

06/18/2012

Evidence- Based Medicine presentation

Instructor : VS 鄞子傑

Presented by : R2 林岑紘

Department : GS

Clinical Scenario

- A 47-year-old male patient was newly diagnosed with sigmoid colon cancer (cT3N1M1b, stage IVB).
- He was admitted for scheduled laparoscopic anterior resection.

Clinical Scenario

- Bowel preparation was started on 05/17/2012.
 - severe abdominal fullness and nausea
 - acute obstruction of colon
 - colostomy performed on 05/19/2012, followed by second operation of colostomy takedown and anterior resection

STEP 1

Asking
Answerable
Clinical
Questions

Background Question

- What do we want to benefit from mechanical bowel preparation before colorectal surgery ?
 - * preventing infectious complications and anastomotic dehiscence (Halsted 1887; Thornton 1997)
 - * Clinical experiences and observational studies have shown that mechanical removal of gross faeces from the colon has been associated with decreased morbidity and mortality in patients (Nichols 1971).

Foreground Question

P	patients are about to undergone elective colorectal surgery
I	pre-operative bowel preparation
C	no pre-operative bowel preparation
O	decreased morbidity/complication

STEP 2

Search
the
Database

6S

computerized decision support

Systems

Summaries

Evidence-based textbooks
(ACP med, CE, Dynamed, UTD)

Synopses of syntheses

Evidence-based journal abstracts
(ACPJC, EBM, EBN, DARE)

Syntheses

Systemic reviews (Cochranes,
Pubmed Systemic Review)

Synopses of studies

Evidence-based journal
abstracts

Studies

Original journal articles
(Pubmed, Trip)

Searching Strategies

- Keywords for search :
 - colorectal/rectal surgery
 - (mechanical) bowel preparation
 - pre-operative (bowel) preparation

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Summaries



- Keywords :
 - colorectal surgery
 - bowel preparation
- Result : (one)

Fast-track protocols in colorectal surgery

Literature review current through: Apr 2012. | This topic last updated: 四月 12, 2012.

Summaries



colorectal surgery

... All Topics ▾

Search

New Search

Patient Info

What's New

Calculators

Search Results for "colorectal surgery"

• All Topics

• Fast-track protocols in colorectal surgery

Fast-track protocols in colorectal surgery

TOPIC OUTLINE

SUMMARY & RECOMMENDATIONS ➔

INTRODUCTION

BACKGROUND

DEFINITION

ELEMENTS OF FAST-TRACK

- Multimodal fast-track protocols
- Preoperative strategies
 - Medical risk evaluation and interventions
 - Patient education and ostomy site selection
 - Bowel preparation

Summaries



- Conclusion

- Fast-track surgery consists of a protocol of evidence-based techniques to reduce surgical trauma and postoperative stress.
- **Most** fast-track programs have omitted bowel cleansing, **favoring no preparation** other than a preoperative enema for left-sided resections.

Summaries



- Keywords :
 - colorectal surgery
 - pre-operative (bowel) preparation

- Result : (one)
 - colorectal surgery considerations
 - Preoperative bowel preparation
 - Effect of mechanical bowel preparation

Summaries



colorectal surgery

Search



Browse: [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

[Browse Categories](#)

1-50 of 141 Page: [1](#) [2](#) [3](#) ▶

Colorectal surgery considerations

[Colorectal cancer](#)

[Colorectal adenoma](#)

[Colorectal cancer screening](#)

[Treatment of metastatic colorectal cancer](#)

[Hereditary nonpolyposis colorectal cancer \(HNPCC\)](#)

Colorectal surgery considerations

[+ Related Summaries](#)

[Overview](#)

[Enhanced Recovery Protocol](#)

[Preoperative Preparation](#)

[Preoperative bowel preparation](#)

Summaries



- Conclusion

- mechanical bowel preparation **doesn't** :
 - 1) reduce rate of anastomotic leakage, peritonitis or wound infection (level 2; review)
 - 2) decrease postoperative infections after colorectal resection (level 2; RT)
 - 3) reduce hospital stay or time to first bowel movement (level 2; RT)
 - 4) associated with reduced anastomotic leakage (level 2; RT)

* RT : randomized trial

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Syntheses

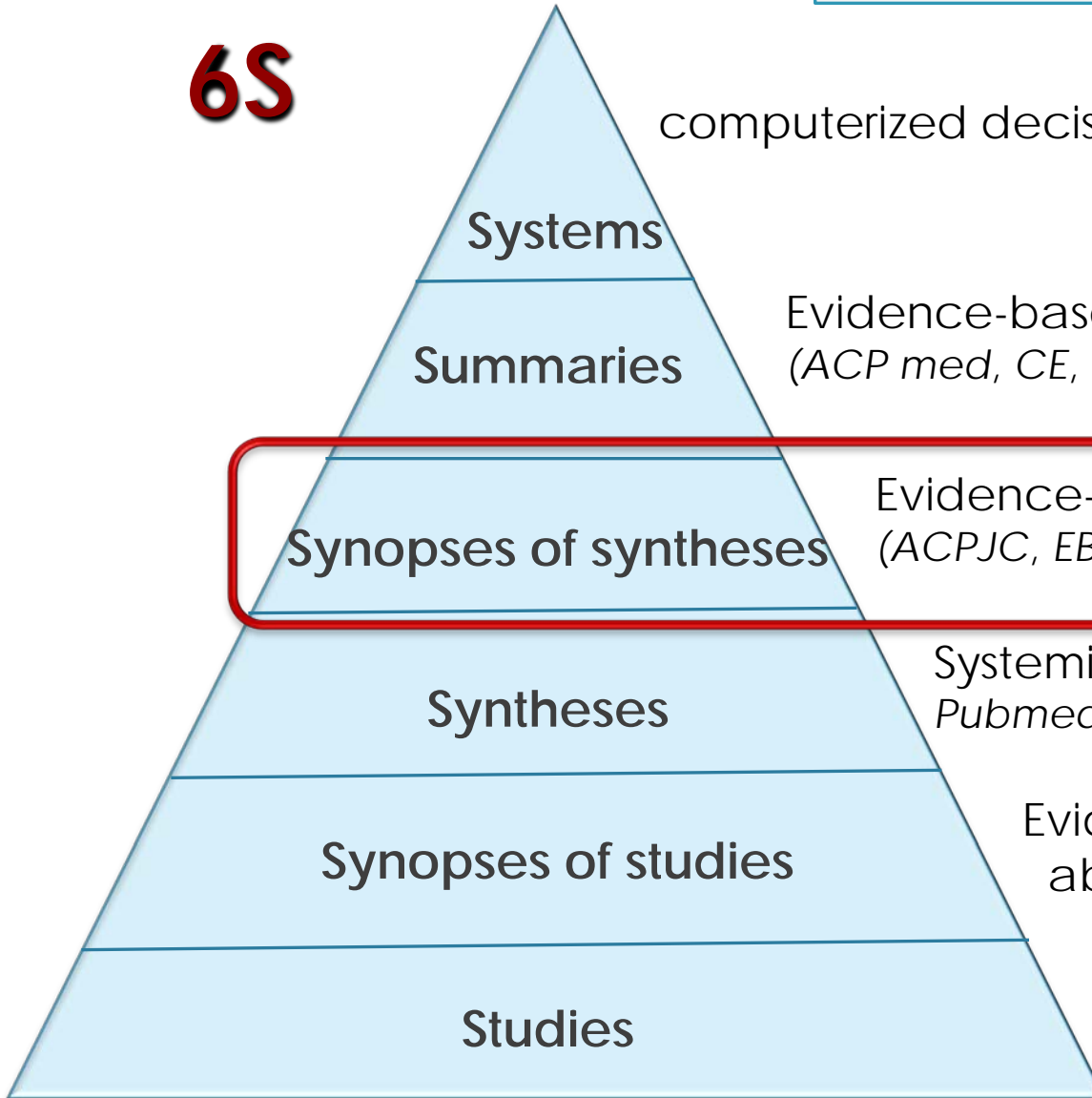
Systemic reviews (Cochranes,
Pubmed Systemic Review)

Synopses of studies

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Original journal articles
(Pubmed, Trip)



Synopses of Syntheses



- Keywords :
 - mechanical bowel preparation
- Results :

You searched for **mechanical bowel preparation**

Refine your search or start a new search

First 1 Last

Show all previews

Select all

Clear selections

Export

	Year	Database	Record type	Title
<input type="checkbox"/>	2010	DARE	Systematic review	Efficacy of mechanical bowel preparation with polyethylene glycol in prevention of postoperative complications in elective colorectal surgery: a meta-analysis [Preview]
<input type="checkbox"/>	2011	DARE	Systematic review	Mechanical bowel preparation for elective colorectal surgery [Preview]

Synopses of Syntheses



Centre for Reviews and Dissemination

• Conclusion

- mechanical bowel preparation did not significantly lower postoperative complications

Synopses of Syntheses

ACP Journal Club®

No compatible article found.

Evidence-Based
MEDICINE

No compatible article found.

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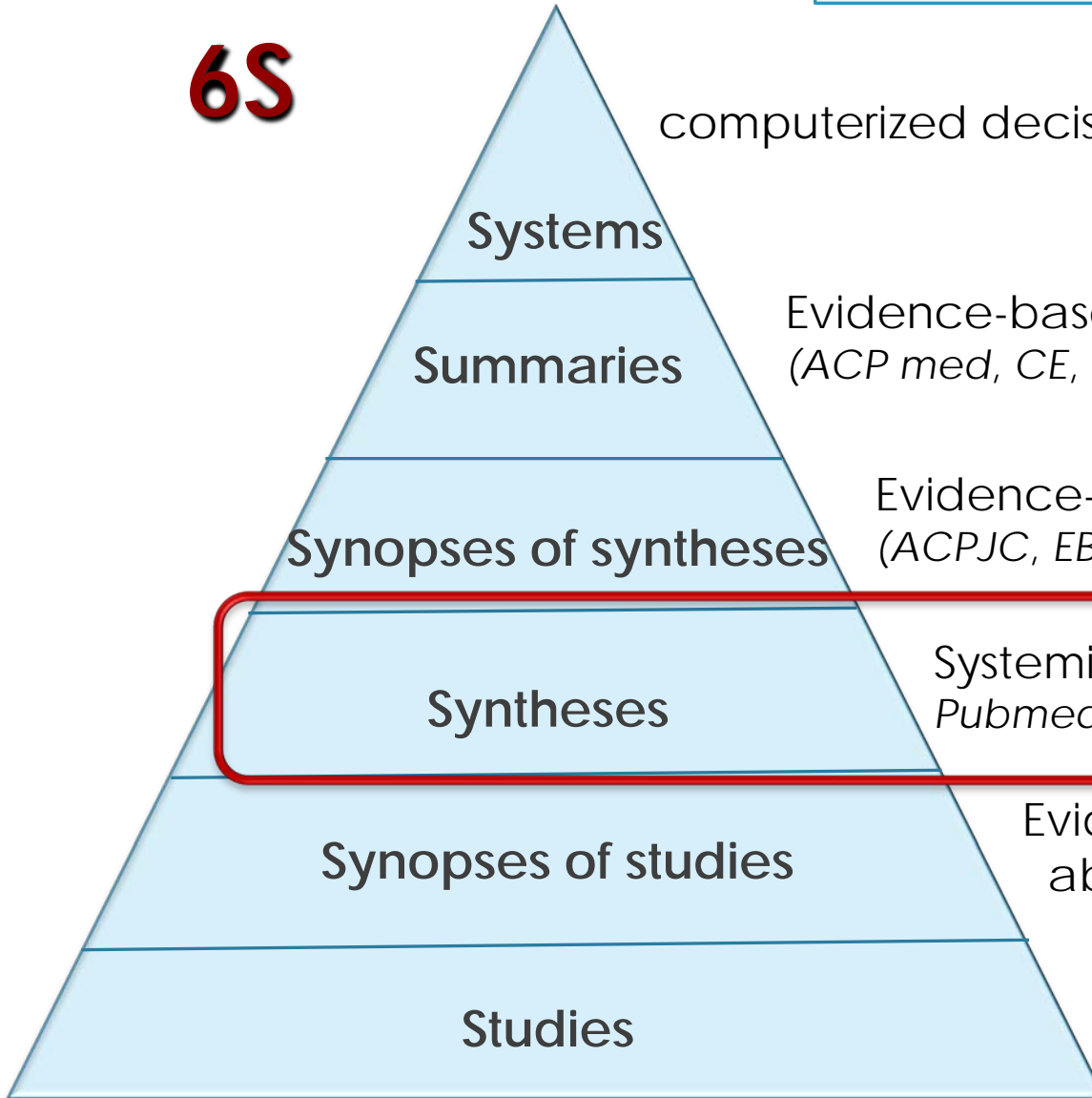
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Syntheses



THE COCHRANE LIBRARY

Independent high-quality evidence for health care decision making

- Keywords :
 - bowel preparation
- Results :

Show Results in:

Cochrane Reviews [8] | [Other Reviews \[12\]](#) | [Trials \[638\]](#) | [Methods Studies \[2\]](#) |

There are **8** results out of **7296 records** for: **"bowel preparation"** in Title, Abstract or Key

View: 1-8

[Export All Results](#)

Record Information

Issue: [Current](#) | **All**



[Mechanical bowel preparation for elective colorectal surgery](#)

Katia F Güenaga, Delcio Matos, Peer Wille-Jørgensen

September 2011

Review


Syntheses



Systemic
review

- Keywords :
 - bowel preparation + colorectal surgery
- Results :

PubMed

 RSS [Save search](#) [Advanced](#)

Display Settings: ☒ Summary, 20 per page, Sorted by Recently Added

Send to: ☐

Results: 15

Syntheses



Systemic
review

1

Int J Colorectal Dis. 2012 Jun;27(6):803-10. Epub 2011 Nov 23.

Mechanical bowel preparation for elective colorectal surgery: updated systematic review and meta-analysis.

Cao F, Li J, Li F.

Department of General Surgery, Xuanwu Hospital, Capital Medical University, 100053, Beijing, China.

- 14 RCTs, 5373 patients
(2,682 with MBP & 2,691 without MBP)
- No evidence to support it for prevention of postoperative complications.

Syntheses



Systemic
review

2

Can J Surg. 2010 Dec;53(6):385-95.

Preoperative bowel preparation for patients undergoing elective colorectal surgery: a clinical practice guideline endorsed by the Canadian Society of Colon and Rectal Surgeons.

Eskicioglu C, Forbes SS, Fenech DS, McLeod RS; Best Practice in General Surgery Committee.

Department of Surgery, University of Toronto, Toronto, Ontario.

- 14 RCTs + 8 meta-analyses
- lack of difference in postoperative infectious complication rates when MBP is omitted

Syntheses



Systemic
review

3

Int J Colorectal Dis. 2008 Dec;23(12):1145-50. Epub 2008 Oct 4.

Mechanical bowel preparation for colorectal surgery: a meta-analysis on abdominal and systemic complications on almost 5,000 patients.

Gravante G, Caruso R, Andreani SM, Giordano P.

Department of Colorectal Surgery, Whipps Cross University Hospital, Leytonstone, London, E11 1NR, UK. ggravante@hotmail.com

- 12 randomized prospective trials, 4,919 patients
- non-MBP group showed no significant increase of the anastomotic leakages and wound infections

STEP 3

Appraising the Evidence

Summaries



- Conclusion

- meta-analysis of lower-quality cohort studies or with inconsistent results. retrospective cohort study or prospective cohort study with poor follow-up. Case control study or case series.
- 1) reduced anastomotic leakage (level 2; RT)
- 2) decreased mortality (level 2; RT)
- 3) reduced postoperative bowel movement (level 2; RT)
- 4) associated with reduced anastomotic leakage (level 2; RT)

* RT : randomized trial

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)
How common is the problem?	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
Is this diagnostic or monitoring test accurate? (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
What will happen if we do not add a therapy? (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
Does this intervention help? (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
What are the COMMON harms? (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
What are the RARE harms? (Treatment Harms)	Systematic review of randomized trials or <i>n</i> -of-1 trial	Randomized trial or (exceptionally) observational study with dramatic effect			
Is this (early detection) test worthwhile? (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

* Level may be graded down on the basis of study quality, imprecision, indirectness (study PICO does not match questions PICO), because of inconsistency between studies, or because the absolute effect size is very small; Level may be graded up if there is a large or very large effect size.

Synopses of Syntheses



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Level 1

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First **1** Last

Show all previews

Select all

Clear selections

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<input type="checkbox"/>	2011	DARE	Systematic review	Mechanical bowel preparation for elective colorectal surgery [Preview]

Syntheses



Systemic
review

1

Level 2

- 14 RCTs, 5373 patients
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- No evidence to support it for prevention of postoperative complications.

Syntheses



Systemic
review

2

Level 2

- 14 RCTs + 8 meta-analyses
- lack of difference in postoperative infectious complication rates when MBP is omitted

Syntheses



Systemic
review

3

Level 2

- 12 randomized prospective trials, 4,919 patients
- non-MBP group showed no significant increase of the anastomotic leakages and wound infections

Int J

Me

col

Grava

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nic

Grades of Recommendation

A

consistent level 1 studies

B

consistent level 2 or 3 studies **or** extrapolations from level 1 studies

C

level 4 studies **or** extrapolations from level 2 or 3 studies

D

level 5 evidence **or** troublingly inconsistent or inconclusive studies of any level

STEP 4

Application

Application

醫療現況	病人意願
現台灣仍慣例進行 bowel preparation	配合醫生指示; 少部分病人因腹瀉或腹痛等不適 會拒絕進一步完成步驟
生活品質	社會脈絡
近期文獻顯示, 無明顯證據指出bowel preparation 有降低morbidity 的 效果; 故對生活品質沒有明顯差異	讓病人降低morbidity並及早出院 是醫療團隊的初衷; 然而此次探討 的結果發現, bowel preparation 並不一定是推手

STEP 5

Evaluation

在提出“臨床治療問題”的自我評估

- 我提出的問題是否有臨床重要性？
Yes; bowel preparation 為台灣現今colorectal surgery 病人慣例使用; 且此手術的施行率高
- 我是否明確地陳述了我的問題？Yes
- 我是否清楚地知道自己問題的定位, 並據以提出問題？
Yes
- 對於無法立刻回答的問題, 我是否有任何方式將問題記錄起來以備將來有空時再找答案？Yes

在“搜尋最佳證據”方面的自我評估

- 我是否已盡全力搜尋？Yes
- 我是否知道我的問題的最佳證據來源？Yes
- 我是否從大量的資料庫來搜尋答案？Yes
- 我工作環境的軟硬體設備是否能支援我在遇到問題時進行立即的搜尋？Yes
- 我是否在搜尋上越來越熟練了？Yes
- 我會使用“斷字”，布林邏輯，同義詞，MeSh term，限制（limiters）等方法來搜尋？Yes
- 我的搜尋比起圖書館人員或其他對於提供病人最新最好醫療有熱情的同事如何？尚需加強

改變“醫療行為”的自我評估

- 當最佳證據顯示目前臨床策略需改變時, 我是否遭遇任何阻止改變的阻力? Yes; bowel preparation 在世界各地都是dorgma; 雖然近期證據顛覆以往的證據, 但evidence 仍弱於 practice
- 我是否因此搜尋結果而改變了原本的治療策略? Yes; 改變了自己的策略, 但應用到病人身上還是得與主治醫師討論

效率評估

- 這篇報告, 我總共花了多少時間? 約八個小時
(含設計及排版投影片)
- 我是否覺得這個進行實證醫學的過程是值得的?
Yes; 增強搜尋能力, 見識到不同article 的寫作方法,
更了解一些統計工具
- 我還有哪些問題或建議? 現今有越來越多的搜尋資料庫, 如果文章投稿前能規定登錄資訊到公用的評讀網站, 已進行同步公正的評讀, 那就有效率多了!



Further...

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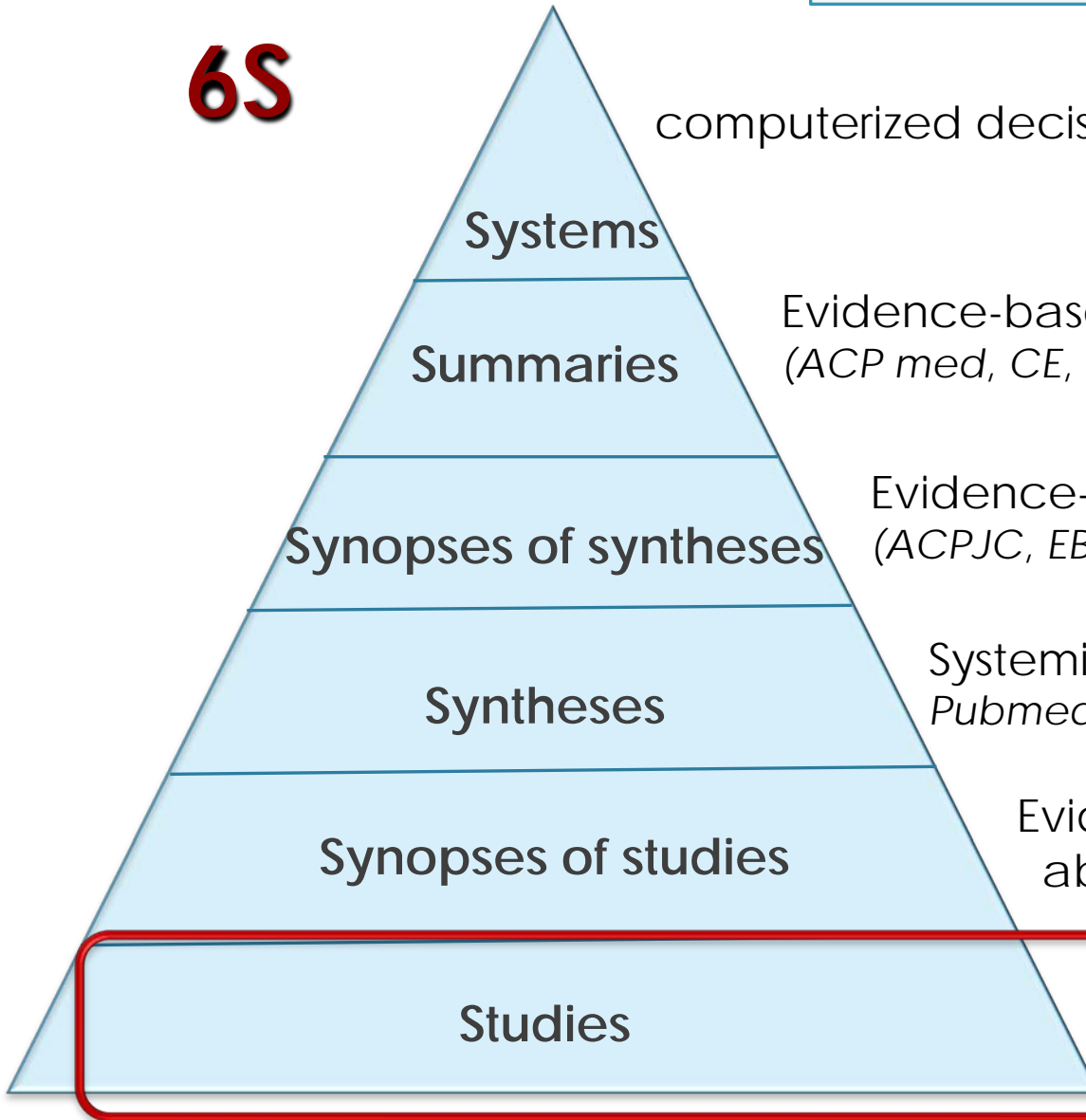
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Studies



- Keywords :
 - **stapled** (colorectal surgery) + bowel preparation
- Results :

Factors associated with the occurrence of leaks in stapled rectal anastomoses: a review of 1,014 patients

Presented at the 82 Annual Meeting of The American College of Surgeons, Papers Sessions, San Francisco, CA, October 6–11, 1996.

Andrea Vignali, MD^a, Victor W Fazio, MB^a,  (FRACS, FACS), Ian C Lavery, MB^a (FRACS, FACS), Jeffrey W Milsom, MD^a (FACS), James M Church, MD^a (FACS), Tracy L Hull, MD^a, Scott A Strong, MD^a, John R Oakley, MB^a (FRACS, FACS)

^a Department of Colorectal Surgery, The Cleveland Clinic Foundation, Cleveland, OH, USA

Studies



Variable	No. of patients	No. with leak (%)	p*
Size of stapler			
25	3	0	0.30
28	6	0	
29	293	13 (4.4)	
31	259	8 (3.1)	
33	453	8 (1.8)	
Technique of stapling			
Double stapled	154	8	0.06
Conventional circular	860	21	
Mechanical bowel preparation			
Yes	923	26 (3.6)	0.28
No	91	3 (3.0)	

Thanks For Your Listening!

