patient's potential benefits and harms from the therapy?	<p>Benefits: No significant potential benefits.</p> <p>Harms: No significant potential harms.</p>

Can we apply the results of the trial to our patients?

Item 4	Appraisal
(Optional) What are our patient's values and expectations for both the outcome we are trying to prevent and the intervention we are offering?	(手邊的病人) Patient's values: 這個病是否需治療? 這個病是否很困擾? Patient's expectation: 療效多少 能忍受多少副作用

**Can we apply the results of the trial to
our patients?**

YES

Cost-Effectiveness

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藥品名稱：	請輸入藥品名稱 <input type="text"/>
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查詢顯示方式

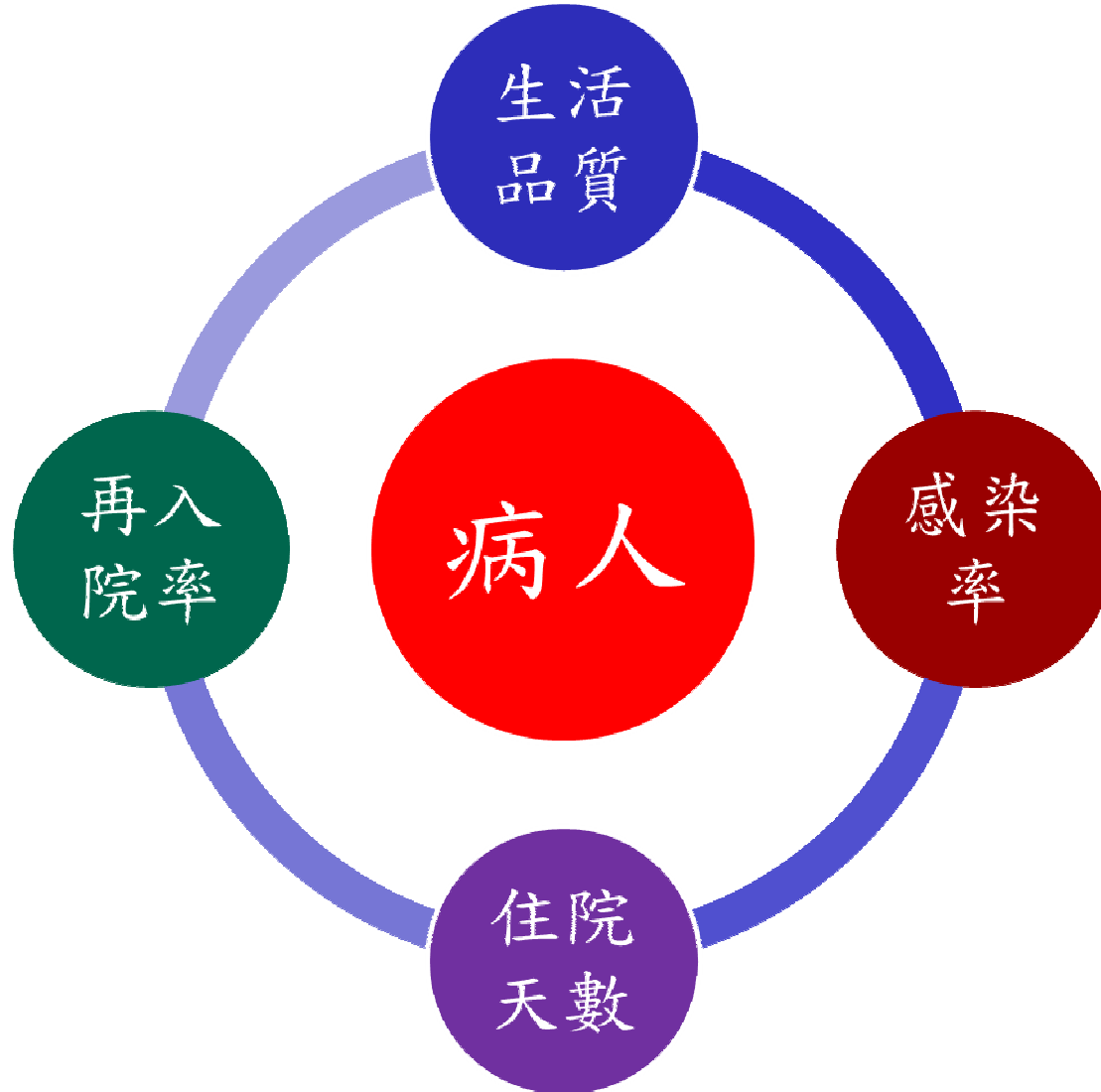
顯示歷次異動的詳細資料
 只顯示最後一筆資料

每次顯示 筆
 另開視窗

*注意：

「成份含量(數量)」、「規格量(數量)」限輸入**數字**
 「成份含量(單位)」、「規格量(單位)」限輸入**英文**

醫療品質



Applying to our patient

整合實證 --- 運用於臨床決策

治療計畫建議：

我們給予的建議是，病患除了接受藥物治療，延緩慢性阻塞肺疾病的病程惡化外，居家照護時，可以指導家屬協助病患呼吸運動訓練，以增加病人生活品質及肺功能。



嘉義長庚紀念醫院 Chang Gung Memorial Hospital



Thank You!

Welcome to CGMH, Chia-Yi