



三軍總醫院  
Tri-Service General Hospital



# 實證醫學競賽

*E*vidence-*B*ased *M*edicine

第七組 ◆ 營養部

2018年11月19日(一)



**實證**是守護病患健康最好的工具



Team  
Members

# 最合作的團隊

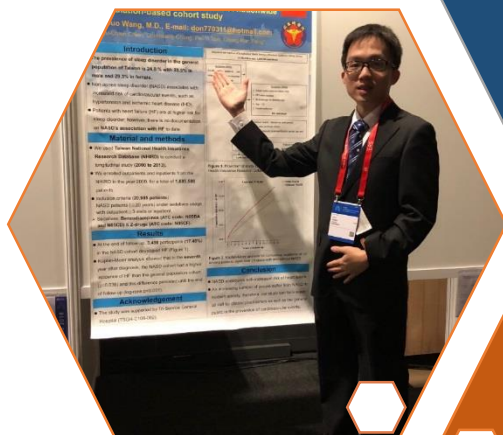
李欣容  
營養師



林栩禎  
營養師



王一多  
醫師





- 45歲阿國165公分，體重100公斤 (BMI=36.7)。體檢有高血壓，糖尿病及膽固醇過高。醫生建議他進行飲食控制。
- 經過半年飲食控制後，抽血沒有明顯進步，體重持續增加。

血壓	SBP	145
	DBP	90
血糖	FBS	130
血脂	Total cholesterol	205
	LDL	140
	TG	150

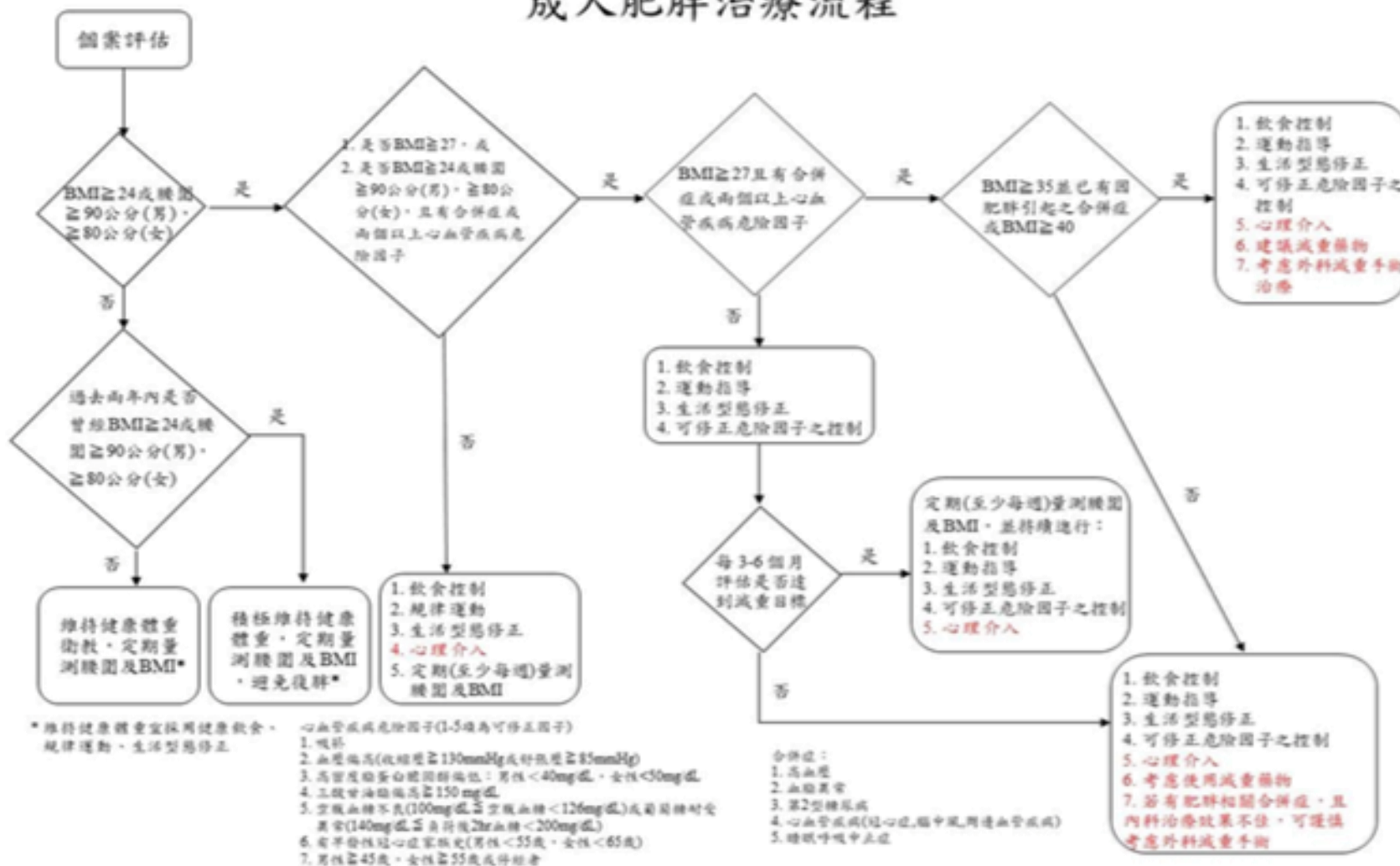


- 他想知道：
  1. 飲食控制除了多吃蔬菜是否有其他建議的方法？
  2. 吃魚油是否有幫助？
  3. 吃蛋是否可減少心血管疾病？糖尿病人可否多吃？
  4. 半年體重控制後沒有明顯進步，體重持續增加，  
是否有其他體重控制的方法？  
減重手術對於代謝疾病是否有幫助？





## 成人肥胖治療流程



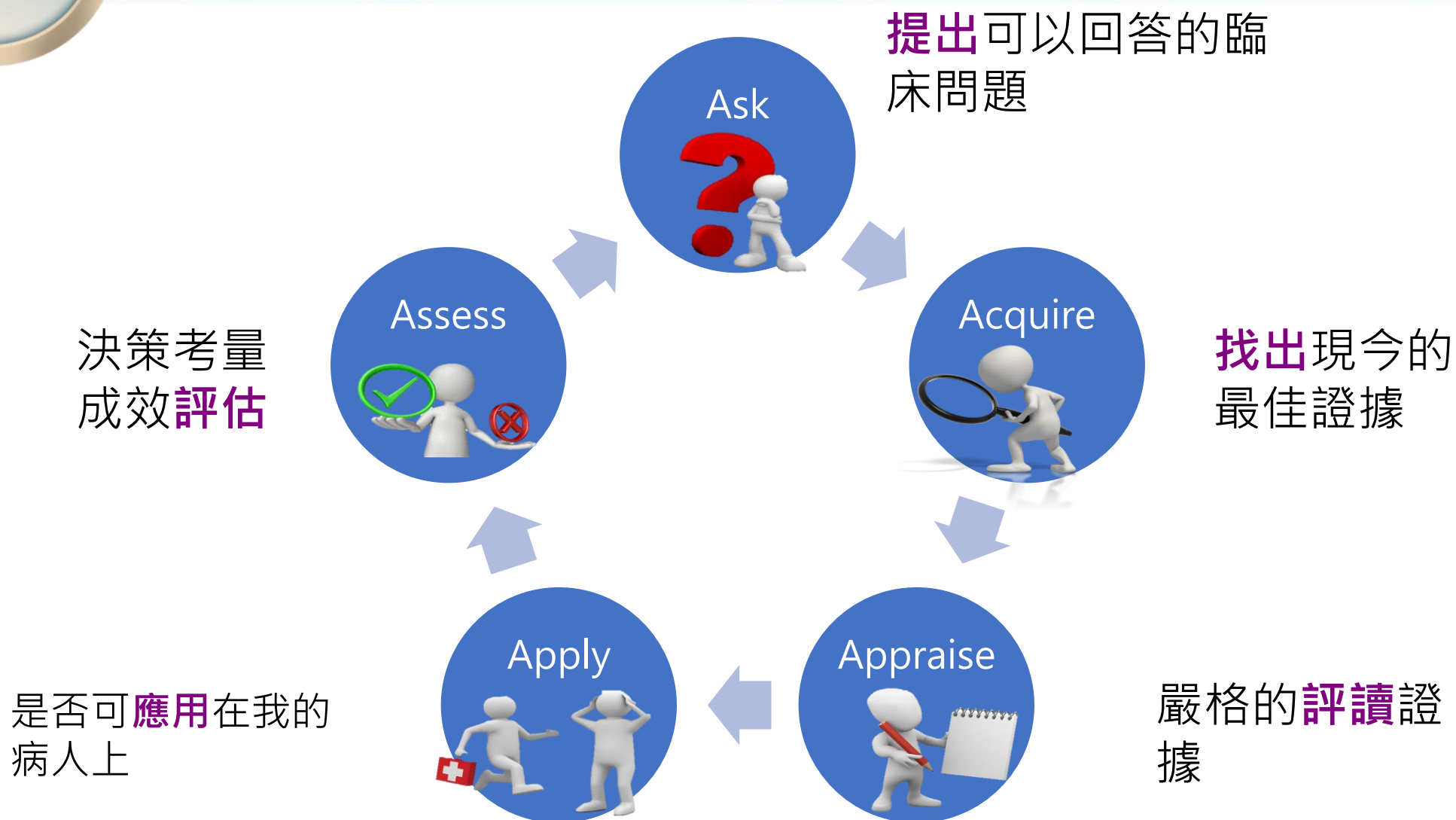


- Efficacy of selected diets:
  - [Low-fat diet](#) appears effective for weight loss and reduced body mass index.
  - [Mediterranean diet](#) associated with weight loss and reduced body mass index.
  - A [portion control plate](#) promotes modest weight loss in obese patients with type 2 diabetes.
  - [Weight Watchers, Jenny Craig, and Nutrisystem](#) may be more effective than standard care.
- [Comparative efficacy of diets](#):
  - Low-carbohydrate, high-protein diets are associated with more weight loss than diets with the same energy intake but a higher percentage of energy from carbohydrates.
  - High-protein low-fat diets are associated with greater weight and fat loss compared to standard-protein low-fat diet.
  - Low-carbohydrate diet and low-fat diets are associated with similar 2-year weight loss when combined with a comprehensive behavioral program.
  - Intermittent energy restriction (fasting) is associated with similar weight loss at 6 months compared to continuous energy restriction among premenopausal overweight or obese women.
  - Commercial weight loss diets appear modestly effective but evidence for comparative efficacy is inconsistent.
- Strategies that may improve weight-loss [maintenance](#) after low-calorie diet include meal replacement, anti-obesity drugs, and high-protein diet.



示意圖	優點	缺點
<u>胃袖狀切除(胃縮小)</u>	1.較胃繞道手術安全 2.較胃束帶便宜 3.胃荷爾蒙 (ghrelin) 分泌降低，減少飢餓感	1.胃一旦切除無法再回復 2.術後可能會有胃食道逆流的情形
<u>胃繞道手術</u>	1.減重效果好且快 2.治療糖尿病效果最佳	1.手術較複雜，術後併發症 (1~5 %) 及死亡率 (0.3~1 %) 較高 2.營養素吸收不完全，需長期補充鐵、鈣、葉酸、維他命B群等營養素
<u>可調式胃束帶手術</u>	1.安全性高 2.可適時調節束帶鬆緊 3.未來可完全拿掉	1.效果較慢 2.術後約需一年的胃束帶鬆緊調整時間 3.嗜吃高熱量液態食物者，不適合
<u>胃內水球</u>	1.非手術，不需住院 2.約減少原體重10~15%	1.水球放置6個月需取出 2.生活習慣未改善，取出後易復胖 3.放置後1~3天易吐，之後逐漸改善









Ask  
PICO

# 提出可以回答的臨床問題



## 1<sup>st</sup> PICO

P

肥胖糖尿病, 血壓, 血脂異常

Patient with Obesity, Diabetes, Hypertension, Dyslipidemia, metabolic syndrome

I

減重手術

Bariatric surgery

C

飲食控制

Diet

O

減重, 代謝疾病, 糖尿病, 心血管疾病, 血壓

Weight reduction, metabolic disease control, Blood sugar, cholesterol

## 2<sup>nd</sup> PICO

糖尿病, 肥胖, 高血壓, 膽固醇過高

Patient with Obesity, Diabetes, Hypertension, Dyslipidemia

魚油

Fish Oil

一般飲食

Regular Diet

體重, 代謝疾病, 糖尿病, 心血管疾病, 血壓

Weight, metabolic disease, diabetes, cardiovascular disease, blood pressure



Ask  
PICO

# 選擇 1<sup>st</sup> PICO

## 1<sup>st</sup> PICO



## MeSH Term / Synonym

肥胖糖尿病, 血壓,  
血脂異常

Patient with Obesity,  
Diabetes, Hypertension,  
Dyslipidemia

Obesity / MORBID OBESITY, **Diabetes Mellitus, Hypertension**

減重手術

Bariatric surgery

Bariatric surgery/metabolic surgery

飲食控制

Diet

**Diet, Reducing**

減重, 代謝疾病,  
糖尿病, 心血管疾  
病, 血壓

Weight reduction,  
metabolic disease control,  
Blood sugar, cholesterol

Weight loss, metabolic syndrome,

這是一個



☒ 治療/預防型

☐ 診斷型

☐ 預後型

☐ 傷害型問題



Acquire  
MeSH

# MeSH搜尋



11

MeSH    [Create alert](#) [Limits](#) [Advanced](#) [Help](#)

Full ▾ Send to: ▾

### Bariatric Surgery

Surgical procedures aimed at affecting metabolism and producing major WEIGHT REDUCTION in patients with MORBID OBESITY.  
Year introduced: 2006

PubMed search builder options  
[Subheadings:](#)

<input type="checkbox"/> adverse effects	<input type="checkbox"/> instrumentation	<input type="checkbox"/> rehabilitation
<input type="checkbox"/> classification	<input type="checkbox"/> legislation and jurisprudence	<input type="checkbox"/> standards
<input type="checkbox"/> complications	<input type="checkbox"/> methods	<input type="checkbox"/> statistics and numerical data
<input type="checkbox"/> economics	<input type="checkbox"/> mortality	<input type="checkbox"/> therapeutic use
<input type="checkbox"/> education	<input type="checkbox"/> nursing	<input type="checkbox"/> therapy
<input type="checkbox"/> epidemiology	<input type="checkbox"/> organization and administration	<input type="checkbox"/> trends
<input type="checkbox"/> ethics	<input type="checkbox"/> pharmacology	<input type="checkbox"/> utilization
<input type="checkbox"/> etiology	<input type="checkbox"/> psychology	<input type="checkbox"/> veterinary
<input type="checkbox"/> history		

☐ Restrict to MeSH Major Topic.  
☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): E02.570.500.062, E04.062  
MeSH Unique ID: D050110  
[Entry Terms:](#)

#### PubMed Search Builder

[YouTube Tutorial](#)

#### Related Information

[PubMed](#)

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[Clinical Queries](#)

[NLM MeSH Browser](#)

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#### Recent Activity

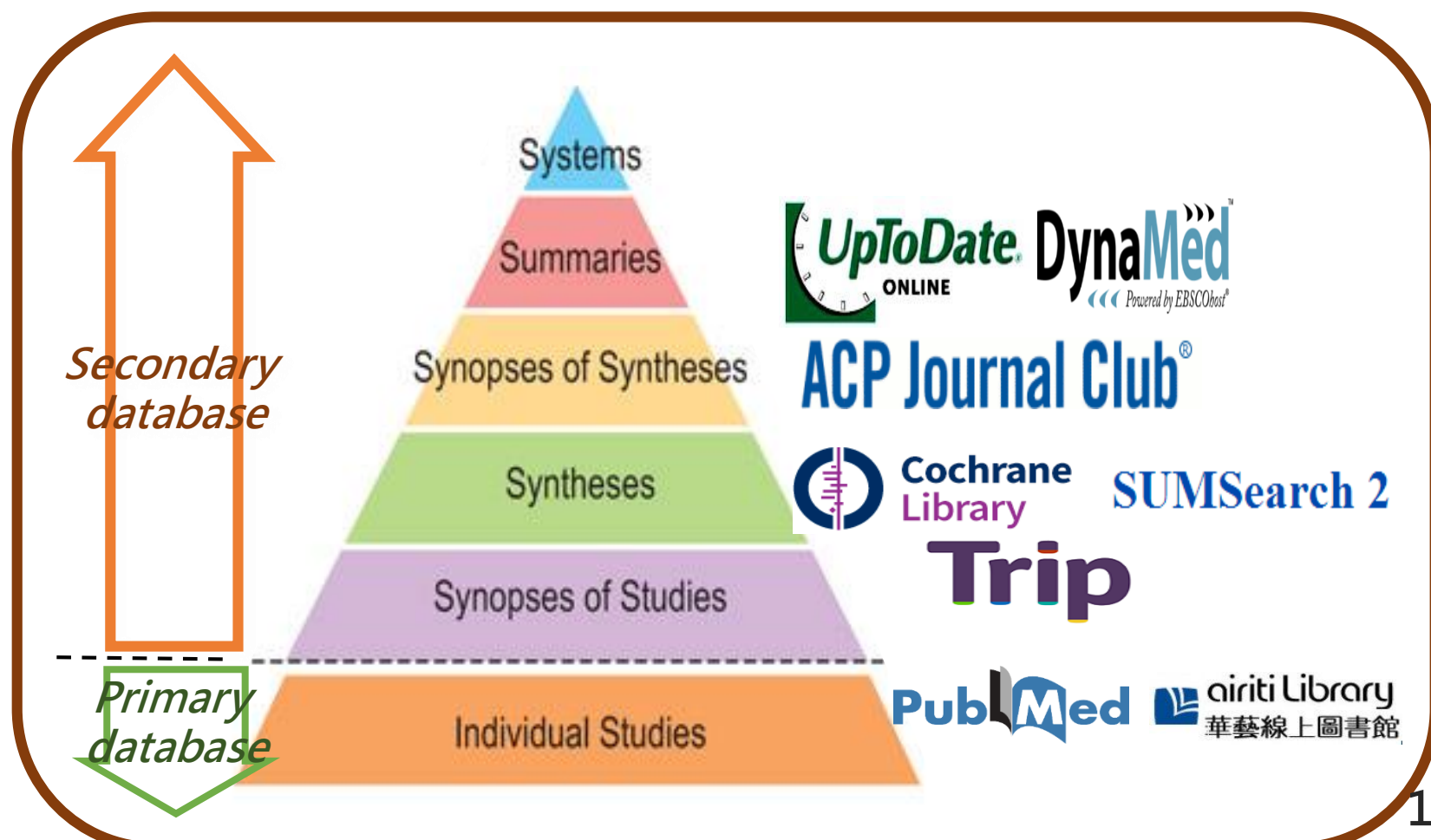
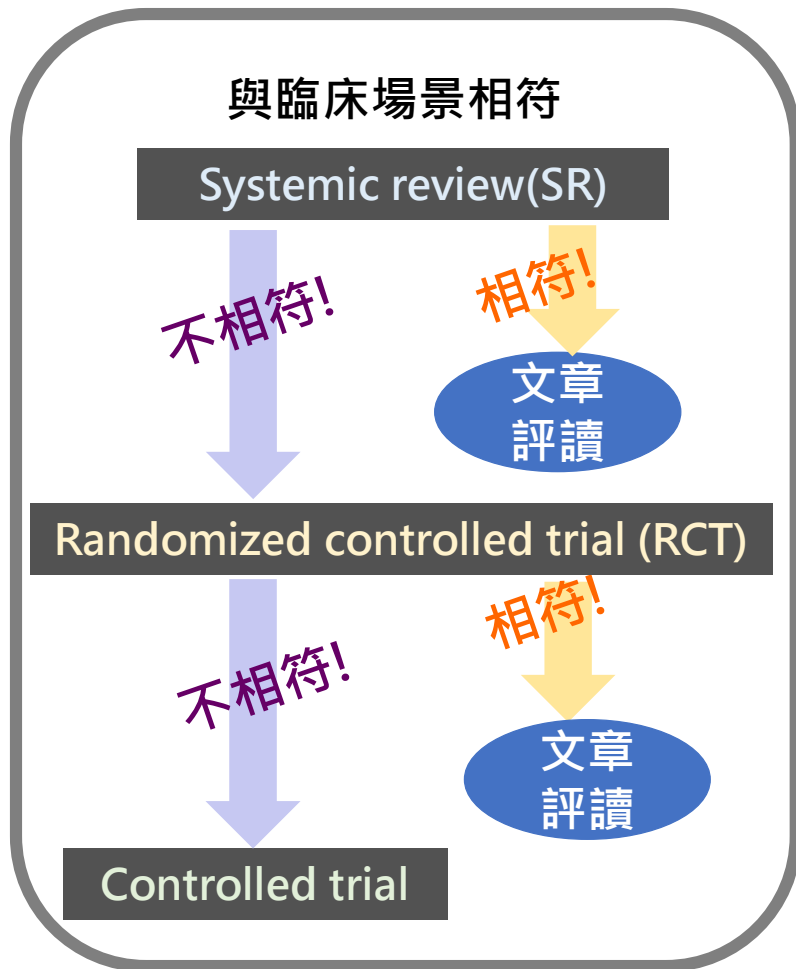
[Turn Off](#) [Clear](#)





# 檢索策略

以 **P**atient **AND** **I**ntervention 搜尋，再依結果調整納入之關鍵字和同義字。  
先找 *Secondary database*，  
再找 *Primary database*







# 檢索策略 我們使用的關鍵字



Obesity, metabolic syndrome, diabetes, Bariatric surgery, diet, weight loss





# 搜尋 *Secondary database*



11篇

使用布林邏輯  
(AND)

輸入關鍵字  
Dementia、Cholinesterase inhibitors

設定搜尋限制(Review, 2011-2016)

**Database**

☒ Cochrane Reviews

☐ All

☒ Review

☐ Protocol

☒ Other Reviews

☐ Trials

☐ Methods Studies

☐ Technology Assessments

☐ Economic Evaluations

☐ Cochrane Groups

**Dates**

**Publication Year (available for all databases)**

Year (YYYY) the article was originally published  
\*\*For Cochrane Reviews, this is the year of the last update

☐ All Years

☒ Between  and

Search Search Manager Medical Terms (MeSH) Browse

Title, Abstract, Keywords Cholinesterase Inhibitors

AND Title, Abstract, Keywords dementia

Search Help Publication Year from 2011 to 2016 (word variations included) Clear limits

Cochrane Database of Systematic Reviews : Issue 11 of 12, November 2016

Issue updated daily throughout month

There are 11 results from 9607 records for your search on 'Cholinesterase Inhibitors in Title, Abstract, Keywords and dementia in Title, Abstract, Keywords, Publication Year from 2011 to 2016 in Cochrane Reviews'

Sort by Relevance: high to low

Select all | Export all | Export selected

Cholinesterase inhibitors for rarer dementias associated with neurological conditions

Ying Li, Shan Hai, Yan Zhou and Bi Rong Dong

Online Publication Date: March 2015

符合PICO

Review





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# 搜尋 *Secondary database*



11篇

- ☒ All
- ☐ Current Issue

- Me** Methodology
- Dx** Diagnostic
- Ov** Overview
- Pg** Prognosis
- Qu** Qualitative
- Cc** Conclusions changed
- Ns** New search
- Mc** Major change
- Up** Update
- Wd** Withdrawn
- Cm** Comment

符合PICO



**Cholinesterase inhibitors for dementia with Lewy bodies, Parkinson's disease dementia and cognitive impairment in Parkinson's disease**

Michal Rolinski , Chris Fox , Ian Maidment and Rupert McShane  
Online Publication Date: March 2012

Review



**Cholinesterase inhibitors for mild cognitive impairment**

Tom C Russ and Joanne R Morling  
Online Publication Date: September 2012

Review



**Rivastigmine for vascular cognitive impairment**

Jacqueline Birks , Bernadette McGuinness and David Craig  
Online Publication Date: May 2013

Ns

Review



**Antidepressants for agitation and psychosis in dementia**

Dallas P Seitz , Nikesh Adunuri , Sudeep S. Gill , Andrea Grun  
Online Publication Date: February 2011

符合PICO  
(但納入人數太少，排除)

Review



**Rivastigmine for Alzheimer's disease**

Jacqueline S Birks , Lee Yee Chong and John Grimley Evans  
Online Publication Date: September 2015

符合PICO  
(但無全文故排除)

Review



**Statins for the treatment of dementia**

Bernadette McGuinness , David Craig , Roger Bullock , Reem Malouf and Peter Passmore  
Online Publication Date: July 2014

Ns

Review



Acquire

# 搜尋 *Secondary database*



10篇

Home About How To Use Contact us Blog

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# Trip

Turning Research Into Practice

SEARCH PICO ADVANCED PRO RECENT PRO

Cholinesterase Inhibitors AND dementia from:2012

Language Settings

使用布林邏輯  
(AND)

輸入關鍵字  
Dementia、Cholinesterase inhibitors

Evidence Images PRO Videos PRO Explorer PRO

10 results for "Cholinesterase Inhibitors AND dementia from:2012", by quality

符合PICO

Export Order Add to automated search

1. Systematic review and meta-analysis of combination therapy with cholinesterase inhibitors and memantine in Alzheimer's disease and other dementias

DARE. 2012

Tweet this Star this

Systematic Reviews

2. Cholinesterase inhibitors for Alzheimer's disease

Cochrane Database of Systematic Reviews 2012

Tweet this Star this

Systematic Reviews

3. Cholinesterase inhibitors from botanicals

Pharmacognosy reviews 2013 Full Text: Link to full Text with

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(但無全文故排除)

Refine by

Evidence type Clinical Area PRO

Become a PRO

If you had Trip Pro you'd have access to 7 further Systematic Reviews, links to 51 free full-text articles and 146 clinical trials without abstracts

設定搜尋限制(Review, 2011-2016)

All Secondary Evidence

Systematic Reviews

10 +7

DARE



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# 搜尋 *Secondary database*



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# Trip

Turning Research Into Practice

SEARCH

PICO

ADVANCED

PRO

RECENT

PRO

Population:

Type of patient eg. diabetics

Intervention:

Any intervention eg. treatment, diagnostic test

Comparison:

Comparing your intervention with another treatment or t

Outcome:

Outcome interest eg. reduced mortality, fewer exacerba

輸入關鍵字

搜尋 (Review , 2011-2016)

使用布林邏輯  
(AND)





# 搜尋 *Secondary database*



10篇

符合PICO



## 4. Primary and secondary prevention interventions for cognitive decline and dementia

The Norwegian Knowledge Centre for the Health Services 2016

Tweet this Star this



## 5. Best practices in the management of behavioural and psychological symptoms of dementia in residents of long-term care facilities in Alberta

Health Technology Assessment (HTA) Database. 2014

Tweet this Star this



## 6. Pharmacological treatments for neuropsychiatric symptoms of dementia in long-term care: a systematic review

DARE. 2013

Tweet this Star this



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(但納入人數太少，排除)



## 7. Mortality and treatment costs have a great impact on the cost-effectiveness of disease modifying treatment in Alzheimer's disease ? a simulation study

NHS Economic Evaluation Database. 2013

Tweet this Star this



符合PICO  
(但無全文故排除)



## 8. Screening for cognitive impairment in older adults: a systematic review for the US Preventive Services Task Force

DARE. 2013

Tweet this Star this



## 9. Evaluating the cost effectiveness of donepezil in the treatment of Alzheimer's disease in Germany using discrete event simulation

Health Technology Assessment (HTA) Database.	1
The Norwegian Knowledge Centre for the Health Services	1
Evidence-based Synopses	4
Guidelines	
Aus & NZ	0
Canada	0
UK	11
USA	5
Other	0
Regulatory Guidance	0
Key Primary Research	3
Clinical Q&A	2
Controlled Trials	42
Primary Research	70
Ongoing systematic reviews	18
Ongoing clinical trials	146
Open	89
Closed	57
Unknown	0
Patient decision aids	0
Patient information leaflets	0





# 搜尋 *Primary database*



預先設定個人篩選器→以篩選器更提升搜尋效率

NCBI Resources How To

My NCBI » Filters

sherryvivi My NCBI Sign Out

Filters help

You are managing filters for: PubMed Choose another database: PubMed (6 active)

**Your PubMed filter list**

Active	Name	Type
<input checked="" type="checkbox"/>	Clinical Study	Standard filter
<input checked="" type="checkbox"/>	Clinical Trial	Standard filter
<input checked="" type="checkbox"/>	Controlled Clinical Trial	Standard filter
<input checked="" type="checkbox"/>	English & Humans	Standard filter
<input checked="" type="checkbox"/>	Published in the last 5 years	Standard filter
<input checked="" type="checkbox"/>	Randomized Controlled Trial	Standard filter

Create custom filter

**Browse/Search for PubMed Filters**

Select category:

☐ Popular ☐ LinkOut ☒ Properties ☐ Links

Search with terms (optional):

Controlled Search

Active	Name	Description
<input checked="" type="checkbox"/>	Controlled Clinical Trial	
<input checked="" type="checkbox"/>	Randomized Controlled Trial	

You are here: NCBI

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- Domains & Structures
- Genes & Expression
- Genetics & Medicine

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- PubMed Central
- PubMed Health
- BLAST
- Nucleotide

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- PubMed Health
- GenBank
- Reference Sequences
- Gene Expression Omnibus
- Map Viewer

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# 搜尋 Primary database



排除動物及細胞等基礎實驗研究

輸入關鍵字

使用布林邏輯(AND)

包含所有臨床試驗→提高敏感性；降低特異性

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### PubMed Clinical Queries

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

Please enter search term(s) Search

#### Clinical Study Categories

Category: Therapy Scope: Broad

#### Systematic Reviews

Results: 5 of 4796

Tolerability of ORM-12741 and effects on episodic memory in patients with Alzheimer's disease. Rinne JO, Wesnes K, Cummings JL, Hakulinen P, Hallikainen M, Hänninen J, Murphy M, Riordan H, Scheinin M, Soininen H, et al. *Alzheimers Dement* (N Y). 2017 Jan; 3(1):1-9. Epub 2016 Dec 8.

Successful Use of Escitalopram for the Treatment of Visual Hallucinations in Patients With Parkinson Disease. Bergman J, Lerner PP, Sokolik S, Lerner V, Kreinin A, Miodownik C. *Clin Neuropharmacol*. 2017 Oct 20; . Epub 2017 Oct 20.

New Drug Research and Development for Alzheimer's Pathology: Present and Prospect. Wang T. *Shanghai Arch Psychiatry*. 2017 Aug 25; 29(4):237-239.

Advances toward multifunctional cholinesterase and  $\beta$ -amyloid aggregation inhibitors. Panek D, Wichur T, Godyń J, Pasieka A, Malawska B. *Future Med Chem*. 2017 Oct; 9(15):1835-1854. Epub 2017 Sep 19.

Systematic Review of Sex-Specific Reporting of Data: Cholinesterase Inhibitor Example. Mehta N, Rodrigues C, Lamba M, Wu W, Bronskill SE, Herrmann N, Gill SS, Chan AW, Mason R, Day S, et al. *J Am Geriatr Soc*. 2017 Oct; 65(10):2213-2219. Epub 2017 Aug 18.

See all (4796)

This column displays citations filtered to a specific clinical study category and scope. These search filters were developed by Haynes RB et al. See more filter information.

問題種類/最佳研究設計	檢索語法
共同/系統性綜論	systematic [SB]
治療/隨機分派研究	AND(Therapy/Narrow[filter])
傷害/隨機世代或病例控制研究	AND(Etiology/Narrow[filter])
診斷/斷面或世代研究	AND(Diagnosis/Narrow[filter])
預後/世代研究	AND(Prognosis/Narrow[filter])
經濟/經濟效益研究	AND(cost effective[TIAB] OR sensitivity analys*[TIAB])

Results: 5 of 346

Dem... A Sy... Swe... 2008

Syst... Chol... Mehl... Gill S... J Am...

Trea... com... anal... Cher... PLoS...

Alzh... Ther... Eppe... Am F...

Phar... Apat... mod... Thel... J Ge...

This anal... consensus development conferences, and guidelines. See filter information or additional related sources.

#### Medical Genetics

Results: 5 of 361

inhibitors to base-modifying

Requena C, Pérez C, Sakamoto- pub 2017 Aug 26.

accumulation in the lel for Alzheimer's

Erdal ME, Yilmaz

I 12.

isease

L, Hendrie HC, Epub 2017 Mar 14.

al change in

PHF. 017 Mar 6.

with Alzheimer's

7 Feb 23.

See all (361)

This column displays citations pertaining to topics in medical





# 搜尋 *Primary database*

PubMed

5篇



符合PICO



符合PICO  
(但納入人數太少，排除)

符合PICO  
(但無全文故排除)



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# 搜尋 *Primary database*

airiti Library  
華藝線上圖書館



進階檢索

[ALL]: 剖腹產 AND [ALL]: 縫

編輯

清除

AND ▾	剖腹產	所有欄位 ▾
AND ▾	縫	所有欄位 ▾
AND ▾		所有欄位 ▾

輸入關鍵字

使用布林邏輯(AND)

查詢

清除

搜尋語言 : ☒ 所有文章 ☐ 繁體中文 ☐ 簡體中文 ☐ 英文 ☐ 其他語言  
文獻類型 : ☒ 所有類型 ☐ 電子期刊 ☐ 會議論文 ☐ 碩博士論文 ☐ 電子書  
出版地區 : ☒ 所有地區 ☐ 台灣 ☐ 中國大陸(含港澳) ☐ 美國 ☐ 其他地區

年代 :

☒ 近五年 ▾

☐ 1999 以前 ▾ 到 2015 ▾

☐  可用半形逗號分隔年代，例如：2003,2005

全文可供閱讀；五年內(2013-2018)發表；研究對象為人類

電子全文 : ☒ 不限 ☐ 限有全文 ☐ 單位已採購

每頁顯示筆數 : ☒ 10 ☐ 20 ☐ 50

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# 搜尋 *Primary database*

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全心三總

全人照護

Wholehearted  
Holistic Care



1篇

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Language

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期刊文章 1	會議論文 0	碩博士論文 1	電子書 2	紙本書 6,678
-----------	-----------	------------	----------	--------------

依下方條件來精確結果

來源資料庫

CJTD中國大陸期刊 (1)

學科分類

醫藥衛生 (1)

年代

2017年以後 (1)  
2015年以後 (1)  
2013年以後 (1)

出版品名稱

中華胃腸外科杂志 (1)

指標期刊

CA(1)

查詢 (減重手術, 糖尿病, 代謝疾病) = 所有欄位

篇名.關鍵字.摘要 作者 刊名 起始年 結束年 檢索結果再查詢

每頁 10 筆

共 1 筆, 1-1 筆

共 1 頁

書目匯出 加入追蹤 加入購物車 相關程度最高

1 內鏡下減重手術治療肥胖與代謝病的療效及未來  
黃上嘉；暨南大學附屬第一醫院肥胖與代謝病外科；黃上嘉；張俊昌；董志勇；王存川；暨南大學附屬第一醫院肥胖與代謝病外科,廣州,510630；Huang Shangjia；Zhang Junchang；Dong Zhiyong；Wang Cunchuan  
中華胃腸外科杂志 2017年 04期 (2017/06), 383-387  
肥胖症；代謝疾病；減重手術；內鏡手術；述評；Obesity；Metabolic diseases；Endoscopic；Bariatric surgery；Editorials  
預覽摘要

加入追蹤 全文下載

書目匯出 加入追蹤 加入購物車 相關程度最高

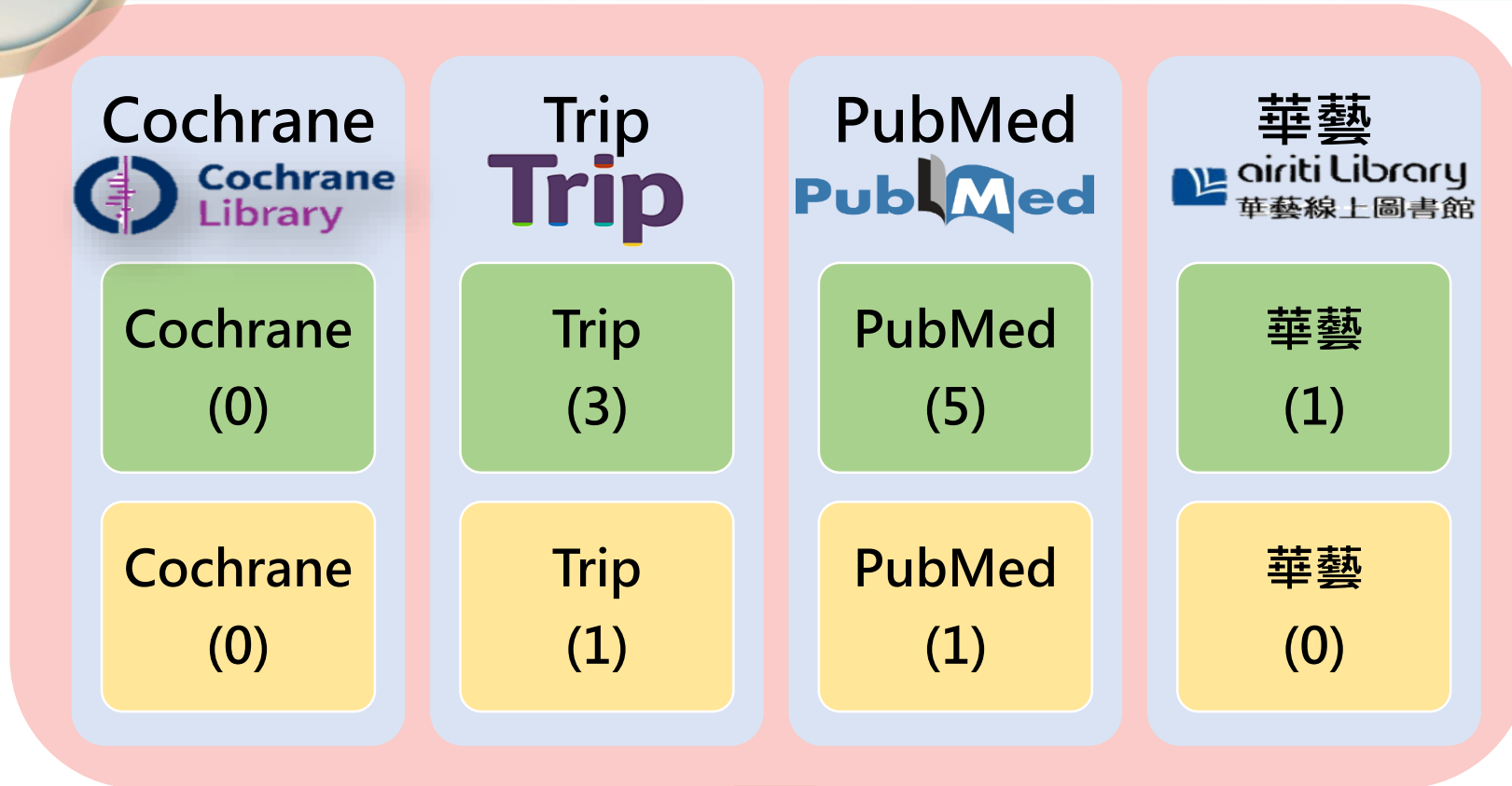
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不符合PICO



Acquire

# 搜尋結果及文獻選讀理由



1. Exclusion Criteria
  - Key word
  - Full text
  - 5 years
2. Exclusion Criteria
  - SR or RCT

符合  
場景

Trip  
(1)

3. Exclusion Criteria
  - 符合PICO
  - 年份最新





# 文獻選讀理由

依關鍵字、MeSH Term及利用搜尋功能的使用，所有在電子資料中搜尋到的文章共**15**篇

不符合PICO的有**3**篇

符合PICO，應詳讀摘要資訊以決定是否加以評讀的文章有**9**篇

符合PICO且值得嚴格評讀的文章有**1**篇

- 排除的研究有(n=**8**)
- 文章bias較多的有**3**篇
- (納入人數少、分配隱匿性不明、結果評估盲性不明或沒有ITT...)
- 無全文可供評讀的有**3**篇
- 非RCT, systemic review or meta-analysis型文章
- 有**1**篇
- 經濟效益評估文章(n=**1**)

RESEARCH

ajog.org

OBSTETRICS

**Suture versus staples for skin closure  
after cesarean: a metaanalysis**

Awathif Dhanya Mackeen, MD, MPH; Meike Schuster, DO; Vincenzo Berghella, MD





[www.impactjournals.com/oncotarget/](http://www.impactjournals.com/oncotarget/)

Oncotarget, Vol. 7, No. 26

Research Paper: Pathology

## The comprehensive summary of surgical versus non-surgical treatment for obesity: a systematic review and meta-analysis of randomized controlled trials

Ji Cheng<sup>1</sup>, Jinbo Gao<sup>1</sup>, Xiaoming Shuai<sup>1</sup>, Guobin Wang<sup>1</sup> and Kaixiong Tao<sup>1</sup>

<sup>1</sup> Department of Gastrointestinal Surgery, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei, China

Correspondence to: Kaixiong Tao, email: kaixiongtaowhuh@126.com

Keywords: obesity; bariatric surgery; meta-analysis; systematic review; Pathology Section

Received: April 16, 2016

Accepted: May 20, 2016

Published: May 24, 2016

### ABSTRACT

- ☑最符合臨床問題
- ☑發表年份較新
- ☑最佳的研究設計
- ☑有全文可供評讀

這是一個



☒ 治療/預防型

☐ 診斷型

☐ 預後型

☐ 傷害型問題





Appraise

# 文獻評讀工具



CASP  
Checking list



- ✓ **V** alidity (Reliability) 效度/信度
  - Can we believe it ? (研究方法的探討)
    - 錯誤errors
    - 偏誤bias
  - Are the results of the study valid?



證據可信嗎?

- ✓ **I** mportance (Impact) 重要性
  - We believe it ! But does it matter? (研究結果的分析)
  - What are the result?



結果重要嗎?

- ✓ **P** ractice (Applicability) 臨床適用性
  - If we believe it - does it apply to our patients?  
(如何在臨床運用)
  - Will the results help locally?



可以應用在我  
們病人身上嗎?

我們的文獻工具是



CASP SR critical appraisal tool !!





## (A) Are The Results of The Review Valid?

符合  
PICO

1

Did the review address a clearly focused question?

此研究是否問了一個清楚明確的問題？



Yes

☐ Can't tell

☐ No

### ABSTRACT

**Background:** Bariatric surgery has emerged as a competitive strategy for obese patients. However, its comparative efficacy against non-surgical treatments remains ill-defined, especially among nonseverely obese crowds. Therefore, we implemented a systematic review and meta-analysis in order for an academic addition to current literatures.

**Methods:** Literatures were retrieved from databases of PubMed, Web of Science, EMBASE and Cochrane Library. Randomized trials **comparing surgical with non-surgical therapies for obesity were included**. A Revised Jadad's Scale and Risk of Bias Summary were employed for methodological assessment. Subgroups analysis, sensitivity analysis and publication bias assessment were respectively performed in order to find out the source of heterogeneity, detect the outcome stability and potential publication bias.

**Results:** 25 randomized trials were eligibly included, totally comprising of 1194 participants. Both groups displayed well comparability concerning baseline parameters ( $P > 0.05$ ). The pooled results of primary endpoints (**weight loss and diabetic remission**) revealed a significant advantage among surgical patients rather than those receiving non-surgical treatments ( $P < 0.05$ ). Furthermore, except for certain cardiovascular indicators, bariatric surgery was superior to conventional arms in terms of metabolic secondary parameters ( $P < 0.05$ ). Additionally, the pooled outcomes were confirmed to be stable by sensitivity analysis. Although Egger's test ( $P < 0.01$ ) and Begg's test ( $P < 0.05$ ) had reported the presence of publication bias among included studies, "Trim-and-Fill" method verified that the pooled outcomes remained stable.

**Conclusion:** Bariatric surgery is a better therapeutic option for weight loss, irrespective of follow-up duration, surgical techniques and obesity levels.





## (A) Are The Results of The Review Valid?



Did the authors look for the right type of papers?  
作者是否收納適當的研究類型?

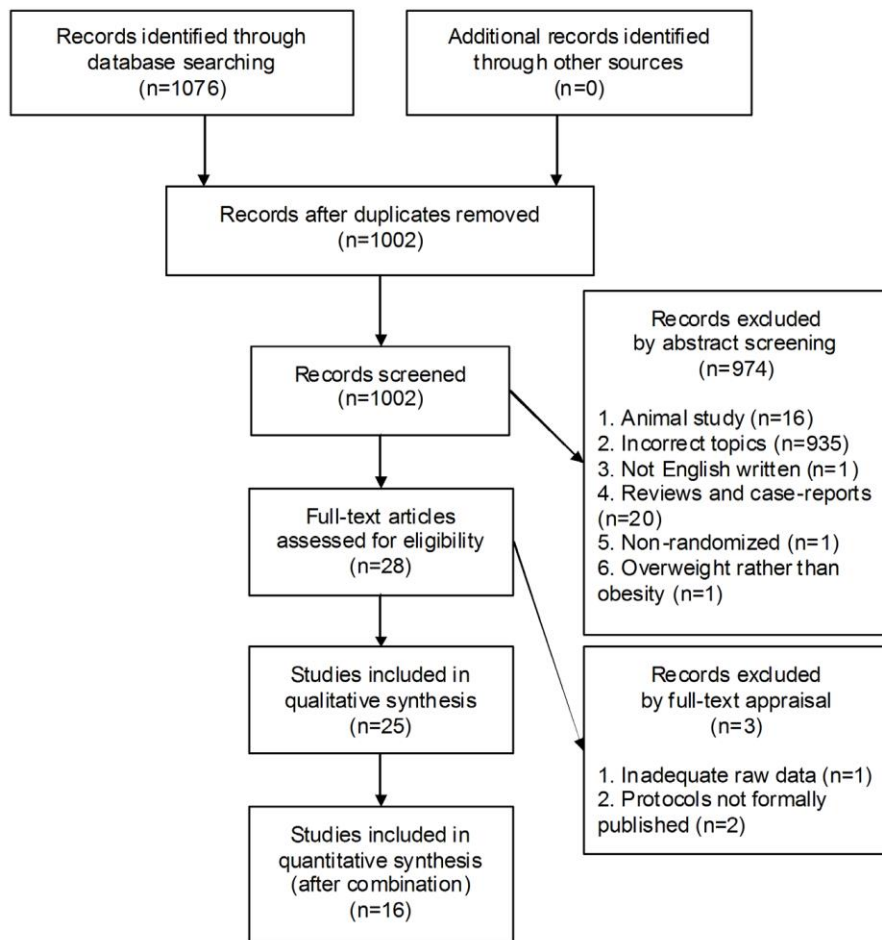


☒ Yes

☐ Can't tell

☐ No

A



B

收錄包含有同儕審查、已經出版、RCT且有全文的文章





## (A) Are The Results of The Review Valid?

沒有  
遺漏

3

Do you think all the important, relevant studies were included?  
作者有沒有可能遺漏掉重要、相關的研究?



☒ Yes

☐ Can't tell

☐ No

HINT: Look for

- 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

搜尋**MEDLINE, EMBASE**, Cochrane Register of Controlled Trials, Allied and Complementary Medicine and Cumulative Index to Nursing and Allied Health Literature從頭到2017年4月18日、但是**並未收錄未發表**或是**會議**相關的文章而且**僅收錄**”英文”的研究。

文章並以**流程圖**呈現搜尋過程，清楚描述所或篇數及**排除原因**，最後**參與篇數**等資訊。我們評讀此文章**沒有遺漏重要相關資訊**。





## (A) Are The Results of The Review Valid?

# 4

Did the review's authors do enough to assess the quality of the included studies?

作者是否有評估收納研究的品質？

效度充足



☒ Yes

☐ Can't tell

☐ No

score的建議等級是以Cochrane handbook建議為主

### Statistical methods

Review Manager 5.3 was employed as a statistical platform for our quantitative analysis. The effect-sizes of dichotomous and continuous variable were calculated by models of odds ratio and weighted respectively, along with 95% confidence source data on endpoints were not of median was statistically regarded as mean deviation was derived from range, inter 95% confidence interval as appropriate [47]. based merging of subgroups was rigorous enable sole pairwise comparisons. If necessary, numeric change from baseline values was computed in accord with the statistical instructions of **Cochrane Handbook** [47]. The overall statistical heterogeneity was quantified by the degree of inconsistency ( $I^2$ ) [50]. Revealing a substantially lower heterogeneity, the fixed-effects model was recommended in the setting of  **$I^2 < 25\%$** . Otherwise a random-effects model was preferred under the remaining circumstances [51], in order for adjustment of potential

我們在方法中找到品質評估的描述，並使用一致性準則加以評值。在結果中看到以表格方式呈現之各文章品質結果。此篇文章，我們評讀為效度足夠良好。

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
DIBASY 2012	+	?	+	+	+	+	+
Dixon 2008	+	+	+	+	+	+	+
Dixon 2012	+	+	+	+	+	+	+
DSS	+	+	+	+	+	+	+
Heindorff 1997	+	+	+	+	+	+	+
Liang 2013	+	+	+	+	+	+	+
Mingrone 2002	+	+	+	+	+	+	+
O'Brien 2006	+	+	+	+	+	+	+
O'Brien 2010	+	+	+	+	+	+	+
O'Brien 2013	+	+	+	+	+	+	+
Pariikh 2014	+	+	+	+	+	+	+
Reis 2009	+	+	+	+	+	+	+
SLIMM-T2D	+	+	+	+	+	+	+
STAMPEDE	+	+	+	+	+	+	+
TRAMONTANA	+	+	+	+	+	+	+
TRIABETES	+	+	+	+	+	+	+





## (A) Are The Results of The Review Valid?



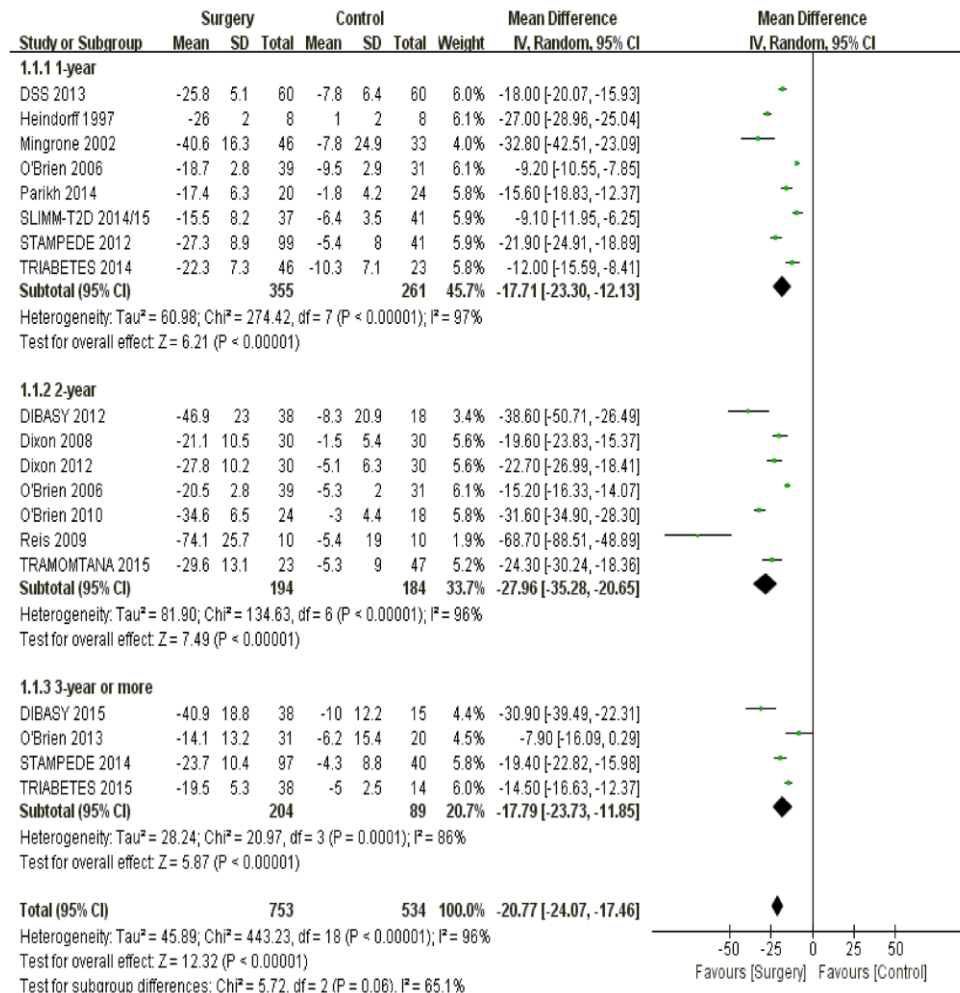
If the results of the review have been combined, was it reasonable to do so?  
作者是否有把各個研究的結果合併起來？  
這樣的合併是合理的嗎？



☒ Yes

☐ Can't tell

☐ No







# 文獻評讀結果



	問題	結果		
有效性	1 Did the trial address a clearly focused issue?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	2 Did the authors look for the right type of papers?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	3 Do you think the important, relevant studies were included?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	4 Did the review' s authors do enough to assess the quality of the included studies?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	5 If the results of the review have been combined, was it reasonable to do so?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
重要性	6 What are the overall results of the review?			
	7 How precise are the results?			
應用性	8 Can the results be applied to the local population?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	9 Were all clinically important outcomes considered?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
	10 Are the benefits worth the harms and costs?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO





Appraise

# 實證等級

## Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence



Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
<b>How common is the problem?</b>	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
<b>Is this diagnostic or monitoring test accurate?</b> (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
<b>What will happen if we do not add a therapy?</b> (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
<b>Does this intervention help?</b> (Treatment Benefits)	Systematic review of randomized trials or <i>n</i> -of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
<b>What are the COMMON harms?</b> (Treatment Harms)	Systematic review of randomized trials, systematic review of nested case-control studies, <i>n</i> -of-1 trial with the patient you are raising the question about, or observational study with dramatic effect	Individual randomized trial or (exceptionally) observational study with dramatic effect	Non-randomized controlled cohort/follow-up study (post-marketing surveillance) provided there are sufficient numbers to rule out a common harm. (For long-term harms the duration of follow-up must be sufficient.)**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning
<b>What are the RARE harms?</b> (Treatment Harms)	Systematic review of randomized trials or <i>n</i> -of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
<b>Is this (early detection) test worthwhile?</b> (Screening)	Systematic review of randomized trials	Randomized trial	Non-randomized controlled cohort/follow-up study**	Case-series, case-control, or historically controlled studies**	Mechanism-based reasoning





## (B) What Are The Results?

### 6

What are the overall results of the review?  
這篇回顧呈現了什麼結果？

HINT: Consider

- If you are clear about the review's 'bottom line' results
- What these are (numerically if appropriate)
- How were the results expressed (NNT, odds ratio etc)

#### ● **Primary** endpoints:

- ✓ Weight loss
- ✓ Remission of type 2 diabetes mellitus

#### ● **Secondary** endpoints:

- ✓ Excessive weight loss
- ✓ Fasting glucose
- ✓ Glycated hemoglobin
- ✓ Waist circumference
- ✓ Systolic and diastolic pressure
- ✓ Triglycerides 、 Total cholesterol 、  
Low density lipoprotein



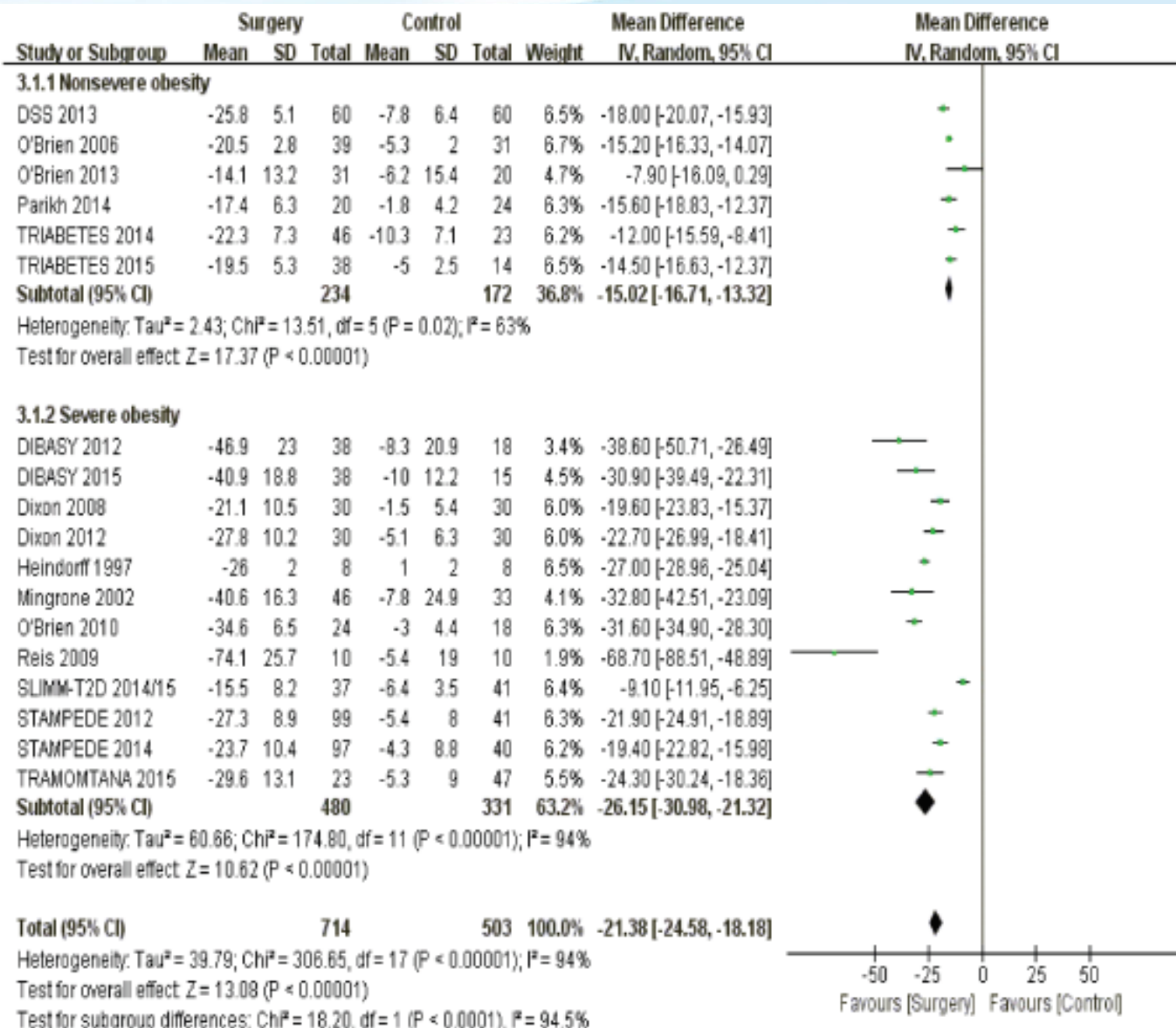


Figure 4: The forest plot of weight loss (kg) in terms of obesity levels.





## (B) What Are The Results?



How precise are the results?  
結果精準嗎？

HINT: Look at the confidence intervals, if given

Table 3: Outcomes of weight loss by sensitivity analysis

<i>P</i> value	Overall	Follow-up duration			Surgical techniques				Levels of obesity	
		1-year	2-year	Long-term	SG	RYGB	LAGB	BPD	Nonsevere	Severe
Random effects	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fixed effects	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
With low-quality	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Without low-quality	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Previous criteria	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Altered criteria	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.0001	<0.00001	<0.00001	<0.00001



## (C) Will The Results Help Locally?

### Appraise

8

Can the results be applied to the local population?  
此研究是否可應用到你的病人?



☒ Yes

☐ Can't tell

☐ No

HINT: Consider whether

- The patients covered by the review could be sufficiently different to your population to cause concern
- Your local setting is likely to differ much from that of the review

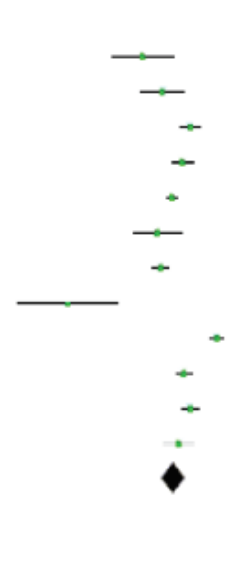
●本病患165cm, 100kg→ **BMI=36.7** ,  
屬於本篇文章之**severe obesity**  
(**body mass index > 35**)族群。

#### 3.1.2 Severe obesity

DIBASY 2012	-46.9	23	38	-8.3	20.9	18	3.4%	-38.60 [-50.71, -26.49]
DIBASY 2015	-40.9	18.8	38	-10	12.2	15	4.5%	-30.90 [-39.49, -22.31]
Dixon 2008	-21.1	10.5	30	-1.5	5.4	30	6.0%	-19.60 [-23.83, -15.37]
Dixon 2012	-27.8	10.2	30	-5.1	6.3	30	6.0%	-22.70 [-26.99, -18.41]
Heindorff 1997	-26	2	8	1	2	8	6.5%	-27.00 [-28.96, -25.04]
Mingrone 2002	-40.6	16.3	46	-7.8	24.9	33	4.1%	-32.80 [-42.51, -23.09]
O'Brien 2010	-34.6	6.5	24	-3	4.4	18	6.3%	-31.60 [-34.90, -28.30]
Reis 2009	-74.1	25.7	10	-5.4	19	10	1.9%	-68.70 [-88.51, -48.89]
SLIMM-T2D 2014/15	-15.5	8.2	37	-6.4	3.5	41	6.4%	-9.10 [-11.95, -6.25]
STAMPEDE 2012	-27.3	8.9	99	-5.4	8	41	6.3%	-21.90 [-24.91, -18.89]
STAMPEDE 2014	-23.7	10.4	97	-4.3	8.8	40	6.2%	-19.40 [-22.82, -15.98]
TRAMONTANA 2015	-29.6	13.1	23	-5.3	9	47	5.5%	-24.30 [-30.24, -18.36]
Subtotal (95% CI)			480			331	63.2%	-26.15 [-30.98, -21.32]

Heterogeneity:  $\tau^2 = 60.86$ ;  $\chi^2 = 174.80$ ,  $df = 11$  ( $P < 0.00001$ );  $I^2 = 94\%$

Test for overall effect:  $Z = 10.62$  ( $P < 0.00001$ )







## (C) Will The Results Help Locally?

9

Were all important outcomes considered?  
是否所有重要的臨床結果都被考量到?



☒ Yes

☐ Can't tell

☐ No

HINT: Consider whether

- Is there other information you would like to have seen

### ● **Primary** endpoints:

- ✓ Weight loss
- ✓ Remission of type 2 diabetes mellitus

### ● **Secondary** endpoints:

- ✓ Excessive weight loss
- ✓ Fasting glucose
- ✓ Glycated hemoglobin
- ✓ Waist circumference
- ✓ Systolic and diastolic pressure
- ✓ Triglycerides 、 Total cholesterol 、  
Low density lipoprotein





### (C) Will The Results Help Locally?

10

Are the benefits worth the harms and costs?  
這些好處隨之而來的傷害和花費是否值得?

☐ Yes



☒ Can't tell

☐ No





# 文獻評讀結果



	問題	結果		
有效性	1 Did the trial address a clearly focused issue?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO
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	10 Are the benefits worth the harms and costs?	<input checked="" type="radio"/> YES	<input type="radio"/> Can' t Tell	<input type="radio"/> NO





Apply

# 成本效益



## 【減重手術健保給付標準】

- BMI  $\geq 40$ ，或BMI  $\geq 35$ 且合併有肥胖相關併發症。
- 年齡介於18～55歲。
- 經半年以上的內科減重治療失敗。
- 無內分泌系統異常或其他會造成肥胖的疾病。
- 無藥物濫用或精神疾病。
- 無重大器官功能異常並能接受外科手術風險。

## 手術費用：

腹腔鏡手術部分負擔，自費手術耗材(包括腸胃縫合器，超音波刀或雷聲刀，腹腔鏡專用縫線，傷口防水敷料及組織凝膠等等)，自費止痛藥，健保部分負擔，病房費差額及餐費，費用共需**10至13萬元**左右；如果BMI未達健保給付標準，則需自費約20-23萬元左右。





Appraise

# 實證等級

## Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence



Question	Step 1 (Level 1*)	Step 2 (Level 2*)	Step 3 (Level 3*)	Step 4 (Level 4*)	Step 5 (Level 5)
<b>How common is the problem?</b>	Local and current random sample surveys (or censuses)	Systematic review of surveys that allow matching to local circumstances**	Local non-random sample**	Case-series**	n/a
<b>Is this diagnostic or monitoring test accurate?</b> (Diagnosis)	Systematic review of cross sectional studies with consistently applied reference standard and blinding	Individual cross sectional studies with consistently applied reference standard and blinding	Non-consecutive studies, or studies without consistently applied reference standards**	Case-control studies, or "poor or non-independent reference standard**	Mechanism-based reasoning
<b>What will happen if we do not add a therapy?</b> (Prognosis)	Systematic review of inception cohort studies	Inception cohort studies	Cohort study or control arm of randomized trial*	Case-series or case-control studies, or poor quality prognostic cohort study**	n/a
<b>Does this intervention help?</b> (Treatment Benefits)	Systematic review of randomized trials or <i>n</i> -of-1 trials	Randomized trial or observational study with dramatic effect	Non-randomized controlled cohort/follow-up study**	Case-series, case-control studies, or historically controlled studies**	Mechanism-based reasoning
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Apply

# 利益與風險

治療方式 考量因素	飲食控制	減重手術
經濟考量因素	●	●
較好生活品質	●	●
照護的方便性	●	●
病人的舒適性	●	●
病人可存活時間	●	●
治療的後遺症	●	●

註：● 較佳 ● 普通 ● 較差





Apply

# 以病人角度思考



病人選擇治療方式會在意的因素有什麼？以及在意的程度？

考量因素	不重要	普通	重要	非常重要
經濟考量因素		V		
較好生活品質				V
照護的方便性			V	
病人的舒適性				V
病人可存活時間		V		
治療的後遺症			V	





Apply

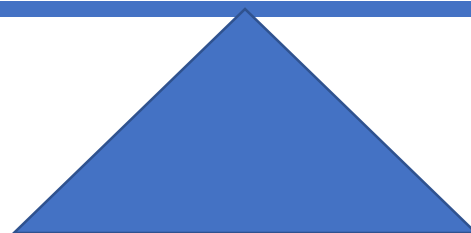
# 利益與風險



- 費用較高
- 侵入性治療
- 術後可能會有營養不良情形
- 降低更多體重
- 減少飢餓感
- 血糖控制效果較為顯著

***Risk***

***Benefit***







Apply

# 臨床決策考量點



主要考量	臨床專業分析
文獻值得引證	文章經嚴格評讀，具有良好信效度，且符合個案需求，值得引證。
證據品質精良	文章結果描述完整，縫線具有顯著效益。
費用精省	縫線方式可以降低個案經費支出及非經濟成本的支出。
符合病人期望	使用縫線並不會降低疤痕美觀，能符合病人的期待。
病人可遵從	縫線方式，有效降低感染率，病人可確實執行出院後護理。
顧及全人照顧	身-降低破裂及感染 心靈-美觀好照顧，考量病人可執行性

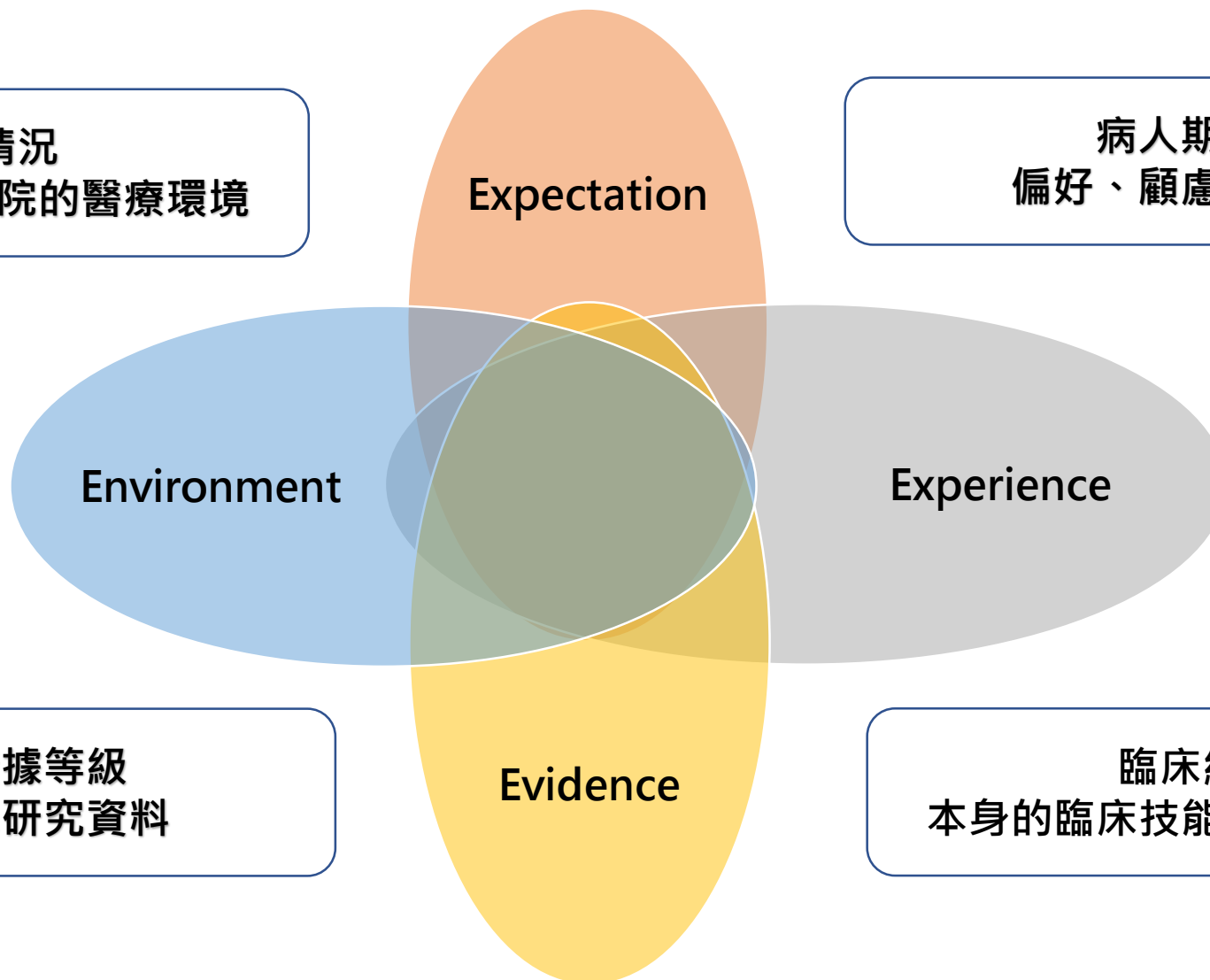


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臨床情況  
病患的病情及醫院的醫療環境

病人期望  
偏好、顧慮、期待

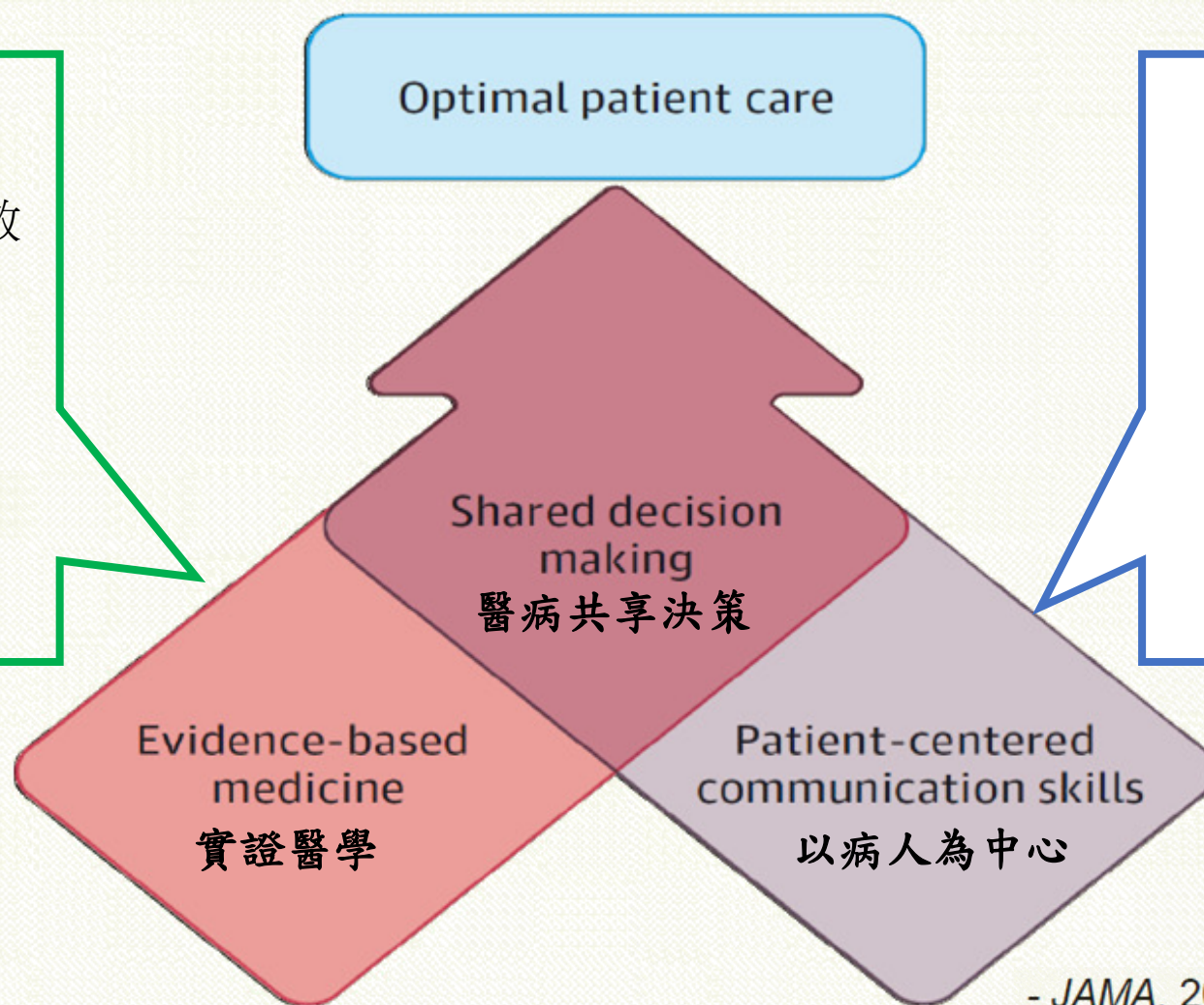


最佳證據等級  
現有臨床研究資料

臨床經驗  
本身的臨床技能、經驗、判斷



1. 對於飲食控制無顯著成效
2. 手術介入：  
降低更多體重  
減少飢餓感  
血糖控制效果較為顯著







# Thanks for Your Attention

