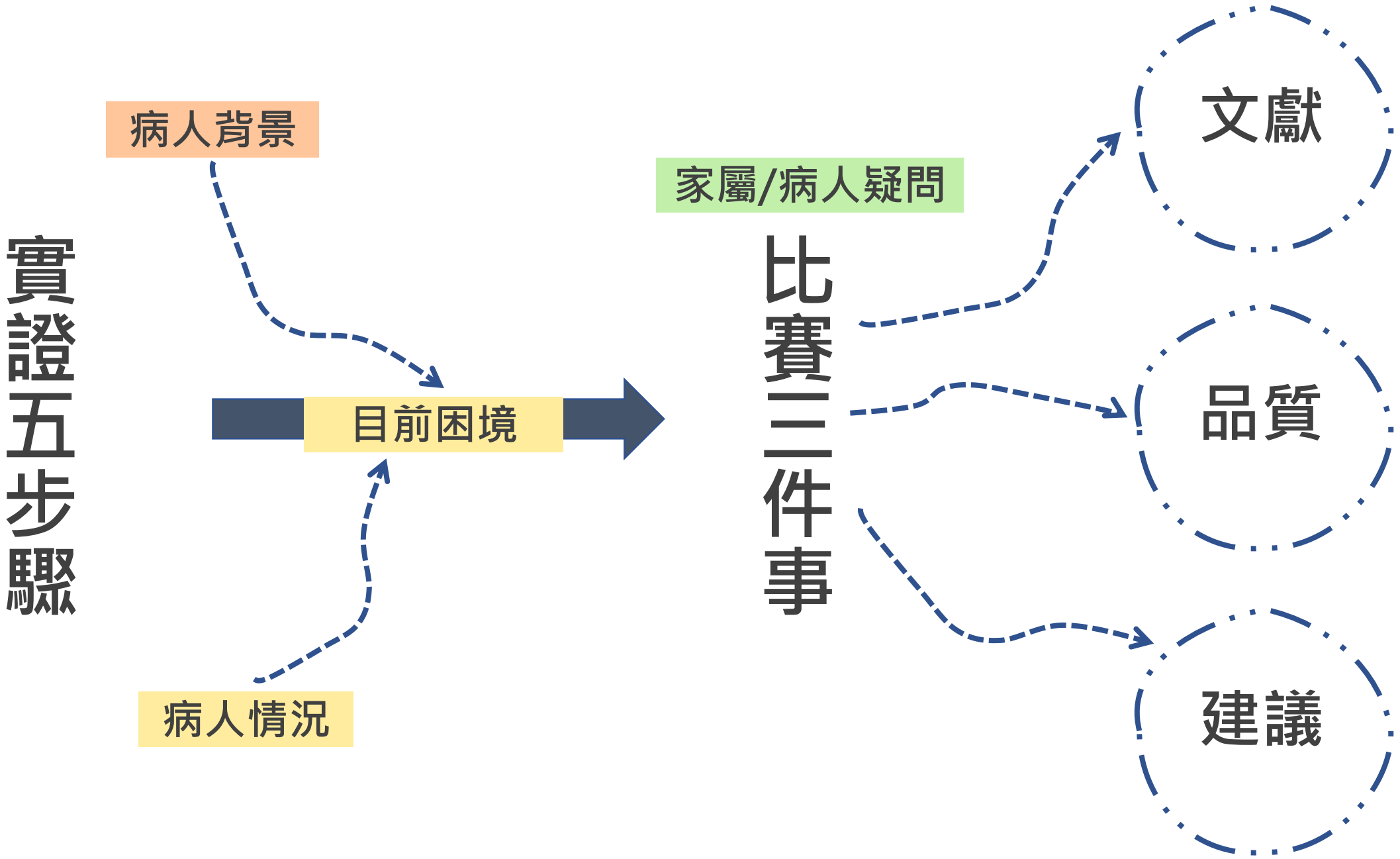
2022年實證醫學文獻查證交流賽活動
活動回饋


實證五步驟
病人背景
目前困境
病人情況
家屬/病人疑問
比賽三件事
文獻
品質
建議

試題一

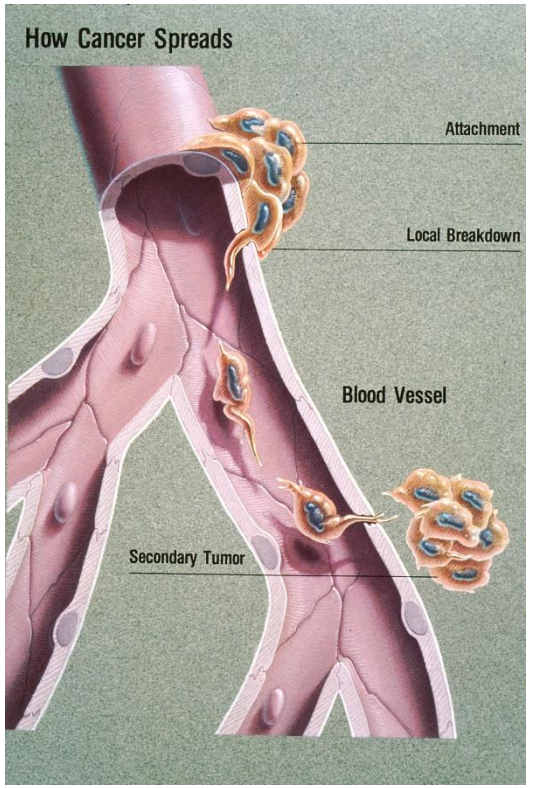
病人背景　　病人情況　目前困境　　家屬/病人疑問

36歲何小姐，平時生活習慣良好喜歡看醫藥相關新聞，最近覺得偶爾喉嚨卡卡、跟朋友唱歌時高音飆不上去。某天抓癢時摸到右頸部有2公分左右突起物，因為她媽媽有甲狀腺癌病史，擔心甲狀腺癌是否會遺傳?很緊張至醫院耳鼻喉科就診，醫師安排頸部超音波檢查，發現右甲狀腺有一個約3公分不均勻的結節併有微小鈣化，醫師表示要區別是否良性還是惡性，需進一步要做細針穿刺吸引細胞學檢查來做確認，因怕做細針穿刺會影響到她工作說話及她最喜歡的唱歌，上網看到穿刺會導致腫瘤擴散消息，不知道是真的嗎?感到非常害怕，網路查到抽血檢查血液中的降鈣素也可以診斷出來是否罹癌?同時也害怕兩個可愛的小朋友以後會不會也有甲狀腺癌，是不是需要做基因檢測?請以實證醫學手法解決她心中的疑惑。

The Metastasis Cascade

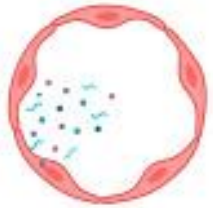
Metastasis is a pathogenic agent's spread from an initial or primary site to a different or secondary site within the host's body; the term is typically used when referring to metastasis by a cancerous tumor. The newly pathological sites, then, are **metastases** (**mets**).

Science. **321** (5897): 1785–7.



The New England Journal of Medicine. **359** (26): 2814–23.

How to detected the thyroid tumor marker?



Circulating markers

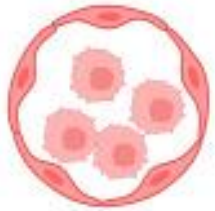
- Assay for calcitonin, CEA procalcitonin, CA-19-9

Circulating DNA

- Detection of RET M918T
- Quantitative

Circulating miRNAs

- Expression levels
  miRNA-375
  miRNA-222-3p
  miRNA-17-5p
  miRNA-144
  miRNA-34a



Circulating tumor cells

- Gene expression
- Cell counting

Best Pract Res Clin Endocrinol Metab. 2022 Mar 31;101655.

試題二

病人背景　　病人情況　目前困境　　家屬/病人疑問

52歲李先生最近排尿困難且有些血尿，因之前有腎結石的病例所以不以為意，近來看到媒體報導49歲知名兩性作家H(陳鴻儀)罹患攝護腺癌三期包尿布新聞，針對報導的內容，症狀與自己相似，擔心自己罹患攝護腺癌。上網查詢相關資料，發現腎結石會引發攝護腺癌是真的嗎? 相關資料指出美國在1990年代開始廣泛使用PSA作為診斷攝護腺癌的指標，他想知道PSA篩檢攝護腺癌的準確性? 另外又看到新聞報導說服用維生素D可以降低罹患攝護腺癌是否正確呢?請以實證醫學的手法解決他心中疑惑。

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Risk factors for prostate cancer

Prostatitis — The available data from case-control studies, cohort studies, and meta-analyses suggest a significant but modest increase (approximately 1.5- to 2-fold) in the risk of prostate cancer in men with prostatitis, but the data are generally of low quality and the relationship between prostatitis and prostate cancer remains unclear in African Americans [126-130]. Despite a significant body of work relating inflammation to cancer, a cause and effect relationship has not been established between prostate cancer and prostatitis. Furthermore, PSA values can be elevated with prostatitis, leading to more prostate biopsies and a greater likelihood of making the diagnosis of cancer.

As discussed in the introduction, ascertainment biases are significant in prostate cancer. Any factor associated with an elevation in the serum PSA would be expected to lead to more biopsies being performed, and consequently, more cancers being detected. (See 'Introduction' above.)

SUMMARY AND RECOMMENDATIONS

- Prostate cancer is among the most common cancers in men worldwide. (See 'Introduction' above.)
- Prostate cancer only rarely presents with clinical symptoms. Uncommonly, prostate cancer may present with nonspecific urinary symptoms, hematuria, or hematospermia; however, these are usually due to nonmalignant conditions. (See 'Symptoms' above and 'Clinical presentation' above.)
- Prostate cancer is suspected in patients who have an elevation of prostate-specific antigen (PSA) or an abnormal digital rectal examination (DRE). Although DRE is not recommended for screening, if DRE is performed, asymmetry, nodularity, or induration raise suspicion for prostate cancer. (See 'PSA testing' above and 'Digital rectal examination' above.)
- The risk for prostate cancer increases as the PSA level rises, although there is no specific numerical threshold that accurately determines the presence of prostate cancer. PSA changes over time are helpful in determining cancer risk. (See 'PSA testing' above.)
- The diagnosis of prostate cancer requires tissue. This is usually obtained by biopsy with imaging guidance, which should be preceded by measurement of PSA. (See "Prostate biopsy" and "Interpretation of prostate biopsy" and 'Diagnosis' above and 'Decision to biopsy' above.)
- After shared decision-making with the patient, usually we proceed to biopsy if the patient has a life expectancy of at least 10 years (some contributors biopsy if life expectancy is >5 years) and one of the following: a PSA (on initial PSA testing and on repeat a few weeks later) that is elevated above the range for the patient's age cohort, an increase in the PSA of more than 0.75 ng/mL over one year, or a nodule, induration, or asymmetry on DRE. If the PSA results are equivocal, adjunctive testing (eg, PSA density, PSA doubling time, magnetic resonance imaging [MRI]) can be useful to better estimate the likelihood of prostate cancer. If the patient has significant comorbidities that limit life expectancy, a prostate biopsy to evaluate for the possibility of asymptomatic prostate cancer is usually not warranted. (See 'Decision to biopsy' above.)

Risk factors for prostate cancer

Causes and Risk Factors for Prostate Problems

Condition	Cause and Risk Factors
Prostatitis	*Chronic:* Exact cause unknown, may be related to chemicals in urine, previous UTI, or nerve damage in pelvic area. Risk factors are largely unknown but may include nerve damage in lower pelvic area *Bacterial:* Bacterial infection can be either acute or chronic. Risk factors include lower or reoccurring UTIs, BPH, high-risk sexual behavior, history of sexually transmitted diseases, immunocompromised status
Benign prostatic hyperplasia	Exact cause unknown. Develops with aging, generally in older men. Risk factors include age >40 years, family history of BPH, obesity, type 2 diabetes, lack of physical exercise, and erectile dysfunction
Prostate cancer	Caused by formation of malignant cells in tissue of the prostate. Risk factors include age >55 years, family history, African American ethnicity, smoking, obesity, and lack of physical exercise

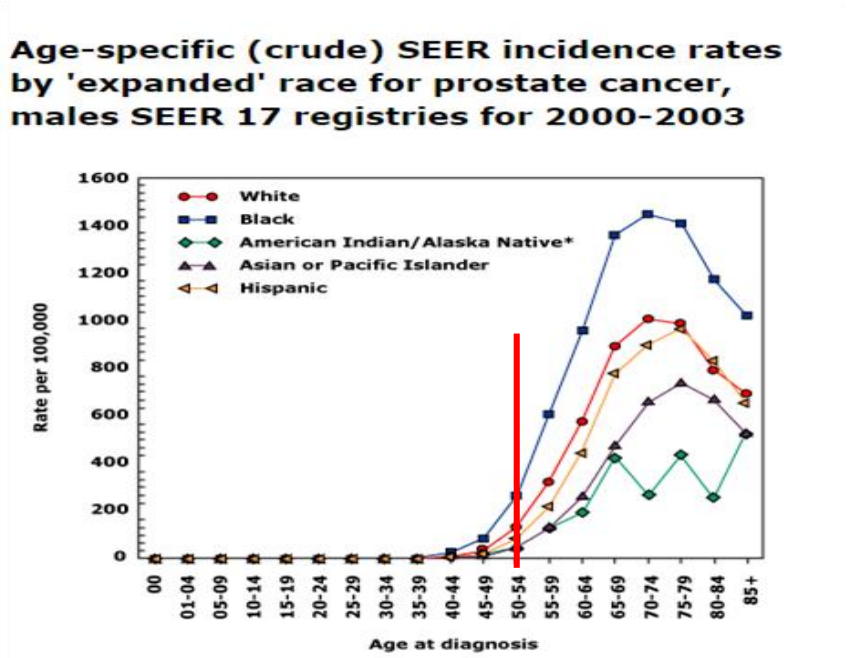
BPH: benign prostatic hyperplasia; UTI: urinary tract infection.
Source: References 1, 5.

Causes and Risk Factors

All men are at risk for developing prostate problems. Age and family history are some of the most common causes of prostate issues; obesity is another major contributor. Prostate cancer and BPH risks increase significantly in males who are older than age 50 years, with nearly 20% of prostate-cancer patients reporting a family history. Obesity is a modifiable risk factor that has been observed to be positively associated with prostate volume. Obesity contributes to increased inflammatory processes and increased intra-abdominal pressure, which contributes to the development of BPH and can worsen lower urinary-tract symptoms (LUTS). Obese patients have been shown to have a 3.5-fold increased risk of prostate enlargement compared with nonobese patients. Other factors such as physical inactivity, diet, and alteration in insulin levels also play a role in the development of BPH and prostate cancer. If prostate health is not managed, potential secondary complications of BPH can lead to renal insufficiency, kidney stones, and urinary tract infections (UTIs). **TABLE 1** describes some of the more common risk factors for prostatitis, BPH, and prostate cancer.[6-9]

MEN'S HEALTH PUBLISHED SEPTEMBER 17, 2021

Risk factors for prostate cancer



- Clinically diagnosed prostate cancer rarely occurs before the age of 40, but the incidence rises rapidly thereafter, peaking between the ages 65 and 74. In data from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) program, the percentages of new cases of prostate cancer for men ages 35 to 44, 45 to 54, 55 to 64, 65 to 74, 75 to 84, and 85 between 2011 and 2015 were 0.5, 9.0, 32.7, 38.8, 15.1, and 3.9 percent, respectively.

Risk factors for prostate cancer

➢ The prevalence of malignancy based on histologic examination of the prostate from men without clinical evidence of prostate cancer is much higher than the rate of clinically diagnosed disease. Although the reported prevalence rates for occult prostate cancer have varied substantially in different studies, the prevalence increased dramatically with age in all studies.

✓ The widespread prevalence of occult prostate cancer in older men and the dramatic increase with age are illustrated by a review of autopsy studies conducted in multiple countries:

- 20 to 30 years, 2 to 8 percent of men with occult cancer
- 31 to 40 years, 9 to 31 percent
- 41 to 50 years, 3 to 43 percent
- 51 to 60 years, 5 to 46 percent
- 61 to 70 years, 14 to 70 percent
- 71 to 80 years, 31 to 83 percent
- 81 to 90 years, 40 to 73 percent

Cancer Control. 2006;13(3):158.

試題三

病人背景　　病人情況　目前困境　　家屬/病人疑問

王太太是個85歲長輩，有高血壓病史並規則服藥。因為三年前中風，不良於行，所以用輪椅代步。王太太日前因為跌倒，到醫院老年醫學科李醫師門診就診，醫師說王太太除了因為步態不穩外才跌倒外，應該也有肌少症 (Sarcopenia)，應該從營養及復健運動來著手，尤其是蛋白質及胺基酸的攝取。因為王太太目前站立及走路有困難，所以會先安排超音波檢查確定肌少症的情況，下次門診再來討論接續照顧應該要注意的事項。您是醫事人員，剛好在李醫師的門診跟診，您很好奇超音波也可以診斷肌少症? 肌少症行動不便的高齡長者，可建議給予哪些運動處方? 需補充哪些蛋白質或胺基酸來改善肌少症?

Muscle Strength, Sarcopenia

For screening and diagnosis of sarcopenia, EWGSOP recommends following the pathway: Find cases-Assess-Confirm-Severity (F-A-C-S).

Find-cases: To identify individuals at risk for sarcopenia, EWGSOP advises use of the SARC-F questionnaire or clinical suspicion to find sarcopenia-associated symptoms.

Assess: To assess for evidence of sarcopenia, EWGSOP recommends use of grip strength or a chair stand measure with specific cut-off-points for each test. For special cases and for research studies, other methods for measurement of strength (knee flexion/extension) can be used.

Confirm: To confirm sarcopenia by detection of low muscle quantity and quality, DXA is advised in clinical practice, and DXA, BIA, CT or MRI in research studies.

Determine **Severity**: Severity can be evaluated by performance measures; gait speed, SPPB, TUG and 400-m walk tests can be used.

1. 依據European Working Group on Sarcopenia in Older People (EWGSOP)，初步評估Sarcopnenia可以用握力、坐到站、膝屈伸做為測試
2. 診斷標準以DXA為主要的gold standard

Muscle Strength, Sarcopenia預後評估項目

1. ASMI(Appendicular skeletal muscle mass index)
2. Grip strength
3. Gait speed

1. ASMI: 藉由DXA評估病患的肌肉量
2. 握力: 評估改善程度
3. Gait speed: 0.8 m/s是一個sarcopenia的指標

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設定PICO

文獻

P	病人情況/疾病名稱→年齡，性別，人種，疾病（特定），共病，狀態
I	目前困境/即將介入→手術確定 術式，藥物（甚至劑量）
C	現有的golden standard→placebo，shame…etc.
O	家屬/病患本身疑問→可量化的數據（事件數，發生率，量表）

各種詞彙

文獻

控制詞彙

MeSH term

Emtree term

如同字典的部首/標籤

自由詞彙

發揮想像

*可以是你的好朋友

Yahoo字典還不錯

補足控制詞彙的遺漏

Subheading

每個主題的次分類

與控制詞彙不同

用於描述文獻中著重的面向或應用

各種資料庫

文獻

- ✓ 隨時調控關鍵字詞
- ✓ 不同資料庫語法不會相同(請不要複製資料庫貼上)
- ✓ Cochrane資料庫為二級資料庫，以邏輯上而言應當優先搜尋並呈現
- ✓ Pubmed搜尋出現驚嘆號，那你也應該驚嘆一下!
- ✓ Pubmed和Medline資料庫同一個，不用找二次
- ~~✓ 評審都知道有時候您先找文現在硬湊搜尋，但請不要太唬爛~~

評讀那件小事

品質

- ✓ Level 1是SR of RCT，但文中納入一堆cohort studies，為何勾選yes?
- ✓ 收錄年份和發表年份相近所以沒問題，文中是否有說明update日期?
- ✓ 文獻中說明有使用RoB評估Bias，勾了yes，然後呢XD?
- ✓ RCT問題中的雙盲應該是受試者和執行者，檢測者是另外一件事!
- ✓ ITT與PP?
- ✓ 臨床異質性 versus統計異質性versus方法異質性→不是I^2決定一切或 Random effect就收工! 且funnel analysis的結果呈現對於文獻所使用的model type也有關係！

數據那些小事

建議

以體重50公斤變成40公斤為例

Absolute risk reduction (ARR)	我體重減了10公斤
Relative risk reduction (RRR)	我體重相對之前體重減少了20%
Relative risk (RR)	我現在體重是之前的80%

When you feel like quitting, think about why you started.