



EBM 연구자 지원을 위한 문헌검색서비스

아산의학도서관 신의수



체계적 논문 고찰 학습을 위한 주요 정보원

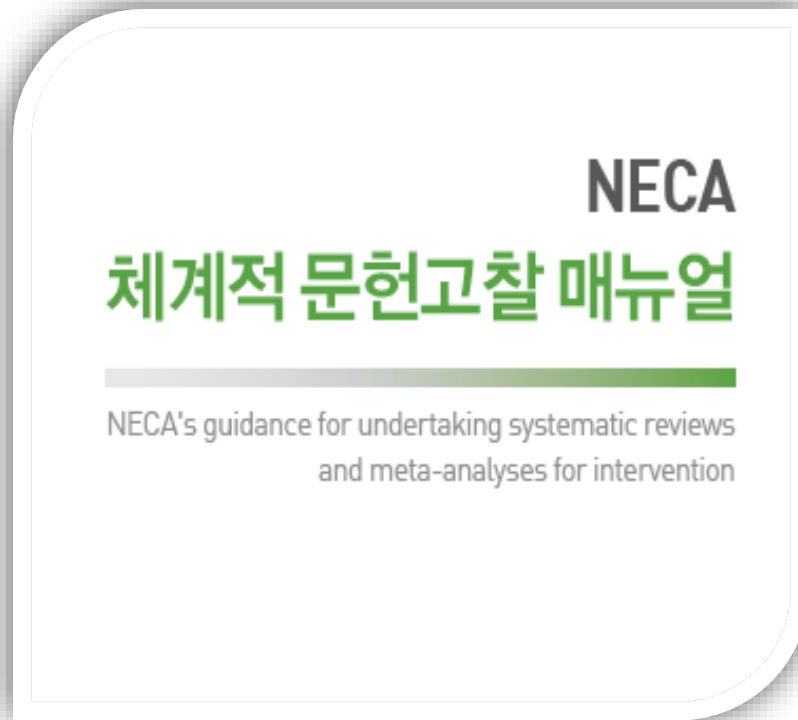


Table 1. PRESS 2015 Guideline Evidence-Based Checklist

Translation of the research question	• Does the search strategy match the research question/PICO? • Are the search concepts clear? • Are there too many or too few PICO elements included? • Are the search concepts too narrow or too broad? • Does the search retrieve too many or too few records? (Please show number of hits per line.) • Are unconventional or complex strategies explained?
Boolean and proximity operators (these vary based on search service)	• Are Boolean or proximity operators used correctly? • Is the use of nesting with brackets appropriate and effective for the search? • If NOT is used, is this likely to result in any unintended exclusions? • Could precision be improved by using proximity operators (eg, adjacent, near, within) or phrase searching instead of AND?
Subject headings (database specific)	• Is the width of proximity operators suitable (eg, might adj5 pick up more variants than adj2)? • Are the subject headings relevant? • Are any relevant subject headings missing; for example, previous index terms? • Are any subject headings too broad or too narrow? • Are subject headings exploded where necessary and vice versa? • Are major headings ("starring" or restrict to focus) used? If so, is there adequate justification? • Are subheadings missing? • Are subheadings attached to subject headings? (Floating subheadings may be preferred.) • Are floating subheadings relevant and used appropriately? • Are both subject headings and terms in free text (see the following) used for each concept?
Text word searching (free text)	• Does the search include all spelling variants in free text (eg, UK vs. US spelling)? • Does the search include all synonyms or antonyms (eg, opposites)? • Does the search capture relevant truncation (ie, is truncation at the correct place)? • Is the truncation too broad or too narrow? • Are acronyms or abbreviations used appropriately? Do they capture irrelevant material? Are the full terms also included? • Are the keywords specific enough or too broad? Are too many or too few keywords used? Are stop words used? • Have the appropriate fields been searched; for example, is the choice of the text word fields (.tw.) or all fields (.af.) appropriate? Are there any other fields to be included or excluded (database specific)?
Spelling, syntax, and line numbers	• Should any long strings be broken into several shorter search statements? • Are there any spelling errors? • Are there any errors in system syntax; for example, the use of a truncation symbol from a different search interface? • Are there incorrect line combinations or orphan lines (ie, lines that are not referred to in the final summation that could indicate an error in an AND or OR statement)?
Limits and filters	• Are all limits and filters used appropriately and are they relevant given the research question? • Are all limits and filters used appropriately and are they relevant for the database? • Are any potentially helpful limits or filters missing? Are the limits or filters too broad or too narrow? Can any limits or filters be added or taken away? • Are sources cited for the filters used?

Abbreviation: PICO, population/problem, intervention/exposure, comparison, outcome.

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<http://handbook-5-1.cochrane.org/>

Contents Search

Search

Home > Front page

- Front page
- Handbook information
- Part 1: Cochrane reviews
- Part 2: General methods for Cochrane reviews**
- 5 Defining the review question and developing criteria for including studies
- 6 Searching for studies
- 7 Selecting studies and collecting data
- 8 Assessing risk of bias in included studies
- 9 Analysing data and undertaking meta-analyses
- 10 Addressing reporting biases
- 11 Presenting results and 'Summary of findings' tables
- 12 Interpreting results and drawing conclusions
- Part 3: Special topics
- Additional material

Cochrane Handbook for Systematic Reviews of Interventions



THE COCHRANE COLLABORATION®

Version 5.1.0
[updated March 2011]

Editors: Julian PT Higgins and Sally Green

Cochrane Handbook Ver. 5.1.0
Part 2에 자세하게 방법론 기술

-> 현재 Ver. 6 제공(계정 필요)

검색서비스 Flow

1. 신청 단계

신청목적 파악

- SR 투고 / Practice guideline
- PICO, 연구계획서, 목표 등 수령
- Article Type, Methods, Setting

2. 검색어 선정

PICO T/M/S

- 시소러스: MeSH, Emtree 및 동의어(유사어)
- 파일럿 검색: 자연어, 관련 논문 검색식 참조

Practice Guideline 개발

- Practice Guideline 검색
 - NICE 등의 기관사이트
 - 서지 DB

- Search Strategy 작성
- 서지 DB에서 검색 수행

Systematic Review 투고

❖ 선행연구(SR, Meta-analysis)와 신청 조건에 맞는 검색을 함께...

- Search Strategy 작성
- 서지 DB에서 검색 수행

3. 선행 연구

4. 검색 수행

5. 제공 및 피드백

결과 제공

- 검색 전략(검색식) 및 초록파일: 엑셀, 워드 등
- Endnote: DB별 제공, 통합중복배제 파일



서비스 신청 목적 SR & Practice Guideline

2K X LICENSE GUIDELINE



왜 연구자들은 도서관에 체계적 논문고찰 **검색지원**을 요청하는가?



임상진료지침 개발
(Practice Guideline)

- 국가:
학회중심의 가이드라인 개발

- 병원 내부(간호부 등)
PI활동 등의 근거중심 개선

학술지 Review 투고
(Systematic Review)

Systematic Reviews & Practice Guidelines

Practice Guideline

1) 개발계획

2) 개발과정

수용개발

(1) 핵심질문 선정

(2) **지침** 검색

(3) 지침의 평가 및 요약

신규개발

(1) 핵심질문 선정

(2) **근거** 검색

(3) 근거의 평가 및 요약

3) 검토 및 수정

4) 승인

5) 발행 및 배포

6) 실행- 지침에 따른 진료, 간호 등

Systematic Review

2011- HIRA(한국 건강보험심사평가원)
체계적 문헌고찰 지침서

1) 수행팀/자문단 구성, 프로토콜 작성

2) **검색전략 세우기 및 검색 수행**

3) 문헌 선택 및 배제

4) 데이터 추출

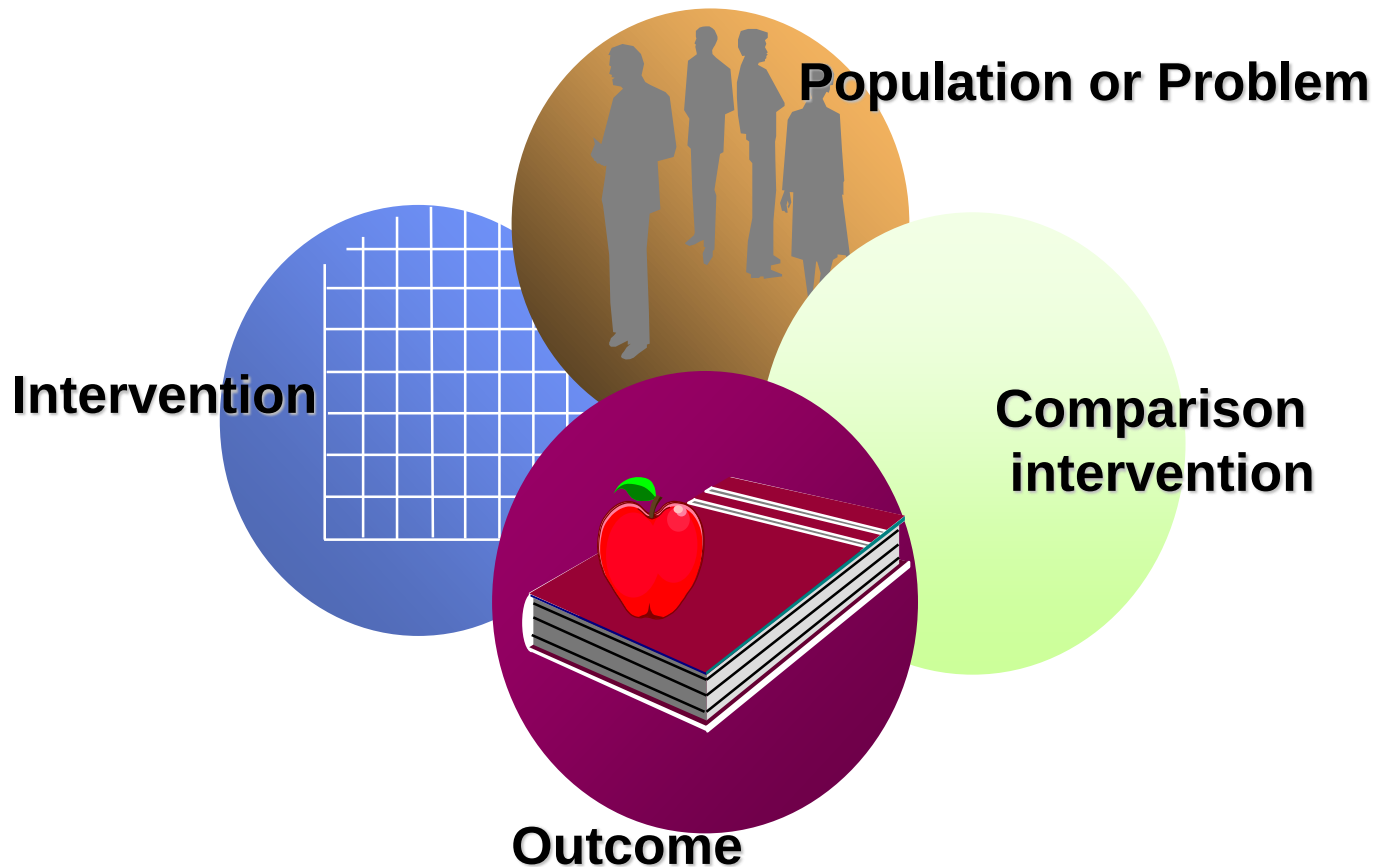
5) 비뚤임 위험 평가

6) 데이터 통합

7) 논문 OR 보고서 작성하기

PICO 설계 및 입수

1. 임상문제 구조화하기 (PICO)



The PICO Framework (Sackett et al, 1997)

PICO 설계 및 입수

2. PICO Question examples

1) 당뇨를 가진 임신한 여성에서 Insulin pump 치료가 효과적인가?

POPULATION	INTERVENTION	COMPARISON	OUTCOME
Pregnant women with diabetes	Insulin pump therapy	Conventional insulin therapy	glucose levels pregnancy effectiveness Treatment outcome

2) 조기 유방암에서 변형 근치적 절제술과 보존술은 장기 생존률에 차이가 있는가?

POPULATION	INTERVENTION	COMPARISON	OUTCOME
early breast cancer	modified radical mastectomy	• conserving surgery • Mastectomy, Segmental	• long-term survival • Mortality

아산의학도서관 SR 신청서 예시

1. 임상질문을 PICO로 구조화

임상질문 : "Metformin +/- sulfonylurea" 사용 중인 2형 당뇨병환자에서

SGLT2 inhibitor add-on과 GLP-1 agonist add-on의 효과 및 안정성 비교 분석

PICO	임상 질문 정의
Patients/Problem (대상/문제)	"Metformin +/- sulfonylurea" 사용 중인 2형 당뇨병환자
Intervention (치료법 : 중재)	SGLT2 inhibitor add-on
Comparison (비교 치료법)	GLP-1 agonist add-on
Outcome (결과)	HbA1c, FPG, PP2, hypoglycemia, body weight, lipid profile

2. 검색을 위한 Protocol

검색 키워드 : PPT 참조하여 주세요. Red box에 있는 것을 따로 따로 검색 부탁드립니다. 총

2 set가 될 것 같습니다. 혹시 제 PPT에 없더라도, 신약 등을 포함하여 관련 MeSH에 포함된 약제는 모두 추가해 주시면 됩니다.

기본 제한 조건

Species(종) : Humans ☐ Animals ☐ All ☐

SEX(성별) : Male ☐ Female ☐ All ☐

Ages(연령) : 모든 연령 언어 : English 출판년도 : 제한 없음

3. EBM 개발 방법

	Adaptation(수용개발)	De Novo(신규개발)
Article type	Practice guideline ☐ Guideline ☐ Systematic Reviews ☐ Consensus ☐	Randomized Controlled Trials ☐ Controlled Clinical Trial ☐ Meta-analysis ☐ Systematic Reviews ☐ Cohort ☐ case ☐ All ☐
검색 DB (해당 O표시)	* Pubmed/Embase/CINAHL * 가이드라인 검색 * Cochrane library(Reviews) * Dynamed/Uptodate/ Nursing reference center * WHO, NGC, SIGN, NICE, RAO(간호학) 기타 기관	* Pubmed * Embase * CINAHL * Scopus * Cochrane library(Trials)
연구방법/주제어	Practice guideline, Guideline, Recommendation, level of evidence, evidence grade	Randomized cotrolled trials as topic, Meta-analysis, Systematic Review, Epidemiologic studies etc.....

▶ 목표혈압 기준에 대한 체계적 문헌고찰 및 메타분석(SR/Meta-analysis): PICO

- 'BP targets'에 대한 SR/Meta-analysis를 수행하기 위하여 PICO를 논의함.

① 'Population'에 대한 논의

- 성인을 연구 대상으로 하되, 모든 연구대상을 포함 한 후 다음과 같이 분류하여 하위분석(subgroup analysis)을 수행하기로 함.
 - ✓ 노인 여부(노인에 대한 연령기준은 향후 논의)
 - ✓ 동반질환 여부(당뇨병, 심혈관 질환, 뇌졸중, CKD 등)
- Systolic Blood Pressure(SBP)와 Diastolic Blood Pressure(DBP) 측정치를 모두 분석에 사용하기로 함.

② 'Intervention, Comparison'에 대한 논의

- Intervention: 혈압강화치료(antihypertensive drug therapy, BP lowering treatment), 기존에 충분히 많은 연구가 이루어 진 바 있으므로 치료에 사용한 약물은 별도로 구분하여 분석하지는 않기로 함.
- Comparison: 2 종류의 comparison을 연구에서 포함하기로 함.
 - ✓ Comparison 1: BP lowering treatment vs. Placebo
 - ✓ Comparison 2: (two treatment arms)
 - Lower BP target (or more intensive) vs. Standard target (or less intensive)
 - ♦ Standard BP: SBP 150, 140, 130, DBP 90, 85, 80 세 그룹으로 각각 분류해서 분석하기로 함

③ 'Outcome'에 대한 논의

- 분석에 포함할 Outcome은 다음과 같음.
 - ✓ 평균 혈압 측정치의 변화 (Baseline SBP 및 DBP, achieved SBP 및 DBP, difference)
 - ✓ Serious adverse events: cardiovascular, total
 - ✓ Stroke: fatal, non-fatal
 - ✓ Mortality: cardiovascular deaths, all cause-mortality

④ 기타 논의

- 문헌 유형: RCTs 문헌만 포함하기로 함.
- 문헌 검색기간: 1991년부터 2015년 현재까지 출판된 문헌을 검색하기로 함.
- 혈압강화 약물치료 기간: 1년 이상인 경우에 연구에 포함하기로 함.
- 언어: 현재 우리나라에서 출판된 RCT가 없으므로, 영문으로 출판된 문헌만을 포함하기로 함.

- 'BP targets' 주제의 SR/Meta-analysis를 위한 체계적 문헌검색 수행에 포함할 검색 자료원(D/B)을 검토한 후 'MEDLINE, EMBASE, Cochrane (CENTRAL)' 3개를 선정함.

국가가이드라인 개발
PICO 예시



SR 검색어 선정

통제 주제어 / 자연어

Truncation / Wildcard...

Boolean Operator & parentheses

Type / Design /Method



PICO를 어떻게 검색어로 전환해야 하는가???



최대한 빠지지 않고 검색
민감도 > 적합도

벤치 마킹 & 파일럿 검색

다양한 정보원에서 가능한 모든 문헌을
검색하고자 하는 노력 *

- Pubmed(Medline)만으로 충분하지 않음
- 통제주제어와 자연어의 조합
- 제한된 검색 지양
- Boolean, Truncation의 적절한 활용
- 연구방법: 아티클타입+통제주제어+자연어

- Cochrane Review, SR 아티클 등에서 동일주제의 검색전략을 참고
- 파일럿 검색(예: Mesh 위주)으로 포함되어야 할 검색어(자연어) 확인

검색어 선정



Controlled vocabulary(통제 주제어)

주요 Database	Has Controlled vocabulary?
Pubmed(Medline)	MeSH (Medical subject headings)
Cochrane Library	MeSH (Medical subject headings)
CINAHL	CINAHL Headings
EMBASE	EMTREE
Scopus	EMTREE를 문헌에 제공 (But 검색방법 없음)
Web of science	NO (텍스트 검색 기반)
EBM 전문 DB	
Google 등 기타	



Controlled vocabulary(통제 주제어) 고려사항

1. 상위 통제주제어(MeSH, Emtree)로 색인되어 있을 가능성 확인

-> explode(explosion) 적용하여 함께 포함

ex 1) Total Parenteral Nutrition(TPN)관련 논문의 MeSH 색인

Parenteral nutrition, Total[Mesh]

Parenteral nutrition [Mesh:NoExp]

ex 2) COPD 관련 논문의 MeSH 색인

Pulmonary Disease, Chronic Obstructive[Mesh]

Lung Diseases, Obstructive[Mesh:NoExp]

ex 3) Non-small Cell Lung cancer(비소세포폐암)관련 논문의 MeSH 색인

Carcinoma, Non-Small-Cell Lung[Mesh]

Lung Neoplasms[Mesh:NoExp]



Controlled vocabulary(통제 주제어) 고려사항

2. Subheading의 효율적 활용

ex) 간암의 화학요법에 관한 검색

#1: "Liver Neoplasms/drug therapy"[Mesh]

#2: "Liver Neoplasms"[Mesh] OR Liver Cancer*[TIAB].....

#3: Drug Therapy[Mesh] OR Chemotherap*[TIAB].....

#4: #2 AND #3

#5: #1 OR #4

*** 반드시 Subheading 색인 규칙에 맞는 활용이어야 함.

-> 색인 규칙을 모르거나 확실하지 않다면, 활용하지 않음



자연어 선정시 참고

Tree Number(s): C04.588.180, C17.800.090.500

Entry Terms:

- Breast Neoplasm
- Neoplasm, Breast
- Neoplasms, Breast
- Tumors, Breast
- Breast Tumors
- Breast Tumor
- Tumor, Breast
- Mammary Neoplasms, Human
- Human Mammary Neoplasm
- Human Mammary Neoplasms
- Neoplasm, Human Mammary
- Neoplasms, Human Mammary
- Mammary Neoplasm, Human
- Mammary Carcinoma, Human
- Carcinoma, Human Mammary
- Carcinomas, Human Mammary
- Human Mammary Carcinomas
- Mammary Carcinomas, Human
- Human Mammary Carcinoma
- Breast Cancer
- Cancer, Breast
- Cancer of Breast
- Mammary Cancer
- Malignant Neoplasm of Breast
- Malignant Tumor of Breast
- Breast Carcinoma
- Cancer of the Breast

[All MeSH Categories](#)

[Diseases Category](#)

[Neoplasms](#)

[Neoplasms by Site](#)

Breast Neoplasms

[Breast Neoplasms, Male](#)

[Carcinoma, Ductal, Breast](#)

[Hereditary Breast and Ovarian Cancer Syndrome](#)

[Inflammatory Breast Neoplasms](#)

[Triple Negative Breast Neoplasms](#)

* Entry Terms

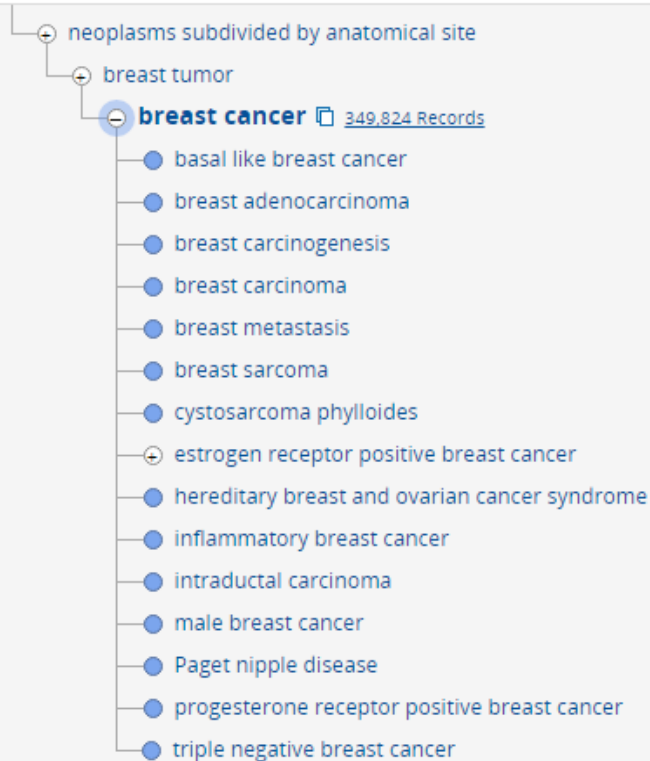
: Mesh로 색인되는 동의어(대등관계)



자연어 선정시 참고

Embase® Browse Emtree

Search ▾ Browse ▾ Results Tools ▾

*** Synonyms**

: Emtree로 색인되는 동의어(대등관계)

History

This term was added to Emtree in 1974

Synonyms

advanced breast cancer; breast cancer recurrence; breast gland cancer; breast gland neoplasm; cancer, breast; mamma cancer; mammary cancer; mammary gland cancer



자연어 선정시 참고

- ☐ [Should women younger than 40 years of age with invasive **breast cancer** have a **mastectomy**? 15-year outcomes in a population-based cohort.](#)
 1. Cao JQ, Truong PT, Olivotto IA, Olson R, Coulombe G, Keyes M, Weir L, Gelmon K, Bernstein V, Woods R, Speers C, Tyldesley S.
Int J Radiat Oncol Biol Phys. 2014 Nov 1;90(3):509-17. doi: 10.1016/j.ijrobp.2014.06.041. Epub 2014 Sep 3.
PMID: 25194665
[Related citations](#)
- ☐ [Adjusting **breast cancer** patient prognosis with non-HER2-gene patterns on chromosome 17.](#)
 2. Kotoula V, Bobos M, Alexopoulos Z, Panadimitriou C, Panadopoulos K, Charalambous E, Tsolaki E, Xepapadakis G, Nifli M, Fountzilas G.
PLoS One. 2014 Aug 14;9(8):e102014. doi: 10.1371/journal.pone.0102014. Epub 2014 Aug 14.
PMID: 25098819 **Free Article**
[Related citations](#)
- ☐ [\[Treatment patterns and affecting factors in **breast cancer** patients over 65-years of age\].](#)
 3. Mao Y, Chen X, Gao W, Liu J, Shen K.
Zhonghua Zhong Liu Za Zhi. 2014 May;36(5):366-71. Chinese.
PMID: 25030593
[Related citations](#)
- ☐ [Oncoplastic breast **conserving** surgery with nipple-areolar preservation for centrally located **breast cancer**: a retrospective cohort study.](#)
 4. Ren ZJ, Li XJ, Xu XY, Xia L, Tang JH.
Asian Pac J Cancer Prev. 2014;15(12):4847-9.
PMID: 24998551 **Free Article**
[Related citations](#)

* 파일럿 검색

: 실제 논문에 사용되는 검색어 점검



자연어 선정시 참고

1	MeSH descriptor: [Taxoids] explode all trees
2	docetaxel:ti,ab,kw or taxotere:ti,ab,kw or docetad:ti,ab,kw (Word variations have been searched)
3	paclitaxel:ti,ab,kw or taxane*:ti,ab,kw (Word variations have been searched)
4	#1 or #2 or #3
5	MeSH descriptor: [Breast Neoplasms] explode all trees
6	MeSH descriptor: [Prostatic Neoplasms] explode all trees
7	breast near/2 cancer:ti,ab,kw or breast near/2 neoplasm*:ti,ab,kw or breast near/2 carcinoma*:ti,ab,kw (Word variations have been searched)
8	prostat* near/2 cancer:ti,ab,kw or prostat* near/2 neoplasm*:ti,ab,kw or prostat* near/2 carcinoma*:ti,ab,kw (Word variations have been searched)
9	#5 or #6 or #7 or #8
10	#4 and #9
11	MeSH descriptor: [Pain] explode all trees
12	pain:ti,ab,kw or Arthralgia*:ti,ab,kw or myalgia*:ti,ab,kw (Word variations have been searched)
13	MeSH descriptor: [Myalgia] explode all trees
14	MeSH descriptor: [Arthralgia] explode all trees
15	#11 or #12 or #13 or #14

Search Strategy for EMBASE via OvidSP to Identify Potential Articles

- (1) Clinical trial/
- (2) Randomized controlled trial/
- (3) Randomization/
- (4) Single blind procedure/
- (5) Double blind procedure/
- (6) Crossover procedure/
- (7) Placebo/
- (8) Randomized controlled trial\$.tw.
- (9) Rct.tw.

* Systematic Review

: SR 논문에서 검색 전략식 참고

- (15) Double blind\$.tw.
- (16) ((treble or triple) adj (blind\$)).tw.
- (17) Placebo\$.tw.
- (18) Prospective study/
- (19) Or/1-18
- (20) Case study/
- (21) Case report.tw.
- (22) Abstract report/or letter/
- (23) Or/20-22
- (24) 19 not 23
- (25) exp breast neoplasms/
- (26) (breast adj5 neoplasm\$).ti,ab.
- (27) (breast adj5 cancer\$).ti,ab.
- (28) (breast adj5 tumor\$).ti,ab.
- (29) (breast adj5 carcinoma\$).ti,ab.
- (30) (breast adj5 adenocarcinoma\$).ti,ab.
- (31) (breast adj5 dcis).ti,ab.
- (32) (breast adj5 ductal).ti,ab.
- (33) (breast adj5 sarcoma\$).ti,ab.
- (34) (breast adj5 infiltrating).ti,ab.
- (35) (breast adj5 intraductal).ti,ab.
- (36) (breast adj5 lobular).ti,ab.
- (37) (breast adj5 medullary).ti,ab.
- (38) Or/25-37



자연어 선정시 참고

Searches



1 exp Breast Neoplasms/

2 breast cancer.mp.

3 1 or 2

4 exp Diagnosis/

5 diagnosis.ab,ti,t

6 screening.ab,ti,tw.

7 exp Mass Screening/

8 mass screening.ab,ti,tw.

9 exp "Early Detection of Cancer"/

10 4 or 5 or 6 or 7 or 8 or 9

11 3 and 10

12 exp Mammography/

13 mammograph*.ab,ti,tw.

*** Cochrane Library**

: Review 에서 검색 전략식 참고



자연어 선정 시 참고사항

1. 다른 항목의 검색어와 연결할때 전체 단어를 반드시 입력해야 하는가???

ex 1) Fine needle aspiration biopsy[TIAB]: 6,030 건 (Pubmed)

"Fine needle"[TIAB] AND "aspiration"[TIAB] AND "biopsy"[TIAB]: 10,401 건

"Fine Needle"[TIAB] AND Biopsy*[TIAB]: 12,273 건

"Fine Needle"[TIAB] : 27,582 건

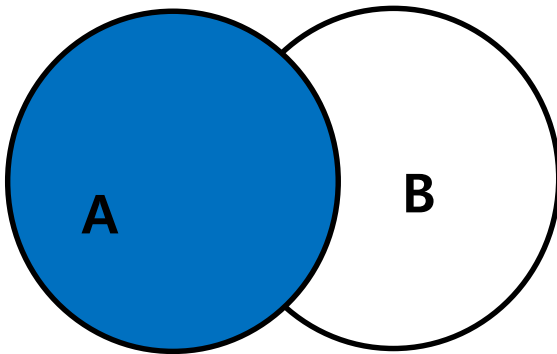
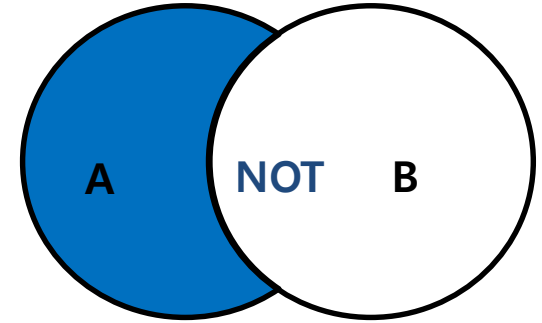
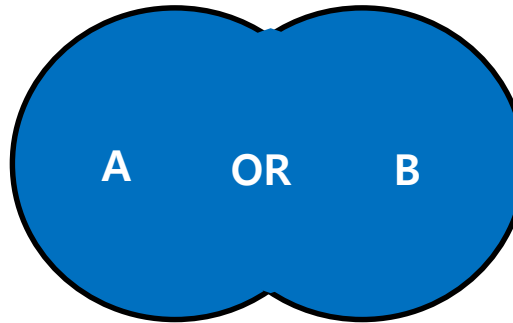
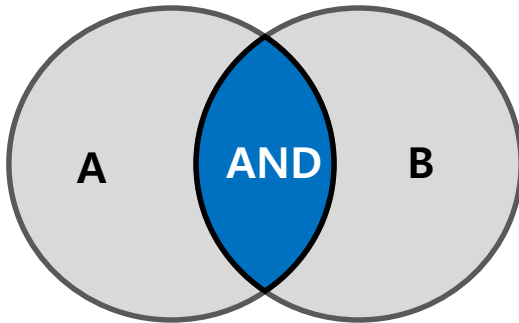
2. 불용어, 불필요한 검색어 등을 배제하라

ex 1) 전치사, 부사, 형용사 등은 Stop words

ex 2) Cancer patients -> Cancer AND **Patients (X)** / Cancer (O)



Boolean Operators & () parentheses



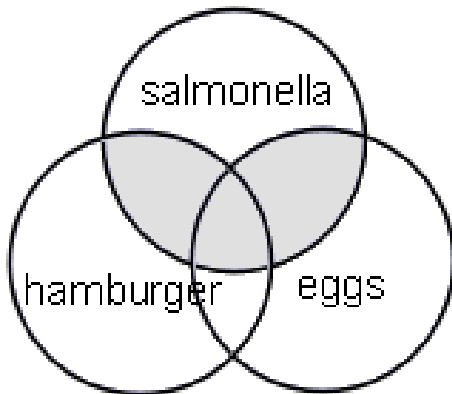
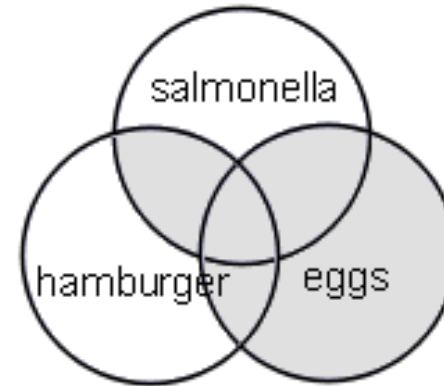
NOT B:
좌측의 형태가 되는 것은 아님



() parentheses & Nesting

❖ 여러 개의 Boolean Operator를 활용할때, Process는 좌측에서 우측으로 적용된다.

salmonella AND hamburger OR eggs



Salmonella AND (hamburger OR eggs)

◆ **Nesting:** 검색 프로세스를 변경하기 위하여 ()로 묶으면 우선 검색하는 것



절단자(truncation) 및 어구(Phrase) 검색

주요 절단자	Wildcards/ truncation - asterisk (*) - question mark (?)	인접 검색	Exact Phrase
Cochrane (Wiley)	시작, 중간, 끝 모두 가능 sul*ur -> sulfur, sulphur Wom?n -> women, woman	1. NEAR/n(숫자): 없으면 6개 단어 내 Diabetes NEAR/3 control 2. NEXT Diabetes NEXT control	"sleep disorders"
Embase (Elsevier)	중간, 끝 가능	1. NEAR/n(숫자) 2. NEXT/n(숫자)	'sleep disorders'
Pubmed	끝 가능(600 단어까지) PubMed supports only end-truncation. There is no single character symbol random* -> randomised, randomized, randomly....	X	"sleep disorders" sleep disorders[TIAB]
기타(기관)	대부분 허용	대부분 X	" " 또는 ' '
주의 사항	지나친 단어절단 지양	Bias?? 숫자의 범위에 따라 달라짐 SR 검색에 필요 있을까???	Bias?? 다양한 표현의 가능성 꼭 필요한 주제어가 아니면 지양



민감도 높은 검색어 선정



통제주제어

파일럿 검색
&
선행 SR 참고

자연어 조합



연구 방법(Study design)

1) 실험 연구 : **Clinical Trials as Topic**

: 연구자가 약물, 수술방법 등의 처리를 연구대상자에게 실시한 후에 그에 따른 효과를 측정함으로써 주어진 처리 와 그에 따른 반응간의 인과관계를 규명하고자 하는 것

: 연구대상자가 사람이면 임상시험(clinical trials)

A. 무작위 대조시험: **Randomized Controlled Trial**

B. 비 무작위 대조시험: **Controlled Clinical Trial**

C. 임상시험 : **Clinical Trial(I~IV)**

2) 역학 연구 : **Epidemiologic Studies**

: 한 집단 또는 여러집단의 환자들의 상태와 특성을 단순히 관찰하여 분석하는 것

A. 사례-대조 연구(case-control study, 후향연구(retrospective study))

B. 현황연구(cross-sectional study)

C. 코호트 연구(cohort study, 전향연구(prospective study))

연구 방법 MeSH Tree

Epidemiologic Methods

Epidemiologic Study Characteristics as Topic

Clinical Trials as Topic +

Clinical Trials, Phase I as Topic

Clinical Trials, Phase II as Topic

Clinical Trials, Phase III as Topic

Clinical Trials, Phase IV as Topic

Controlled Clinical Trials as Topic +

Randomized Controlled Trials as Topic

Pragmatic Clinical Trials as Topic

Multicenter Studies as Topic

Observational Study as Topic

Epidemiologic Studies +

Case-Control Studies

Retrospective Studies

Cohort Studies

Follow-Up Studies

Longitudinal Studies

National Longitudinal Study of Adolescent Health

Prospective Studies

Retrospective Studies

Cross-Sectional Studies

Seroepidemiologic Studies

HIV Seroprevalence



출판 유형(Publication Type)

- Randomized Controlled Trial : 무작위 통제 시험
- Controlled Clinical Trial(통제 임상시험) : 한 개 이상의 치료법(시험군)과
한 개 이상의 대조 치료법/연구된 중재를 평가하기 위한 임상시험
- Clinical Trial(I~IV): 임상시험
- Muticenter Study : 여러기관이 협력하여 수행한 통제연구
- Observational Study , Case reports : 관찰연구, 사례 보고서 등의 정성적 출판 유형
- Meta-Analysis(메타분석) : 논문에서 추출한 결과 데이터를 추출/결합/요약/결론에
이르는 양적 분석 방법
- Systematic (**Review**) : RCT, trial, cohort 등의 논문타입/연구방법을 취합하여
Meta 분석하거나 체계적으로 검토한 논문

* Article Type / Study Design / Method 를 Sensitive 하게 검색하려면....

연구방법, 아티클타입, 어구검색을 조합하여 활용

-> 서지 데이터베이스의 **Filters, Limits**만으로 제한해서는 안됨

("Randomized Controlled Trial"[ptyp] OR "Randomized Controlled Trials as topic"[Mesh]
OR "Controlled Clinical Trial"[ptyp] OR "Meta-Analysis"[ptyp] OR Meta-Analysis as Topic[Mesh]
OR systematic[sb] OR Multicenter Study[ptyp] OR Double-Blind OR triple-Blind
OR Randomized Controlled Trial OR Randomised Controlled Trial OR Controlled trials
OR Meta-Anal* OR systematic review OR Systematic OR placebo* OR random* OR Multicenter*)

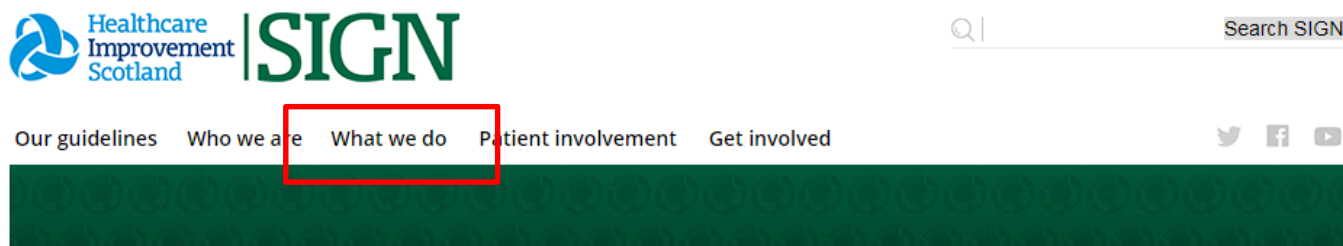
Epidemiologic Studies는 Mesh(연구방법)으로 색인

-> 아티클 타입으로 색인되지 않음

예) Cohort Studies, Case-Control Studies, Retrospective Studies, Follow-Up Studies 등

A. 연구 방법/출판 유형 검색식

SIGN Search Filters (Medline/EMBASE/CINAHL)



Search filters

Action plan

Methodology

Checklists

How are guidelines developed?

Methodological principles

Search filters

SIGN 50

What are guidelines?

Implementation support

Involving patients

Collaboration

Publications



Search filters

Search filters are pre-tested strategies that identify the higher quality evidence from the vast amounts of literature indexed in the major medical databases. Filters exist for most types of experimental design, and are comprised of index terms relating to study type and specific terms associated with the methodological description of good experimental design.

The search filters used by SIGN are developed in-house or are created by other research organisations and adapted to meet SIGN information needs. SIGN's filters may provide less sensitive searches than used by other systematic reviewers such as The Cochrane Collaboration, but enable the retrieval of medical studies that are most likely to match SIGN's methodological criteria.

SIGN has devised suitable strategies for running each search filter in

Resources

[Systematic reviews](#) (Word)

[Randomised controlled trials](#)
(Word)

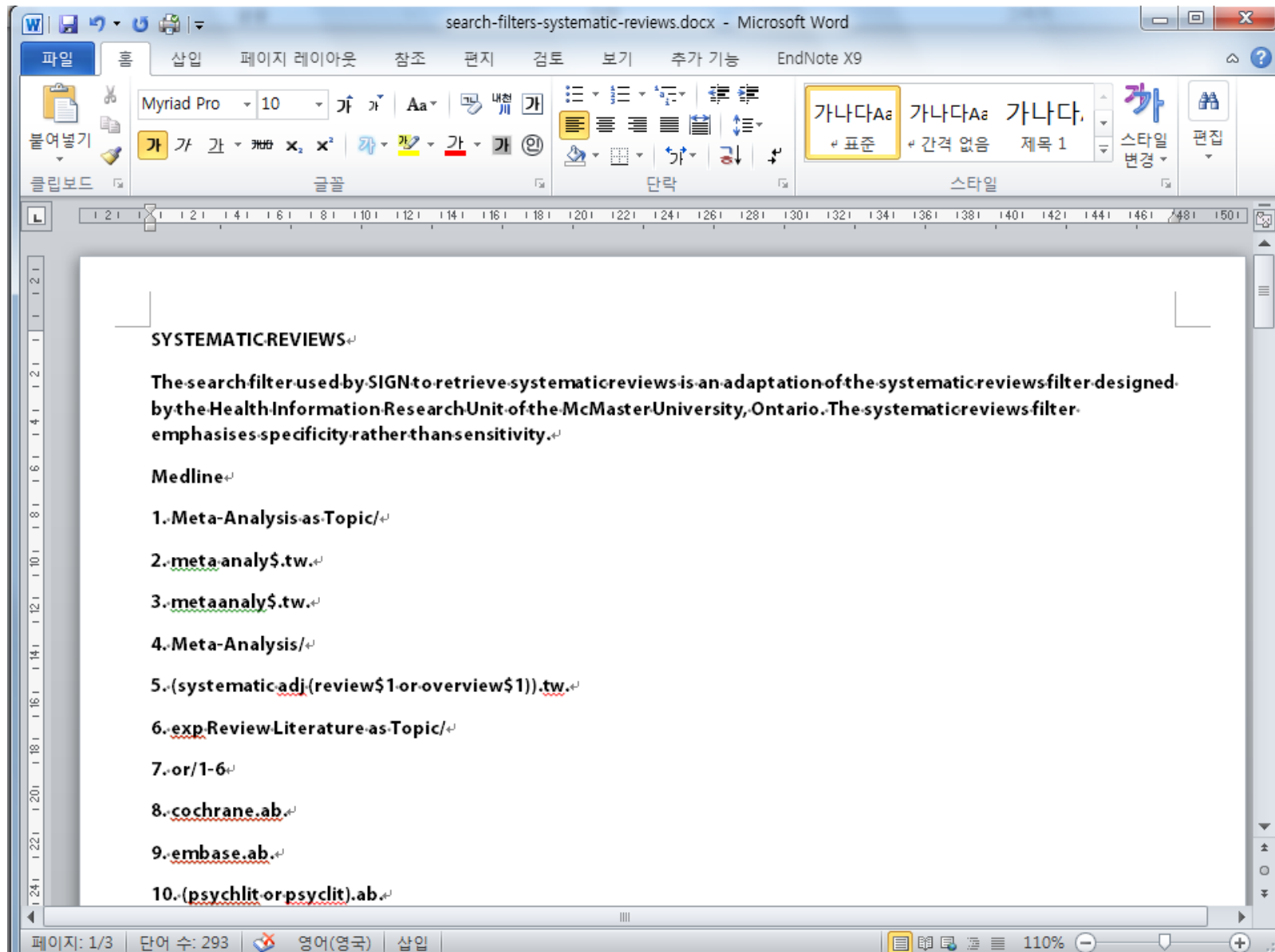
[Observational studies](#) (Word)

[Diagnostic studies](#) (Word)

[Economic studies](#) (Word)

[Patient issues](#) (Word)

<https://www.sign.ac.uk/search-filters.html>



A. 연구 방법/출판 유형 검색식

Cochrane Search Filters

Contents Search - Search - Go

Home > [Part 2: General methods for Cochrane reviews](#) > [6 Searching for studies](#) > [6.4 Designing search strategies](#) > 6.4.11 Search filters

6.4.11 Search filters

6.4.11.1 The Cochrane Highly Sensitive Search Strategies for identifying randomized trials in MEDLINE

[Box 6.4.a: Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity-maximizing version \(2008 revision\); PubMed format](#)

[Box 6.4.b: Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity- and precision-maximizing version \(2008 revision\); PubMed format](#)

[Box 6.4.c: Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity-maximizing version \(2008 revision\); Ovid format](#)

[Box 6.4.d: Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity- and precision-maximizing version \(2008 revision\); Ovid format](#)

6.4.11.2 Search filters for identifying randomized trials in EMBASE

- Front page
- Handbook information
- Part 1: Cochrane reviews
- Part 2: General methods for Cochrane reviews
 - 5 Defining the review question and objectives
 - 6 Searching for studies
 - 6.1 Introduction
 - 6.2 Sources to search
 - 6.3 Planning the search process
 - 6.4 Designing search strategies
 - 6.4.1 Designing search strategies
 - 6.4.2 Structure of a search strategy
 - 6.4.3 Service providers and searchers
 - 6.4.4 Sensitivity versus precision
 - 6.4.5 Controlled vocabulary
 - 6.4.6 Synonyms, related terms
 - 6.4.7 Boolean operators (AND, OR, NOT)
 - Figure 6.4.a: Combining concepts
 - 6.4.8 Proximity operators (N, W, B, A, F)
 - 6.4.9 Language, date and document type
 - 6.4.10 Identifying fraudulent studies
 - 6.4.11 Search filters**
 - 6.4.12 Updating searches
 - 6.4.13 Demonstration search
 - Box 6.4.e: Demonstration search
 - Box 6.4.f: Demonstration search
 - 6.4.14 Summary points



PICO (M/T) 정리 : RCT/Meta/SR 대상 (Pubmed 기준)

PICO	Mesh 주제어	타이틀/초록
P	Neoplasm Staging[Mesh]	early[TIAB] OR stage I[TIAB] OR stage II[TIAB] OR ((T0 OR T1) AND (N0 OR N1mi) AND M0)
	AND	
	Breast Neoplasms[Mesh]	Breast Neoplasm*[TIAB] OR Breast cancer[TIAB] OR Breast tumor*[TIAB] OR Breast tumour*[TIAB]
I	Mastectomy, Modified Radical[Mesh]	Modified[TIAB] AND Radical[TIAB] AND Mastectomy[TIAB]
C	Mastectomy, Segmental[Mesh]	conserving[TIAB] OR Segmental[TIAB]
O	"Survival Analysis"[Mesh] OR "Survival Rate"[Mesh] OR "Disease-Free Survival"[Mesh] OR "Mortality"[Mesh] OR "mortality" [Subheading]	Survival[TIAB] OR mortality[TIAB] OR disease-free[TIAB]
Methodology / Type (SIGN Filter 참조)	"Randomized Controlled Trial"[ptyp] OR "Randomized Controlled Trials as topic"[Mesh] OR "Controlled Clinical Trial"[ptyp] OR "Meta-Analysis"[ptyp] OR Meta-Analysis as Topic[Mesh] OR systematic[sb] OR Multicenter Study[ptyp]	Double-Blind OR triple-Blind OR Randomized Control led Trial OR Randomised Controlled Trial OR Controlled trials OR Meta-Anal* OR systematic review OR Systematic OR placebo* OR random* OR Multicenter*



임상진료지침 검색

Practice Guideline

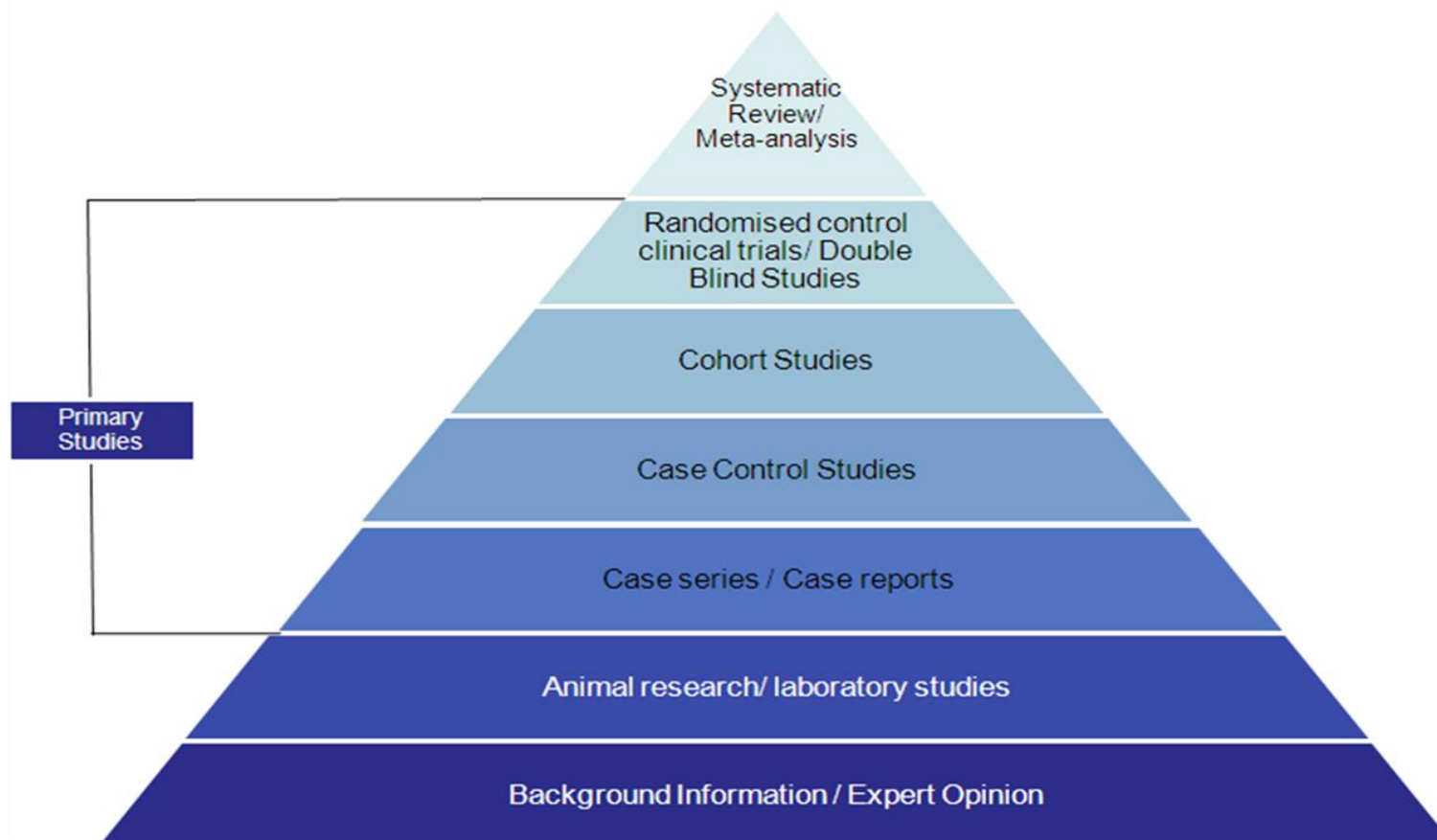
등급과 권고

Practice Guideline

주요 정보원

EBM Pyramid: 연구방법/출판유형 구조

EBM: Types of Evidence



근거 수준 및 권고의 등급화

일차 의료용 당뇨병 임상진료지침 근거기반 권고 요약본 2014

근거수준의 등급화

권고초안 도출의 근거자료로 사용된 문헌(혹은 지침)은 다음의 기준을 적용하여 진료지침개발그룹에서 근거수준 등급을 네 가지로 분류하여 제시하였음.

근거수준	정의
A	권고도출의 근거가 명백한 경우 1개 이상의 무작위임상연구(RCT) 혹은 메타분석(Meta-analysis) 혹은 체계적 문헌고찰(SR)
B	권고도출의 근거가 신뢰할 만한 경우 1개 이상의 잘 수행된 환자 대조군 연구 혹은 코호트 연구와 같은 비 무작위임상연구(Non-RCT)
C	권고도출의 근거가 있으나 신뢰할 수는 없는 경우 관찰연구, 증례보고와 같은 낮은 수준의 관련근거
D	권고도출의 근거가 임상경험과 전문성을 기반으로 한 전문가의견(expert opinion)인 경우

† 근거수준 G: 권고도출의 근거가 양질의 임상진료지침인 경우

권고의 등급화 및 표기

권고의 등급화 기준은 modified GRADE(Grading of Recommendations Assessments, Development and Evaluation) 방법을 사용하였으며, 진료지침개발그룹에서 근거수준, 편익과 위해, 진료현장에서의 활용도와 같은 요소들을 종합적으로 반영하는 방법으로 권고등급을 분류하여 제시하였음. 근거수준은 낮지만 편익이 명백하거나 혹은 사용자 의견조사 결과 진료현장에서의 활용도가 높은 것으로 평가된 권고에 대해서는 제정위원회 및 집필위원회에서 합의하여 권고등급을 일부 상향조정하여 제시하였음.

권고등급	정의	권고의 표기
Class I	근거수준(A)과 편익이 명백하고, 진료현장에서 활용도가 높은 권고의 경우	권고함 (Is recommended)
Class IIa	근거수준(B)과 편익이 신뢰할만하고, 진료현장에서 활용도가 높거나 보통인 권고의 경우	고려함 (Should be considered)
Class IIb	근거수준(C 혹은 D)과 편익을 신뢰할 수 없으나, 진료현장에서 활용도가 높거나 보통인 권고의 경우	고려할 수 있음 (May be considered)
Class III	근거수준(C 혹은 D)을 신뢰할 수 없고, 위해한 결과를 초래할 수 있으면서, 진료현장에서 활용도가 낮은 권고의 경우	권고되지 않음 (Is not recommended)

Level of Evidence
(근거수준)

Grades of
Recommendations
(권고 등급)

Practice Guideline 개발방법 & 정보원/유형

Adaptation (수용 개발)	De Novo (신규 개발)	Consensus (합의 개발)
양질의 임상진료지침이 있는 경우, 그 정보원들을 활용하고 요약하여 새로운 지침을 개발하는 방법	기존 진료지침이 없거나 부족하면서 RCT, SR 등과 같은 양질의 논문이 있는 경우에 체계적 논문고찰을 통해 근거의 질 평가, 근거 분석(Meta-analysis 등), 합성, 요약 등의 절차를 통해 임상진료지침을 개발하는 방법	근거가 전혀 없거나 부족할 경우 전문가 의견 반영, 합의에 의한 개발방법 ▪ 델파이 기법 ▪ 명목집단기법 ▪ 합의개발협의(Consensus)

	Adaptation (수용 개발)	De Novo (신규 개발)
주요 정보원	1. 서지DB(Pubmed, CINAHL 등) : 임상진료지침 2. SIGN, NICE 등 : 가이드라인 기관	1. Pubmed 2. Cochrane Library 3. Embase 4. WOS, Scopus, CINAHL, Google
출판 유형 (아티클 타입)	Practice Guideline[PT] Guideline[PT]	Radomized Controlled Trials[PT] , Meta-Analysis[PT] Controlled Clinical Trial[PT] , Systematic Review[sb] Multicenter Study[PT], Observational Study[PT] , Case reports[PT].....
연구 유형 및 주요 검색어	Practice guidelines as Topic[Mesh] Guidelines as Topic[Mesh] Recommendation, Level of evidence , evidence grade..	1. 실험연구 Radomized Controlled Trials as topic[Mesh], Meta-Analysis as topic[Mesh].... Placebo, Double(Triple) blind, Systematic, 2. 관찰연구 Cohort, Prospective, retrospective Case study, Case-control.....



기존의 임상진료지침, 간호지침 등을 검색해주세요 ▼

기존 지침 검색 → 수용 개발(Adaptation) 가능성

1. 서지 DB

: Pubmed, Embase 등

1) 아티클 타입

Practice Guideline[PT]
Guideline[PT]

2) 연구방법 및 주요 검색어

Practice guidelines as Topic[Mesh]
Guidelines as Topic[Mesh]
Recommendation,
Level of evidence ,
evidence grade..

2. Practice guideline 기관

: SIGN, NICE 등

3. 구글 검색

: Practice Guideline, Guideline 등의
검색어

대표적 Practice Guideline 기관

1. National Guideline Clearinghouse (NGC)

- 2018년 7월 부터 자금지원 중단으로 현재 이용 안됨

2. Scottish Intercollegiate Guidelines Network (SIGN)

- 스코틀랜드에서 제공하는 EBM관련 대표적인 사이트로써 가이드라인, 임상근거수준 등을 제공
- <https://www.sign.ac.uk/our-guidelines.html>

3. Guidelines International Network(G-I-N)

- 국제가이드라인개발기구로 세계 각국의 참여를 바탕으로 체계적인 가이드라인 개발 및 제공
- <http://www.g-i-n.net/library/international-guidelines-library>

4. National Institute for Clinical Excellence (NICE)

- 공중보건, 보건 기술, clinical practice에 관한 가이드라인을 생산하는 영국의 비영리기구
- <http://www.evidence.nhs.uk/>

서지 DB & Google

1. 서지 DB: Practice guideline 관련 아티클타입, 연구방법, 어구 조합하여 검색



"Consensus Development Conference" [PT] OR
"Consensus Development Conference, NIH" [PT] OR
"Guideline" [PT] OR "Practice Guideline" [PT] OR
Guideline* OR Practice guideline* OR Clinical Practice
guideline* OR Recommend* OR Consensus*



'consensus'/exp OR 'practice guideline'/exp OR
Consensus:ab,ti OR Guidelin*:ab,ti OR
Recommend*:ab,ti

2. Google 검색



dyslipidemia AND (Guideline* OR Recommend* OR consensus)





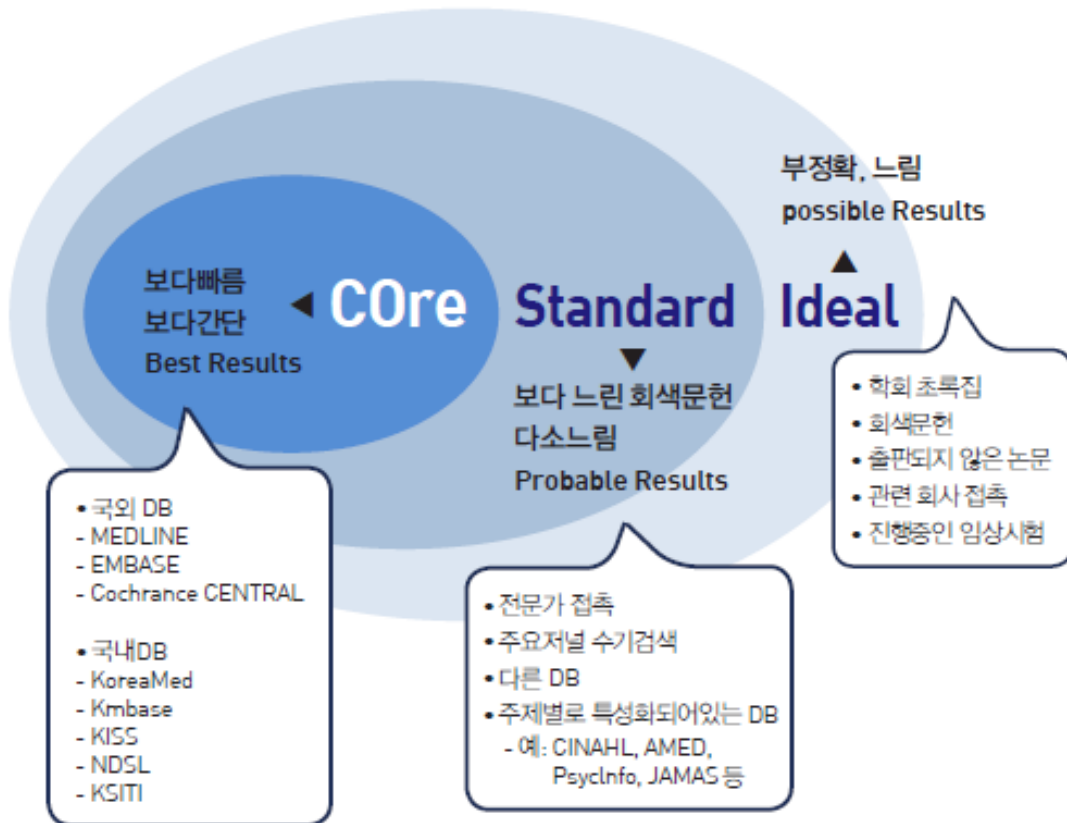
체계적 논문 고찰 검색

검색 전략

주요 정보원



어디서 찾을까 ? - COSI 모델



정보원의 특성을 잘 파악해야 함

- ✓ 통제 시소러스
- ✓ 절단자
- ✓ Boolean operator
- ✓ 인접검색 / 연결어
- ✓ 특정필드 등

그림 3-3. COSI 모델에서 제안하는 검색원 범위 (Adapted from national library of medicine)

출처: NECA 체계적 문헌고찰 매뉴얼 - 한국보건의료연구원(2011)

Registered clinical trials & Grey Literature

선행 SR / Ongoing SR / Clinical trial 검색: 서지 DB 이외 정보원

1. Clinical Trials

- ClinicalTrials.gov (<https://clinicaltrials.gov/>)
- WHO international clinical trials registry platform (<http://apps.who.int/trialsearch/>)
- BioMed Central ISRCTN (<http://www.isrctn.com/>)

2. Grey Literature

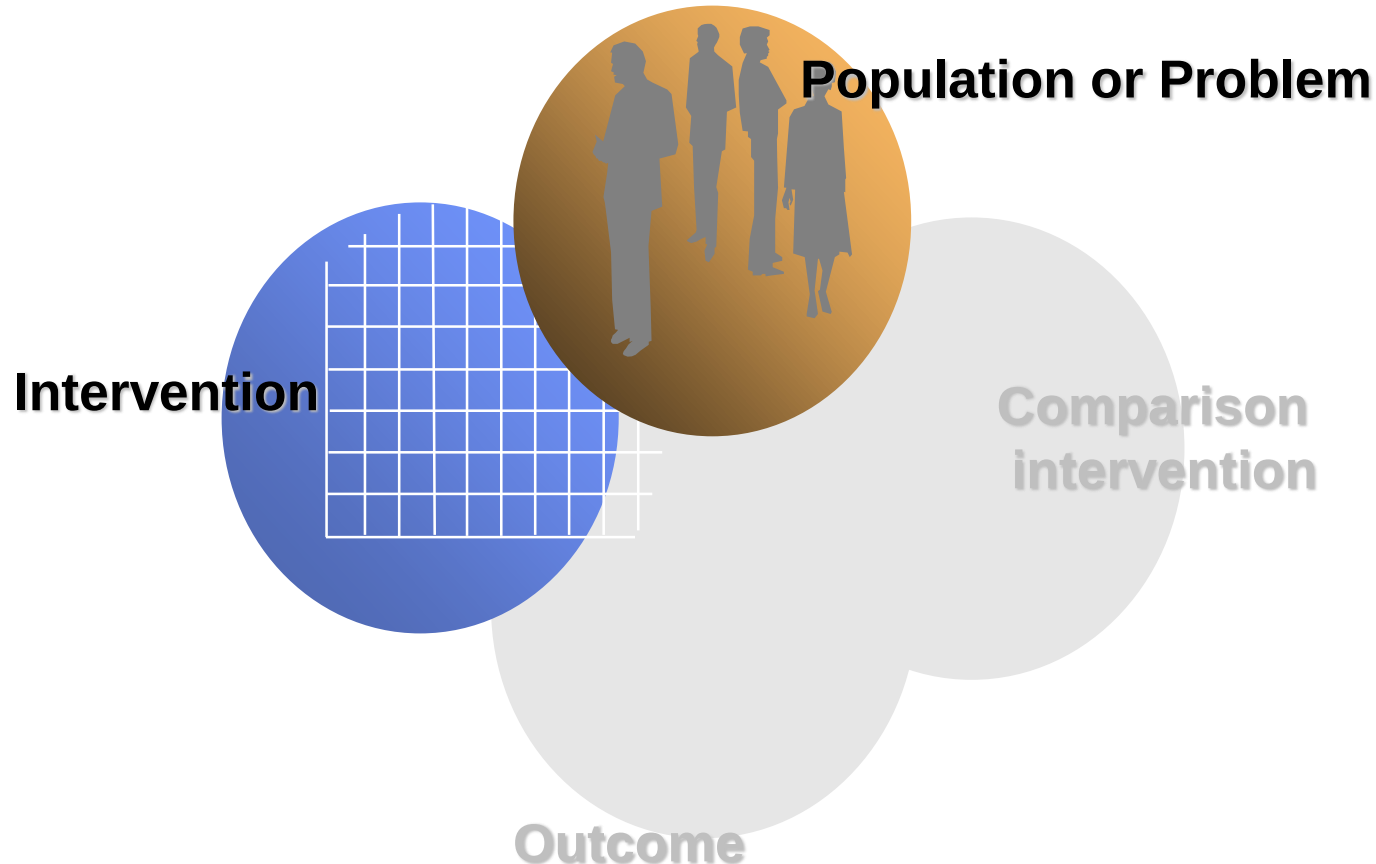
- Agency for Healthcare Research and Quality (<http://www.ahrq.gov>),
- New York Academy of Medicine (<http://www.greylit.org>)
- Open Grey/Open SIGLE (<http://www.opengrey.eu>)
- TRIP Database (<https://www.tripdatabase.com/>)



검색 전략은 어떻게 하는 것이 좋은가???



PICO를 모두 반영하는 것은 Sensitivity를 감소시킨다...
선택된 검색어로 여러 번 조합해보는 것이 좋다...





PICO (M/T) 정리 : RCT/Meta/SR 대상 (Pubmed 기준)

PICO	Mesh 주제어	타이틀/초록
P (Thyroid nodule)	"Thyroid Nodule"[Mesh]	Thyroid*[TIAB] AND Nodule*[TIAB]
I (Diagnosis)	"Receptors, Thyrotropin"[Mesh]	Thyrotropin[TIAB] OR TSH[TIAB] OR Thyroid Stimulat*[TIAB] OR LATS[TIAB]
	"Biopsy, Fine-Needle"[Mesh]	Fine-Needle [TIAB] OR "Fine Needle"[TIAB] OR FNAC[TIAB]
	"Thyroid Nodule/ultrasonography"[Mesh] Ultrasonography[Mesh]	Ultrasonograp*[TIAB] OR Ultrasound*[TIAB] OR Sonograp*[TIAB] OR Ultrasonic[TIAB] OR echograp*[TIAB]
Methodology / Type	Meta-Analysis[ptyp] OR "Meta-Analysis as Topic"[Mesh] OR Meta-Analys*[TIAB] OR Randomized Controlled Trial[ptyp] OR "Rand omized Controlled Trials as Topic"[Mesh] OR Randomized[TIAB] OR Randomised[TIAB] OR random[TIAB] OR randomly[TIAB] OR RCT[TIAB] OR ((Double* OR single* OR treb* OR tripl*) AND (Blind* OR mask*)) OR Controlled Clinical Trial[ptyp] OR Guideline[pt yp] OR Multicenter Study[ptyp] OR Observational Study[ptyp] OR Practice Guideline[ptyp] OR Clinical Trial[ptyp] OR systematic[sb OR Cohort Studies[Mesh] OR cohort[TIAB] OR Longitudinal[TIAB] OR Follow-Up[TIAB] OR Retrospective [TIAB] OR "Case-Control Studies"[Mesh] OR "Case Reports" [Ptyp] OR Comparative Study[ptyp]	

Pubmed Advanced Search

PubMed Advanced Search Builder

YouTube Tutorial

```
((Thyroid Nodule[MeSH Terms]) OR (Thyroid*[Title/Abstract] AND Nodule*[Title/Abstract])) AND
((((Receptors, Thyrotropin[MeSH Terms]) OR Thyrotropin[Title/Abstract]) OR TSH[Title/Abstract]) OR Thyroid
Stimulat*[Title/Abstract]) OR LATS[Title/Abstract])
```

[Edit](#)

[Clear](#)

Builder

All Fields	(Thyroid Nodule[MeSH Terms]) OR (Thyroid*[Title/Abs	Show index list
AND	All Fields	(((Receptors, Thyrotropin[MeSH Terms]) OR Thyro
AND	All Fields	

Search or [Add to history](#)

History

[Download history](#) [Clear history](#)

Search	Add to builder	Query	Items found	Time
#3	Add	Search (((Thyroid Nodule[MeSH Terms]) OR (Thyroid*[Title/Abstract] AND Nodule*[Title/Abstract])) AND (((Receptors, Thyrotropin[MeSH Terms]) OR Thyrotropin[Title/Abstract]) OR TSH[Title/Abstract]) OR Thyroid Stimulat*[Title/Abstract]) OR LATS[Title/Abstract])	1260	00:54:10
#2	Add	Search (((Receptors, Thyrotropin[MeSH Terms]) OR Thyrotropin [Title/Abstract]) OR TSH[Title/Abstract]) OR Thyroid Stimulat* [Title/Abstract]) OR LATS[Title/Abstract]	42444	00:46:39
#1	Add	Search (Thyroid Nodule[MeSH Terms]) OR (Thyroid*[Title/Abstract] AND Nodule*[Title/Abstract])	10755	00:42:31

Embase 검색 예시

Question Components	Your Question
P – Patient or Population Describe the most important characteristics of the patient. (e.g., age, disease/condition, gender)	Obesity
I – Intervention; Prognostic Factor; Exposure Describe the main intervention. (e.g., drug or other treatment, diagnostic/screening test)	Bariatric surgery
C – Comparison (if appropriate) Describe the main alternative being considered. (e.g., placebo, standard therapy, no treatment, the gold standard)	
O – Outcome Describe what you're trying to accomplish, measure, improve, affect. (e.g., reduced mortality or morbidity, improved memory, accurate and timely diagnosis)	Risk, Risk factor
The well-built clinical question: 비만 환자의 수술적 치료에 관한 위험성	

Query Builder ▲

Build a multi-term search query

'obesity'/exp

Search > Take to Advanced Search >

Find Term Browse by Facet

Type word or phrase (without quotes)
obesity X
Find Term >

For term: **'obesity'**
Extend your search: ☒ Explode ☐ As major focus
Take this query to Disease Search > Add to Query Builder >

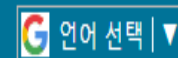
- Emtree
 - diseases
 - physical disease
 - physical disease by body function
 - body weight disorder
 - obesity** 480,684 Records
 - abdominal obesity
 - adolescent obesity
 - childhood obesity
 - diabetic obesity



PICO (M/T) 정리 (Embase 기준)

PICO	Emtree 주제어	타이틀/초록/키워드
P	'obesity'/exp 'overweight'/de	'(Obesit* OR Obese OR Overweight* OR 'Over-weight' OR 'Over-weights')':ab,ti,kw
I	'bariatric surgery'/exp 'gastric bypass surgery'/exp 'gastroplasty'/exp	(Bariatric NEAR/6 (Surgery OR Surgeries OR Surgical OR operation* OR Procedur*)):ab,ti,kw ('Stomach Stapling' OR 'Gastric Bypass' OR 'Gastroileal Bypass' OR 'Roux-en-Y' OR Gastrojejunostom* OR Gastroplast* OR 'Jejunoileal Bypass' OR 'Jejunoileal Bypasses' OR Lipectom* OR Lipoabdominoplast* OR gastrectom*):ab,ti,kw
O	'risk factor'/exp	Risk:ab,ti,kw

Results



'obesity'/exp

Search >

Mapping ▾

Date ▾

Sources ▾

Fields ▾

Quick limits ▾

EBM ▾

Pub. types ▾

Languages ▾

Gender ▾

Age ▾

Animal ▾

Search tips ▾

Results Filters

+ Expand — Collapse all

Apply >

Sources

Drugs

Diseases

Devices

Floating Subheadings

Age

Gender

Study types

History

Save

Delete

Print view

Export

Email

Combine >

using



And



Or

Collapse

**No search results have been recorded for this session.**

Your session may have been terminated, for example by closing your web browser.

To see session results, go to one of the search forms and do a search.

No search results.

View | Print | Export | Email | Add to Clipboard

**No search results.**

View | Print | Export | Email | Add to Clipboard

Results

언어 선택 | ▼

searches free-text by default - add /exp to explode

Search >

Mapping▼

Date▼

Sources▼

Fields▼

Quick limits▼

EBM▼

Pub. types▼

Languages▼

Gender▼

Age▼

Animal▼

Search tips▼

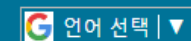
- Results Filters
- + Expand

— Collapse all

Apply >
- Sources▼
- Drugs▼
- Diseases▼
- Devices▼
- Floating Subheadings▼
- Age▼
- Gender▼
- Study types▼
- Publication types▼
- Journal titles▼
- Publication years▼

☐	History	Save Delete Print view Export Email	Combine >	using ☒ And ☐ Or	^ Collapse
☐	#14	#4 AND #10 AND #13			8,893
☐	#13	#11 OR #12			3,008,684
☐	#12	risk:ab,ti,kw			2,747,258
☐	#11	'risk factor'/exp			935,971
☐	#10	#5 OR #6 OR #7 OR #8 OR #9			88,565
☐	#9	'stomach stapling':ab,ti,kw OR 'gastric bypass':ab,ti,kw OR 'gastroileal bypass':ab,ti,kw OR 'roux-en-y':ab,ti,kw OR gastrojejunostom*:ab,ti,kw OR gastroplast*:ab,ti,kw OR 'jejunoileal bypass':ab,ti,kw OR 'jejunoileal bypasses':ab,ti,kw OR lipectom*:ab,ti,kw OR lipoabdominoplast*:ab,ti,kw OR gastrectom*:ab,ti,kw			64,018
☐	#8	(bariatric NEAR/6 (surgery OR surgeries OR surgical OR operation* OR procedur*)):ab,ti,kw			30,681
☐	#7	'gastroplasty'/exp			3,950
☐	#6	'gastric bypass surgery'/exp			21,528
☐	#5	'bariatric surgery'/exp			37,992
☐	#4	#1 OR #2 OR #3			571,829
☐	#3	obesit*:ab,ti,kw OR obese:ab,ti,kw OR overweight*:ab,ti,kw OR 'over-weight':ab,ti,kw OR 'over-weights':ab,ti,kw			436,068
☐	#2	'overweight'/de			395,606
☐	#1	'obesity'/exp			480,684

Results



#14

Search

Mapping

Date

Sources

Fields

Quick limits

EBM

Pub. types

Languages

Gender

Age

Animal

Search tips

Article languages

Clear page selections

Collapse

- | | | | | | |
|--------------------------------------|--|------------------------------------|------------------------------------|-------------------------------------|---------------------------------------|
| ☐ Afrikaans | ☐ Belarusian | ☐ Chinese | ☐ Esperanto | ☐ Greek | ☐ Irish Gaelic |
| ☐ Albanian | ☐ Bengali | ☐ Croatian | ☐ Estonian | ☐ Hebrew | ☐ Italian |
| ☐ Arabic | ☐ Bosnian | ☐ Czech | ☐ Finnish | ☐ Hindi | ☐ Japanese |
| ☐ Armenian | ☐ Bulgarian | ☐ Danish | ☐ French | ☐ Hungarian | ☐ Korean |
| ☐ Azerbaijani | ☐ Burmese | ☐ Dutch | ☐ Georgian | ☐ Icelandic | ☐ Latvian |
| ☐ Basque | ☐ Catalan | ☐ English | ☐ German | ☐ Indonesian | ☐ Lithuanian |
| ☐ Macedonian | ☐ Polyglot | ☐ Serbian | ☐ Tagalog | ☐ Vietnamese | |
| ☐ Malay | ☐ Portuguese | ☐ Sinhalese | ☐ Thai | | |
| ☐ Mongolian | ☐ Pushto | ☐ Slovak | ☐ Turkish | | |
| ☐ Norwegian | ☐ Romanian | ☐ Slovenian | ☐ Ukrainian | | |
| ☐ Persian | ☐ Russian | ☐ Spanish | ☐ Urdu | | |
| ☐ Polish | ☐ Scottish Gaelic | ☐ Swedish | ☐ Uzbek | | |

■ 제한조건 적용

Results Filters

+ Expand — Collapse all

Apply >

Sources



Drugs



Diseases



Devices



Floating Subheadings



Age



Gender



Study types



History

Save

Delete

Print view

Export

Email

^ Collapse

- | | | | |
|--------------------------|-----|---|-----------|
| ☐ | #14 | #4 AND #10 AND #13 | 8,893 |
| ☐ | #13 | #11 OR #12 | 3,008,684 |
| ☐ | #12 | risk:ab,ti,kw | 2,747,258 |
| ☐ | #11 | 'risk factor'/exp | 935,971 |
| ☐ | #10 | #5 OR #6 OR #7 OR #8 OR #9 | 88,565 |
| ☐ | #9 | 'stomach stapling':ab,ti,kw OR 'gastric bypass':ab,ti,kw OR 'gastroileal bypass':ab,ti,kw OR 'roux-en-y':ab,ti,kw OR gastrojejunostom*:ab,ti,kw OR gastroplast*:ab,ti,kw OR 'jejunoileal bypass':ab,ti,kw OR 'jejunoileal bypasses':ab,ti,kw OR lipectom*:ab,ti,kw OR lipoabdominoplast*:ab,ti,kw OR gastrectom*:ab,ti,kw | 64,018 |
| ☐ | #8 | (bariatric NEAR/6 (surgery OR surgeries OR surgical OR operation* OR procedur*)):ab,ti,kw | 30,681 |
| ☐ | #7 | 'gastroplasty'/exp | 3,950 |
| ☐ | #6 | 'gastric bypass surgery'/exp | 21,528 |
| ☐ | #5 | 'bariatric surgery'/exp | 37,992 |
| ☐ | #4 | #1 OR #2 OR #3 | 571,829 |

Question Components	Your Question
P – Patient or Population Describe the most important characteristics of the patient. (e.g., age, disease/condition, gender)	hypertensive patients
I – Intervention; Prognostic Factor; Exposure Describe the main intervention. (e.g., drug or other treatment, diagnostic/screening test)	weight loss of 4~5kg
C – Comparison (if appropriate) Describe the main alternative being considered. (e.g., placebo, standard therapy, no treatment, the gold standard)	weight maintain
O – Outcome Describe what you're trying to accomplish, measure, improve, affect. (e.g., reduced mortality or morbidity, improved memory, accurate and timely diagnosis)	decrease blood pressure
The well-built clinical question: 고혈압 환자에게 체중을 4~5kg 감량하는 것이 유지하는 것보다 혈압 강하에 효과적인가?	

PICO (M/T) 정리

PICO	Mesh	타이틀/초록
P	hypertension[Mesh]	Hypertens*
		High NEAR/5 Blood Press*
I	weight loss[Mesh]	weight loss
	(weight OR Body Weight[Mesh]) AND (loss* OR Reduc*)	
C		weight NEAR/5 (mainten* OR maintain)
	(weight OR Body Weight[Mesh]) AND (maintain OR mainten*)	
O	Blood Pressure Determination [Mesh]	Blood Pressure
	Blood Pressure[Mesh]	

Advanced Search

Please note that the Advanced Search is optimised for English search terms. Certain features, such as search operators and MeSH terms, are only available in English.

Search

Search manager

Medical terms (MeSH)

Save this search

View saved searches

Search help

Print

+

-

+

#1

Manually type a search term here or click on the S (Search Wizard) or MeSH

S

MeSH

Y

N/A

Hypertension

Select subheadings / qualifiers

Clear

Look up

ines

elp

int

Definition

Hypertension - Persistently high systemic arterial BLOOD PRESSURE. Based on multiple readings (BLOOD PRESSURE DETERMINATION), hypertension is currently defined as when SYSTOLIC PRESSURE is consistently greater than 140 mm Hg or when DIASTOLIC PRESSURE is consistently 90 mm Hg or more.

Thesaurus Matches

Exact Term Match

Hypertension

Synonyms: High Blood Pressure;
Blood Pressure, High; High
Blood Pressures; Blood
Pressures, High

Phrase Matches

Hypertensive Retinopathy

Synonyms: Retinopathy,
Hypertensive; Hypertensive
Retinopathies; Retinopathies,
Hypertensive

Masked Hypertension

MeSH Trees

MeSH term - Hypertension

- ☒ Explode all trees
☐ Single MeSH term (unexploded)

☐ Explode selected
trees

Select

☒ Tree number 1

Cardiovascular Diseases [+5]

Vascular Diseases [+44]

Aneurysm [+11]
Angiodysplasia [+1]
Angiomatosis [+4]
Angioedema [+1]
Aortic Diseases [+4]
Arterial Occlusive
Diseases [+12]
Arteriovenous

Search Results

There are **16457** results for your search on

- MeSH descriptor:
Hypertension
- Explode all trees

Trials	16349
--------	-------

Cochrane Reviews	108
------------------	-----

Add to search line

1. **Introduction**

Medical terms (MeSH)

[? Search help](#)



+

#1

MeSH descriptor: [Hypertension] explode all trees

MeSH ▼

16457

#2

Continue

☐ Highlight orphan lines

[? Search help](#)

Advanced Search

Please note that the Advanced Search is optimised for English search terms. Certain features, such as search operators and MeSH terms, are only available in English.

Search

Search manager

Medical terms (MeSH)

[? Search help](#)

+



+

#1

MeSH descriptor: [Hypertension] explode all trees

MeSH ▼

16457

+

#2

Hypertens* OR High Blood Press*

67466

#3

#1 or #2

Cancel

 Continue

☐ Highlight orphan lines

[? Search help](#)

[View fewer lines](#)[Print](#)

+				
−	+	#1	MeSH descriptor: [Hypertension] explode all trees	MeSH ▼ 16457
−	+	#2	<u>Hypertens*</u> OR High Blood Press*	▼ 67466
−	+	#3	#1 or #2	▼ 67466
−	+	#4	MeSH descriptor: [Weight Loss] explode all trees	MeSH ▼ 5363
−	+	#5	weight loss	▼ 19862
−	+	#6	#4 or #5	▼ 20013
−	+	#7	MeSH descriptor: [Blood Pressure] explode all trees	MeSH ▼ 26369
−	+	#8	MeSH descriptor: [Blood Pressure Determination] explode all trees	MeSH ▼ 2444
−	+	#9	Blood <u>Pressur*</u>	▼ 80311
−	+	#10	#7 or #8 or #9	▼ 80733
−	+	#11	#3 and #6 and #10	▼ 2188
−	+	#12	Manually type a search term here or click on the S (Search Wizard) or MeSH	S ▼ MeSH ▼ ▼ N/A

[✕ Clear all](#)☐ Highlight orphan lines



Cochrane Search Tip !!!

Search Line에 직접 입력하는 방법

MeSH descriptor: [Hypertension] explode all trees

[mh Hypertension]

MeSH descriptor: [Diabetes Mellitus] this term only

[mh ^"Diabetes Mellitus"]

어구검색 직접입력

Hypertension:**ab,ti,kw**(순서상관 없음)

#1 or #2 or #3 or #4 or #5

{OR #1-#5}

연구자 신청(각 사례)



검색전략, 검색결과 제공방법

1. 연구자 신청



서비스

+ 원문제공서비스

+ 주제검색

+ SDI

+ 인용정보분석

+ 논문작성지원

+ 교육

+ 단체학습실 예약

전문정보서비스

[Home](#) > [Service](#) > 통합주제검색서비스

결과조회

원하시는 주제에 대한 간략한 설명과 함께 적절한 키워드를 선정하여 신청해 주시기 바랍니다.

통합주제검색서비스 신청서	
성명	신익수
부서/직위	의학도서관Unit / 과장
전화(휴대폰)	/ 010-3302-8860
E-mail	euisoo@amc.seoul.kr
신청주제	
주제관련 (세부 설명)	
대상년도	
파일첨부	파일 선택 선택된 파일 없음 파일 선택 선택된 파일 없음 파일 선택 선택된 파일 없음 파일 선택 선택된 파일 없음 파일 선택 선택된 파일 없음

입력 예) 가족구조와 청소년 비행과의 상관관계:

가. Keywords: juvenile delinquency and (family size, family relations, family dynamics)

나. 대상년도: 2000년 이후자료

2. 연구자 신청

PICO Worksheet and Search Strategy

1. 임상질문을 PICO로 구조화

임상질문 : benign gynecologic disease 로 hysterectomy 시행하는 환자에서 예

방적 나팔관절제술은 난소암 및 나팔관암을 예방할 수 있는가에

대한 메타분석.

PICO	임상 질문 정의
Patients/Problem (대상/문제)	Premenopausal women undergoing hysterectomy with benign indications (Mesh terms)
Intervention (치료법 : 중재)	Prophylactic bilateral salpingectomy
Comparison (비교 치료법)	No salpingectomy
Outcome (결과)	ovarian neoplasms incidence (Mesh terms) 1. Ovarian cancer incidence 2. epithelial ovarian cancer incidence 3. Ovarian reserve (AMH, FSH) 4. Complication (EBL, op time, variation of Hb, postop hospital stay)

2. 검색을 위한 Protocol

검색 키워드 :

기본 제한 조건

Species(종) : Humans ☐ Animals ☐ All ☐

SEX(성별) : Male ☐ Female ☐ All ☐

Ages(연령) : 19세 이상 언어 : 영어 출판년도 : 2000년 이후

3. EBM 개발 방법

	Adaptation(수용개발)	De Novo(신규개발)
Article type	Practice guideline ☐ Guideline ☐ Systematic Reviews ☐ Consensus ☐	Randomized Controlled Trials ☐ Controlled Clinical Trial ☐ Meta-analysis ☐ Systematic Reviews ☐ Cohort ☐ case ☐ All ☐
검색 DB (해당 O표시)	* Pubmed/Embase/CINAHL : 가이드라인 검색 * Cochrane library(Reviews) * Dynamed/Uptodate Nursing reference caenter * WHO, NGC, SIGN, NICE, RNAO(간호학)기관	* Pubmed * CINAHL * Scopus * Cochrane library(Trials)
연구방법/주제어	Practice guideline, Guideline, Recommendation, level of evidence, evidence grade	Randomized cotrolled trials as topic, Meta-analysis, Systematic Review, Epidemiologic studies etc.....

연구자 신청사례 - 국가 가이드라인 개발

COPD 가이드라인 검색

➤ COPD 가이드라인 검색을 수행할 국외 검색 엔진 목록

1. 국외 가이드라인 관련 기관

- 1) G-I-N (Guideline International Network, CPGs 검색)
- 2) NGC (National Guideline Clearing House, US Dept. of Health)
- 3) NICE (UK)
- 4) SIGN (Scotland)
- 5) CAM Infobase (Canada CPGs)
- 6) NHMRC (Australian CPGs)

2. 국외 검색 D/B

- 1) PubMed(Medline)
- 2) Embase
- 3) Scopus
- 4) Dynamed
- 5) Google

➤ COPD 가이드라인 검색어 (고/당/이 검색어 확인)

1. 질환 : COPD (Chronic Obstructive Pulmonary Disease)
2. 가이드라인 : CPG(s), Guideline(s), Recommendation(s), Consensus, Guide, Statement(s)

➤ 검색기간 : 2010년 이후

➤ 언어 : 영어로 출판된 가이드라인만 포함

연구자 신청사례 – 간호부 개선활동(일부 가이드라인 개발 방법 활용)

PICO Worksheet and Search Strategy

소아간호팀 · PI · 활동 · 논문검색 · 요청

1. 임상질문을 PICO로 구조화

임상질문 : 소아환자에게 · 중심정맥관 · 개방성 · 유지를 위해 · 적당한 관류액는 무엇인가? ·

PICO	임상 질문 정의
P atients/Problem (대상/문제)	소아환자 / 중심정맥관 <u>관류액</u>
I ntervention (<u>치료법</u> · 중재)	생리식염수 · 관류(0.9% normal saline)
C omparison (비교 · 치료법)	<u>헤파린</u> · 관류(1:10unit, 1:100unit)
O utcome (결과)	중심정맥관 · 개방성 · 유지

2. 검색을 위한 Protocol

검색 키워드 : neonate, pediatric, central venous catheter(PICC포함), management, flushing ·

기본 · 제한 · 조건

Species(종) : Humans ☒ Animals ☐ All ☐

SEX(성별) : Male ☐ Female ☐ All ☒

Ages(연령) : 0-18 언어 : 영어 출판년도 : 2010-17

연구자 신청사례 – 임상과의 SR/Meta 논문 출판을 위한 검색

1

Metformin +/- Sulfonylurea

sulfonylureas, glimepiride, glyburide, glibenclamide, carbutamide, tolazamide, tolbutamide, glibornuride, gliclazide, glipizide, chlorpropamide, glycyclamide, tolhexamide, metahexamide, gliquidone, acetohexamide, glisoxepide or glycopyramide

GLP-1 agonist

GLP1, GLP1 agonist, GLP-1 agonist, exenatide, liraglutide, **lixisenatide**, albiglutide, dulaglutide, semaglutide, **taspoglutide**

Placebo

2

Metformin +/- Sulfonylurea

sulfonylureas, glimepiride, glyburide, glibenclamide, carbutamide, tolazamide, tolbutamide, glibornuride, gliclazide, glipizide, chlorpropamide, glycyclamide, tolhexamide, metahexamide, gliquidone, acetohexamide, glisoxepide or glycopyramide

SGLT-2 inhibitor

SGLT2 inhibitor, SGLT-2 inhibitor, Dapagliflozin, Canagliflozin, Empagliflozin, Ipragliflozin, Luseogliflozin, Tofogliflozin, Ertugliflozin, Sergliflozin, Remogliflozin, Sotagliflozin,

Placebo

3. 결과 제공 – Database Search strategy

	A	B	C
1		Salpingectomy : Pubmed 검색 전략	
2			검색일 : 2015년 1월 13일
3	Search	Query	Results
4	#1	Hysterectomy[Mesh] OR Hysterectom*[TIAB]	38,255
5	#2	salpingectomy[Mesh] OR salpingectom*[TIAB] OR Tubectom*[TIAB] OR Tubal Excision*[TIAB]	1,822
6	#3	#1 AND #2	339
7	#4	Ovarian Neoplasms[Mesh] OR ((Ovarian[TIAB] OR Ovary[TIAB]) AND (Neoplasm*[TIAB] OR cancer*[TIAB]))	85,224
	#5	Fallopian Tube Neoplasms[Mesh] OR (Fallopian Tube[TIAB] AND (Neoplasm*[TIAB] OR	2,865

엑셀(워드) 등을 통하여 검색 수행 DB의 검색전략식 제공:

엑셀 시트구분하여 3개 정보원 필수 제공
(Pubmed, Embase, Cochrane)

12	#9	#3 AND #8	228
13	#10	#9 AND (Meta-Analysis[ptyp] OR "Meta-Analysis as Topic"[Mesh] OR Meta-Analys*[TIAB] OR Randomized Controlled Trial[ptyp] OR "Randomized Controlled Trials as Topic"[Mesh] OR Randomized[TIAB] OR Randomised[TIAB] OR radom[TIAB] OR randomly[TIAB] OR RCT[TIAB] OR ((Double* OR single* OR treb* OR tripl*) AND (Blind* OR mask*)) OR systematic[sb] OR "Evidence-Based Medicine"[Mesh] OR "Guidelines as Topic"[Mesh] OR "Practice Guidelines as Topic"[Mesh] OR "Guideline" [ptyp] OR "Practice Guideline" [ptyp] OR best practic*[TIAB] OR recommendation*[TIAB] OR consensus*[TIAB])	24
14	Key :TI=TitleTIAB=Title/Abstract, PT=publication type		

3. 결과 제공 – Endnote 기계적 중복제거 압축파일

EndNote X6 - [My EndNote Library.enl]

File Edit References Groups Tools Window Help

Vancouver

Search Options

Search Whole Library ☐ Match Case ☐ Match Words

Author Contains

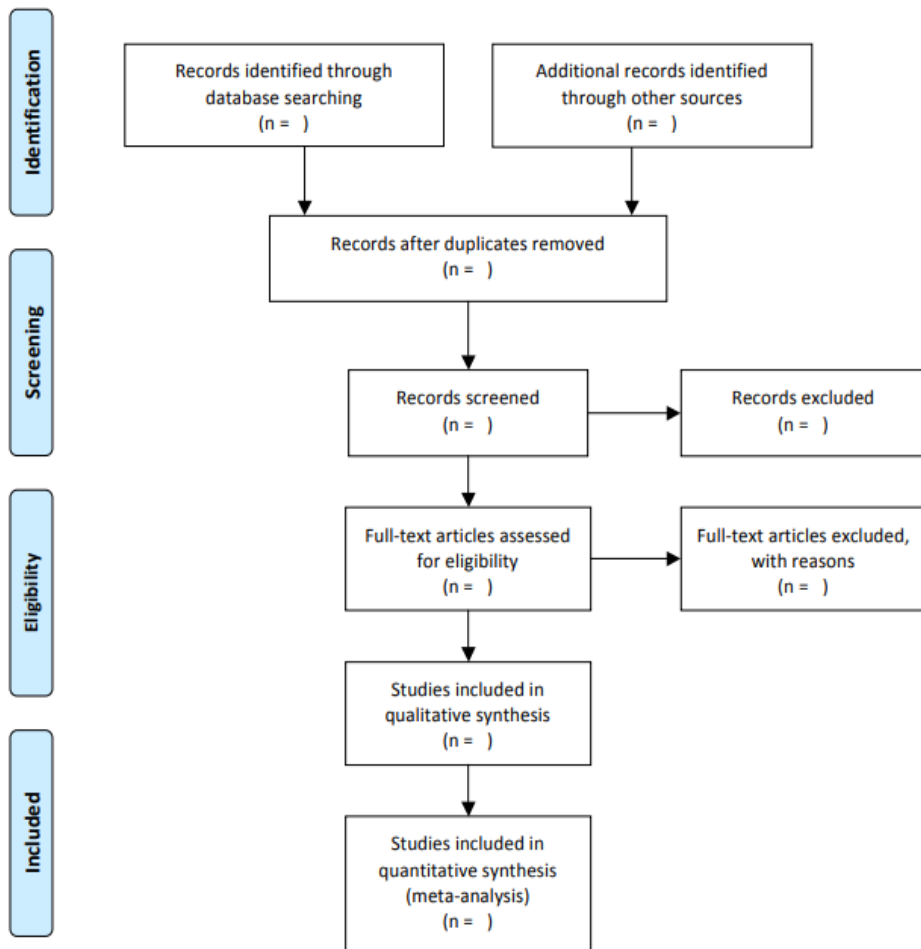
Author	Year	Rating	Title	Journal	Ref Type
Park, Shin Hyun...	2011		Pelvic insufficiency fracture after radiotherapy in patients with cervical cancer in the era of ...	Radiat Oncol J	Journal Article
Park, Shin Hyun...	2011	• • • • •	Pelvic insufficiency fracture after radiotherapy in patients with cervical cancer in the era of ...	Radiat Oncol J	Journal Article
Rhyou, In Hyeok...	2011		Treatment of Lateral Antebrachial Cutaneous Neuropathy by Biceps Tenoplasty	Clin Should Elb...	Journal Article
Rhyou, In Hyeok...	2011	• • • • •	Treatment of Lateral Antebrachial Cutaneous Neuropathy by Biceps Tenoplasty	Clin Should Elb...	Journal Article
Park, Youn Soo; ...	2011		Treatment of Subtrochanteric Nonunion with a Blade Plate	J Korean Ortho...	Journal Article
Park, Youn Soo; ...	2011	• • • • •	Treatment of Subtrochanteric Nonunion with a Blade Plate	J Korean Ortho...	Journal Article
Lee, Heeseung	2012		Anesthetic management of the bariatric surgery	J Korean Med ...	Journal Article
				J Korean Med ...	Journal Article
				Korean J Anest...	Journal Article
				Korean J Anest...	Journal Article
				J Korean Soc C...	Journal Article
				J Korean Soc C...	Journal Article
				J Korean Soc C...	Journal Article
				J Korean Soc C...	Journal Article
Choi, Won Ku; So...	2012		Conservative management of cecal diverticulitis mimicking acute appendicitis in a pregnan...	Korean J Obste...	Journal Article
Choi, Won Ku; So...	2012	• • • • •	Conservative management of cecal diverticulitis mimicking acute appendicitis in a pregnan...	Korean J Obste...	Journal Article
Kang, Joo Eun; C...	2012		Development of complex regional pain syndrome at independent arm associated with later...	Anesth Pain Med	Journal Article
Kang, Joo Eun; C...	2012	• • • • •	Development of complex regional pain syndrome at independent arm associated with later...	Anesth Pain Med	Journal Article
Yoon, Chang Ik; ...	2012		Early experience with diagnosis and management of eroded gastric bands	J Korean Surg ...	Journal Article
Yoon, Chang Ik; ...	2012	• • • • •	Early experience with diagnosis and management of eroded gastric bands	J Korean Surg ...	Journal Article
Jeong, Won Ju; ...	2012		The effect of ketamine on the separation anxiety and emergence agitation in children unde...	Korean J Anest...	Journal Article
Jeong, Won Ju; ...	2012	• • • • •	The effect of ketamine on the separation anxiety and emergence agitation in children unde...	Korean J Anest...	Journal Article
Yang, Kui Y.; Kim...	2012		Glia Dose not Participate in Antinociceptive Effects of Gabapentin in Rats with Trigeminal Ne...	Int J Oral Biol	Journal Article
Yang, Kui Y.; Kim...	2012	• • • • •	Glia Dose not Participate in Antinociceptive Effects of Gabapentin in Rats with Trigeminal Ne...	Int J Oral Biol	Journal Article
	2012		Guidelines for the Management of Postoperative Pain after Total Knee Arthroplasty	Knee Surg Rela...	Journal Article
	2012	• • • • •	Guidelines for the Management of Postoperative Pain after Total Knee Arthroplasty	Knee Surg Rela...	Journal Article
Przkora, Rene; ...	2012		Intrathecal morphine in two patients undergoing deep hypothermic circulatory arrest durin...	Korean J Anest...	Journal Article
Przkora, Rene; ...	2012	• • • • •	Intrathecal morphine in two patients undergoing deep hypothermic circulatory arrest durin...	Korean J Anest...	Journal Article
Kim, Da Arm; Oh,...	2012		Management for Raw Surface of Forehead Flap Using Artificial Collagen Membrane	Arch Craniofac ...	Journal Article
Kim, Da Arm; Oh,...	2012	• • • • •	Management for Raw Surface of Forehead Flap Using Artificial Collagen Membrane	Arch Craniofac ...	Journal Article
Kanamori, Masa...	2012		Minimum 10-Year Follow-up Study of Anterior Lumbar Interbody Fusion for Degenerative S...	Asian Spine J	Journal Article
Kanamori, Masa...	2012	• • • • •	Minimum 10-Year Follow-up Study of Anterior Lumbar Interbody Fusion for Degenerative S...	Asian Spine J	Journal Article

중복 논문 제거 된 **통합** Endnote 압축파일 제공

3. 결과 제공 – PRISMA Flow Diagram

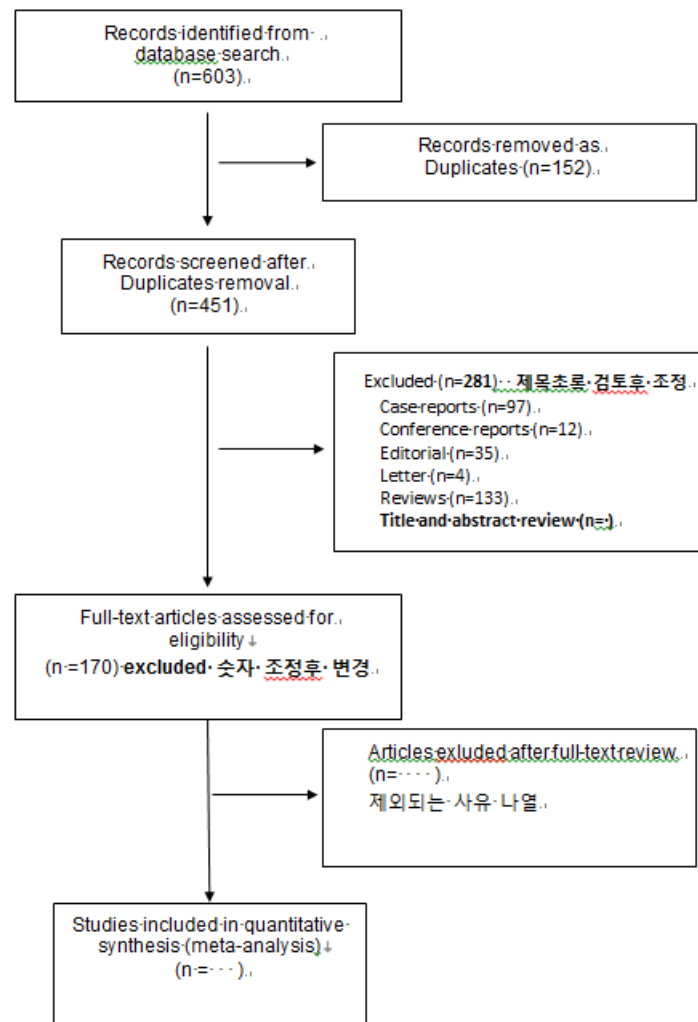


PRISMA 2009 Flow Diagram



실제 제공 사례

Flow Diagram



참고: 근거 질 평가
-> 연구자 수행



문헌 유형에 따른 질평가 도구



문헌 유형	추천 질평가 도구
SR / meta-analysis	PRISMA Checklist
RCT	Cochrane's assessment of risk of bias(ROB 2.0)
Non-randomized studies (Cohort 등 observational study)	Newcastle-Ottawa tool
Practice guideline (임상진료지침)	AGREE 2.0 (한국형)

SR/Meta 질 평가 도구

PRISMA Checklist

Systematic review.meta-analysis에 대한 질 평가 도구 (27개 항목)

<http://prisma-statement.org/PRISMAStatement/Checklist>



PRISMA

TRANSPARENT REPORTING OF SYSTEMATIC REVIEWS AND META-ANALYSES

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EXTENSIONS

TRANSLATIONS

PROTOCOLS

ENDORSEMENT

News

PRISMA Statement

PRISMA E&E

Checklist

Flow Diagram

History & Development

Funding

Citing & Using PRISMA

PRISMA Checklist

The 27 checklist items pertain to the content of a systematic review and meta-analysis, which include the title, abstract, methods, results, discussion and funding.

***Please note that the published PRISMA checklists contain an error in the wording for Item 21. The item should read: "Present the main results of the review. If meta-analyses are done, include for each, confidence intervals and measures of consistency" in accordance with the text in the Explanation and Elaboration document.*



PRISMA Checklist (PDF)



PRISMA Checklist (Word)

For more information about citing and using PRISMA click [here](#).



PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	



PRISMA 2009 Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: www.prisma-statement.org.

RCT(Randomized Controlled Trials) 평가 도구

- Jadad scale : 문항이 간단하고, 평가하기 쉬우므로 국내 RCT 연구 평가에 많이 사용하고 있으나, "allocation concealment" 평가 항목이 포함되어 있지 않아 Cochrane에서는 권장하지 않음
- **Cochrane's assessment of risk of bias(ROB 2.0) – 추천 방법**
- SIGN checklist
- NICE checklist
- Newell's 2002
- van Tulder scale : 11개 평가항목 포함, Cochrane에서 Cochrane 다음으로 권장하는 평가도구임
- CONSORT reporting checklist of RCT

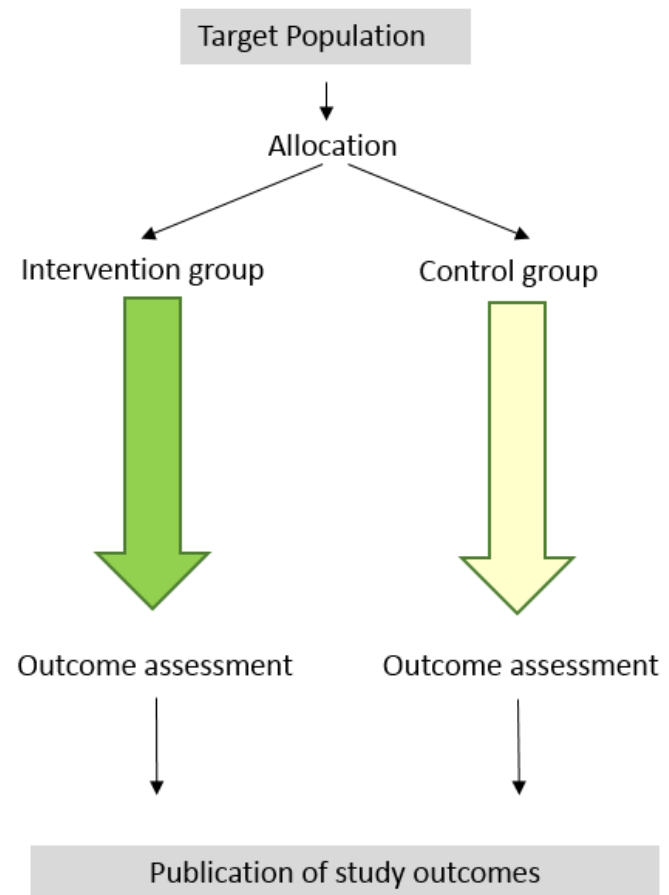
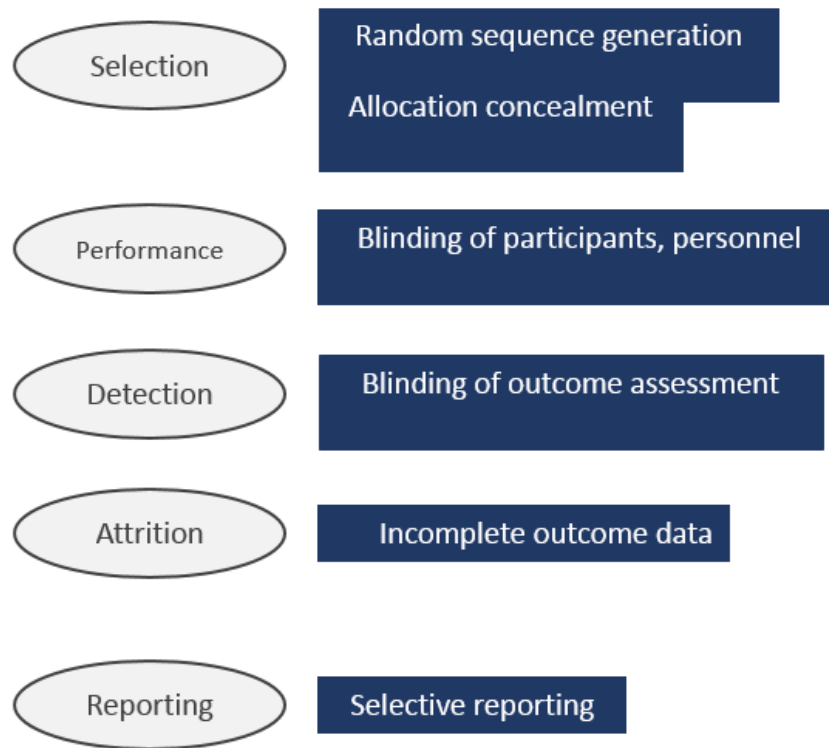
참고문헌]

Higgins JPT, Altman DG, Sterne JAC (editors). Chapter 8: Assessing risk of bias in included studies. In: Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011]. The Cochrane Collaboration, 2011. Available from <http://community.cochrane.org/handbook>

Cochrane tool for RCT _ Assess studies for risk of bias

Sources of bias (RCTs)

Bias : Systematic error or deviation from the truth



Assessment of risk of bias in included studies

Authors should state how they intend to assess for risk of bias. For pain reviews they may choose to use the Oxford quality and validity scales (Jadad 1996b; Smith et al 2000) which PaPaS still supports. For chronic pain it can be helpful to also use the RevMan Risk of Bias tool with items from more recently determined sources of bias and validity (Moore et al 2010a), including size, trial duration, and outcomes; examples can be seen in recent Cochrane reviews (Wiffen et al 2011; Moore et al 2011a), where items evaluated have included allocation concealment, blinding, incomplete outcome data addressed, size, study duration, and outcome. Definitions for risk of bias have been produced for chronic pain (Moore et al 2010a), and are shown in the table below, using a UK traffic lights classification system known as a RAG (Red, Amber Green) rating.

Cochrane's Rob 평가기준 예시

Item	Red	Amber	Green
Randomisation	Not randomised	Claims randomisation, but no method described	Randomised by adequate method
Allocation concealment	Not concealed	Not reported, or not adequately described	Allocation undertaken independently and blind to investigator
Blinding	Not blind	Claims double blind status, but no method described or Assumes or claims equivalence of patient expectations and treatment credibility but no demonstration	Convincingly double blind (especially if checked at end of trial) or Equivalent ratings of treatment credibility and patient expectation of benefit
Duration	Two weeks or less	2 to 6 weeks	8 to 12 weeks
Outcome	Anything less than 30% pain intensity reduction Pain state $\geq 50/100$ mm VAS or equivalent Undefined response or improvement	Responder: Pain intensity reduction of $\geq 30\%$ from baseline State: Final pain intensity $< 50/100$ mm, or equivalent	Responder: Pain intensity reduction of $\geq 50\%$ from baseline State: Final pain intensity $< 30/100$ mm, or equivalent State: No worse than mild pain
Incomplete outcome assessment	Average results only Completers only	Responder or state using LOCF or imputation method not stated for missing data or after patient withdrawal	Responder or state response, using BOCF (zero response on withdrawal)
Size	< 50 patients per treatment arm	50 to 199 patients per treatment arm	≥ 200 patients per treatment arm

Assessing & judgements risk of bias in randomized trials

RoB 2.0

(new tool for RCT, 2016)

Revised Cochrane risk of bias tool for randomized trials (RoB 2.0)

Edited by Julian PT Higgins, Jelena Savović, Matthew J Page, Jonathan AC Sterne
on behalf of the development group for RoB 2.0

20th October 2016



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Contents

1	Introduction.....	2
1.1	Specifying the nature of the target comparison (effect of interest)	2
1.2	Signalling questions	3
1.3	Risk of bias judgements	3
2	Detailed guidance	5
2.1	Preliminary considerations.....	5
2.2	Bias arising from the randomization process.....	6
2.3	Bias due to deviations from intended interventions	17
2.4	Bias due to missing outcome data	29
2.5	Bias in measurement of the outcome	36
2.6	Bias in selection of the reported result.....	40
3	References	48
4	Contributors.....	52

NRS(Non-randomized Studies) 평가 도구

- Downs and Black (1998) : Cochrane에서 권장하고 있음, 5개 척도(27개 세부항목)로 구성
- **Newcastle-Ottawa tool**: Cochrane 에서 권장, 관찰연구(observational studies)의 대부분에 사용
- Reish(1989)
- McMaster-Nursing Quality Assessment tool
- Zaza(2000)
- SIGN checklist (cohort, case-control study)
- NICE checklist (cohort, case-control study)
- Cochrane : Risk of Bias Assessment tool for Non-randomised study(RoBANS)
 - > 2016년도에 **ROBIS-I'tool** 로 바뀌었음

Reference

Tools to appraise non-randomised studies

- ROBINS-I Risk of bias in non-randomised studies of interventions
<https://sites.google.com/site/riskofbiastool/>
- Cochrane Effective Practice & Organisation of Care Group
<http://epoc.cochrane.org/epoc-specific-resources-review-authors>
- Downs and Black
Downs SH, Black N. J Epi & Comm Hlth 1998; 52: 377-84
- Newcastle-Ottawa Scale
www.ohri.ca/programs/clinical_epidemiology/oxford.htm
- Critical Appraisal Skills Programme (CASP)
www.casp-uk.net/find-appraise-act/appraising-the-evidence/

NEWCASTLE - OTTAWA QUALITY ASSESSMENT SCALE COHORT STUDIES (NEW)

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

Selection

1) Representativeness of the exposed cohort

- a) truly representative of the average _____ (describe) in the community ✱
- b) somewhat representative of the average _____ in the community ✱
- c) selected group of users eg nurses, volunteers
- d) no description of the derivation of the cohort

2) Selection of the non exposed cohort

- a) drawn from the same community as the exposed cohort ✱
- b) drawn from a different source
- c) no description of the derivation of the non exposed cohort

3) Ascertainment of exposure

- a) secure record (eg surgical records) ✱
- b) structured interview ✱
- c) written self report
- d) no description

4) Demonstration that outcome of interest was not present at start of study

- a) yes ✱
- b) no

Comparability

1) Comparability of cohorts on the basis of the design or analysis

- a) study controls for _____ (select the most important factor) ✱
- b) study controls for any additional factor ✱ (This criteria could be modified to indicate specific control for a second important factor.)

Outcome

1) Assessment of outcome

- a) independent blind assessment ✱
- b) record linkage ✱
- c) self report
- d) no description

2) Was follow-up long enough for outcomes to occur

- a) yes (select an adequate follow up period for outcome of interest) ✱
- b) no

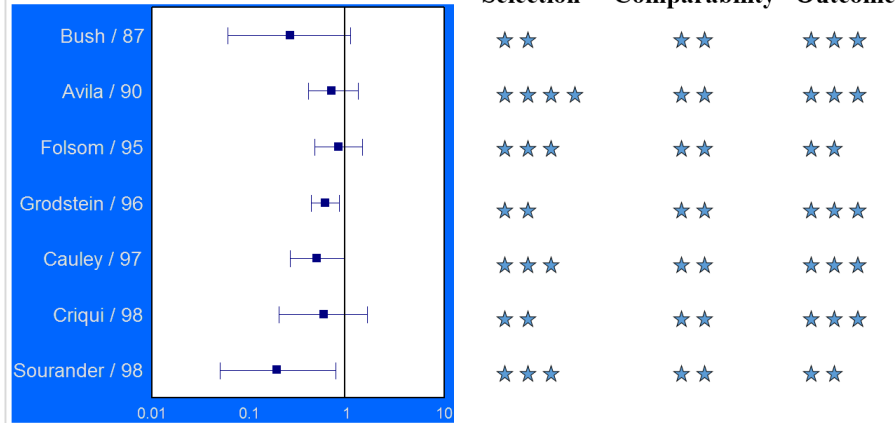
3) Adequacy of follow up of cohorts

- a) complete follow up - all subjects accounted for ✱
- b) subjects lost to follow up unlikely to introduce bias - small number lost - > ____ % (select an adequate %) follow up, or description provided of those lost) ✱
- c) follow up rate < ____ % (select an adequate %) and no description of those lost
- d) no statement

Non-RCT : New-Castle-Ottawa Scale을 사용한 질 평가 (Cohort, Case-control 연구)

Adjusted Effect Estimates for Coronary Heart Disease
(All Events) (HRT: Estrogen Current Use)

Cohort Studies



Adjusted Effect Estimates for Coronary Heart Disease
(All Events) (HRT: Estrogen Current Use)

Case-Control Studies

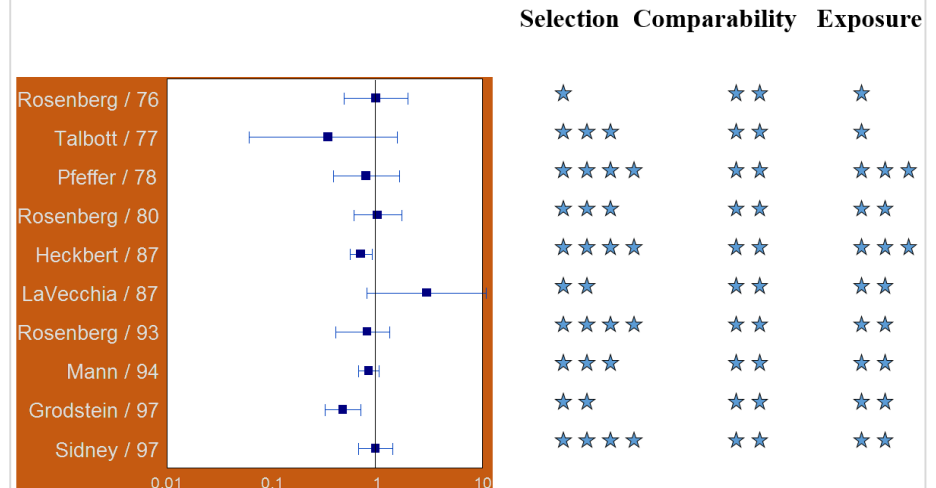


Table B1. Assessment of study quality.

Studies	Selection				Comparability		Outcome			Score
	1	2	3	4	5A	5B	6	7	8	
Cohort										
Fung <i>et al.</i> , 2001 [11]		*	*	*	*	*	*	*	*	*****
Fitzgerald <i>et al.</i> , 2012 [20]	*	*	*	*	*		*	*	*	*****
Guallar-Castillón <i>et al.</i> , 2012 [28]	*		*	*	*		*	*	*	*****
Hu <i>et al.</i> , 2000 [23]	*	*	*	*	*	*	*	*	*	*****
Case-control										
Iqbal <i>et al.</i> , 2008 [13]	*		*	*	*		*	*	*	*****

임상진료지침 평가 도구

* 임상진료지침 평가도구

- **AGREE I, II** (6개 영역, 23 세부항목 평가)¹⁾
- **MERGE checklist 6**
- **Cluzear**

Reference

- 1) 대한의학회,보건복지부. 한국형 임상진료지침의 개발·교육·보급 모형 개발 및 웹 기반 진료지침 평가시스템(AGREE 2.0). 2011
http://www.prism.go.kr/homepage/researchCommon/downloadResearchAttachFile.do;jsessionid=39EB9CD8CD2F09E15A4925D80EE9F3DE.node02?work_key=001&file_type=CPR&seq_no=001&pdf_conv_yn=N&research_id=1351000-201100254

* 임상진료지침 평가도구

부록 1. 한국형 AGREE 2.0 도구 활용 안내서(Scoring Guide)

문항-영문	문항-한글		2012 Scoring Guide
Domain 1: SCOPE AND PURPOSE			평가영역 1: 목적과 범위
1. The overall objective(s) of the guideline is (are) specifically described.	지침의 전반적 목적을 구체적으로 서술하였다.	7	진료지침의 목적에 들어가야 할 모든 요소들(대상, 보건상의 목적, 예상되는 편의 또는 결과)이 서술된 경우
		5	진료지침의 목적에 보건상의 목적(예방, 선별검사, 진단, 치료, 등)과 대상만 서술된 경우
		3	진료지침의 목적에 보건상의 목적(예방, 선별검사, 진단, 치료, 등)만 서술된 경우
		1	진료지침의 목적이 서술되어 있지 않은 경우
2. The health question(s) covered by the guideline is(are) specifically described.	지침에서 다루고자 하는 건강 관련 질문들을 구체적으로 서술하였다.	7	진료지침에서 다루는 질문이 PICO 요소를 포함하고 있고, 별도의 리스트로 되어 있어 찾기 쉽고 내용이 명확하게 서술된 경우
		5	질문이 일목요연한 문장이지만, 별도의 리스트로 되어 있지 않거나, PICO의 요소가 없거나 부족한 경우
		3	질문이 단어로만 이루어진 소재목과 같이 최소의 정보로 제시되어 있는 경우
		1	진료지침에서 다루는 질문임을 유추할 수 없는 경우
3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described	지침이 적용될 대상 인구집단(환자, 일반인 등)을 구체적으로 서술하였다.	7	진료지침 적용대상을 특징짓는 기본요소(대상집단, 성별, 나이) 및 지침의 주제에 합당한 관련 요소(임상적 상태, 병의 중증도/진행단계, 동반질환, 제외되는 대상)들이 서술되어 있는 경우
		5	진료지침 적용대상을 특징짓는 요소들이 독립된 소단원으로 정리되어 있으나, 필요한 모든 요소를 포함하지 못한 경우
		3	진료지침 적용대상을 특징짓는 요소들이 일부 산발적으로 서술되어 있는 경우
		1	진료지침 적용대상을 질환명으로만 표현한 경우
Domain 2: STAKEHOLDER INVOLVEMENT			평가영역 2: 이해당사자의 참여
4. The guideline development group includes individuals from all relevant professional groups.	지침 개발 그룹에 모든 관련 전문가 집단이 포함되어 있다.	7	구성원은 주제와 영역에 적합한 전문가들이 모두 포함되어 있으며, 지침개발그룹의 개개인에 대하여 이름, 전문 학문분야, 소속기관, 지역, 지침개발그룹 내에서의 역할이 명시되어 있고, 적어도 한명의 지침개발방법론전문가(예, 체계적문헌고찰 전문가, 역학자, 통계학자, 문헌정보학자)를 포함하고 있는 경우
		5	구성원은 주제와 영역에 적합한 전문가들이 포함되어 있으며, 지침개발그룹의 개개인에 대하여 지침개발그룹 내에서의 역할은 명시되어 있으나 지침개발방법론전문가를 포함하고 있지 않은 경우
		3	구성원은 주제와 영역에 적합한 전문가들이 포함되어 있지 않으며, 지침개발그룹의 개개인에 대하여 지침개발그룹 내에서의 역할은 명시되어 있으나 지침개발방법론전문가를 포함하고 있지 않은 경우
		1	지침개발그룹의 개개인에 대한 정보가 없는 경우

6개 대항목의 23개 세부항목

7점 척도로 항목별 점수 부여

1점: 낮음.....>7점: 높음

고맙습니다!!!

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