



**GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE**

**AR Y SAFLE : AR-LEIN
ON-SITE : ONLINE**



**GIG
CYMRU
NHS
WALES**

Searching the Literature



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE



e-Lyfrgell GIG Cymru
NHS Wales e-Library

IGDC • DHCW

www.nhswls.org/contactyourlibrary



GIG
CYMRU
NHS
WALES

Activity

Think about your previous experience of searching for information and/or evidence. What sources have you used in the past?

Learning Objectives:

Develop knowledge & understanding of how to:

- Define your information topic, problems or research questions.
- Identify appropriate online sources to search for your topic.
- Develop search strategies to most effectively search for information on your topic

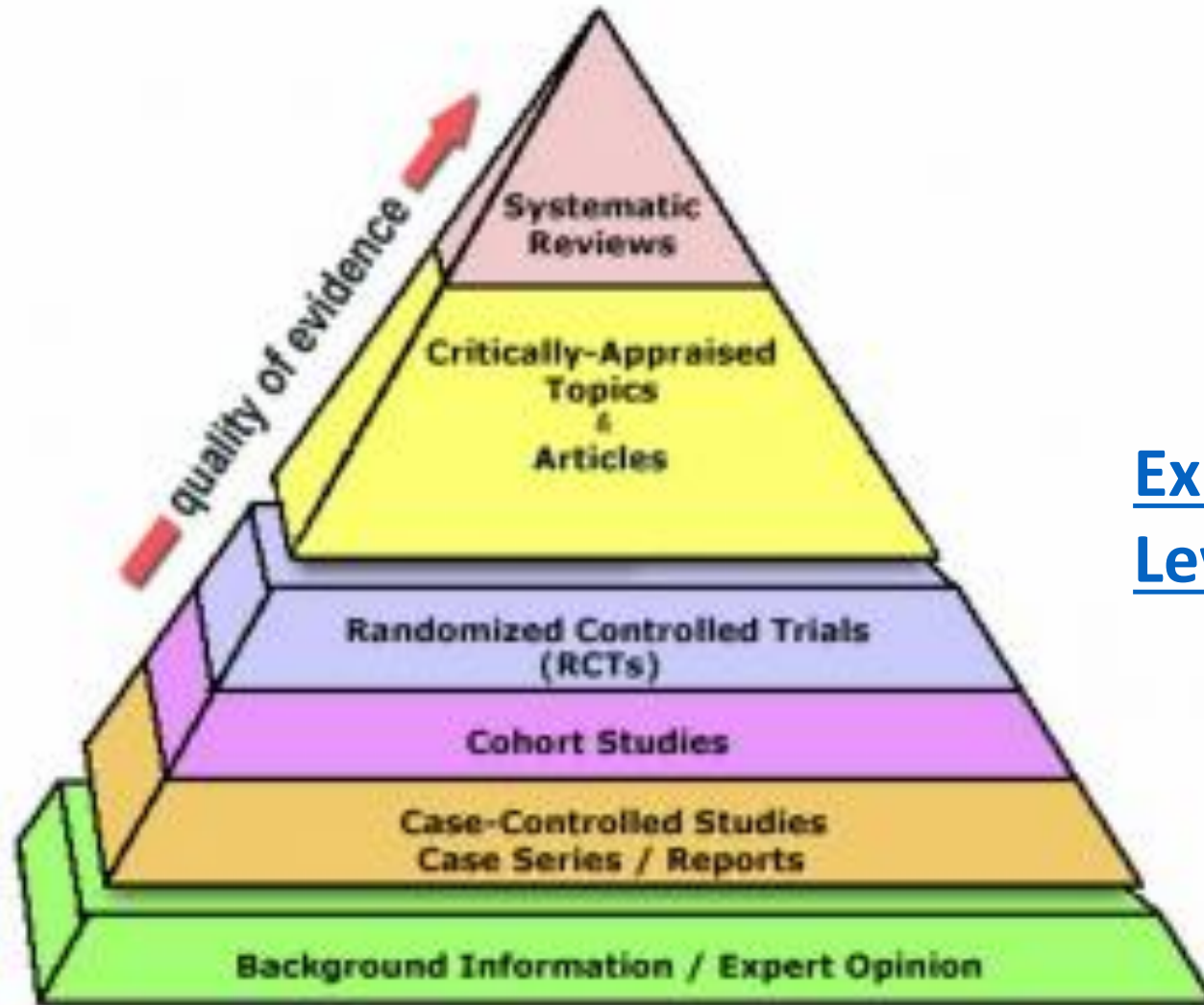
Session Outline

1. Different kinds of evidence and where we might look
2. How to structure a question
3. How to build a search strategy
4. Applying a search to a database

Session Outline

1. Different kinds of evidence and where we might look

Hierarchy of Evidence



[Exploring Evidence Video: Levels of Evidence](#)

General vs Focussed Question

A general or “**Background**” question is one that asks for general knowledge about a particular clinical problem.

[NHS Wales Libraries Catalogue](#)

[Using NHS Wales Library Search Playlist](#)

A focussed or “**Foreground**” question asks about the specific management of patient(s)/population with a clinical problem.

Resources for Medical literature

Cochrane Library

EMBase

MEDLINE

PsycInfo

Scopus

[NHS Wales e-Library](#)

Resources for Nursing & Midwifery literature

British Nursing Database

**Cumulative Index of Nursing and Allied Health
Literature (CINAHL)**

Maternity & Infant Care Database (MIDIRS)

[NHS Wales e-Library](#)

Resources for Allied Health literature

Allied & Complementary Medicine (AMED)

Cumulative Index of Nursing and Allied Health Literature (CINAHL)

Physiotherapy Evidence Database (PEDro)

[NHS Wales e-Library](#)

Resources for Management literature

Health Administration Database

Health Management Information Consortium (HMIC)

[NHS Wales e-Library](#)

Resources for Social Care literature

Social Care Online

Social Policy and Practice

Sociology Collection

[NHS Wales e-Library](#)

Medline Vs Embase

Both currently accessed via the Ovid platform for NHS Wales E-library users along with several other databases

MEDLINE	EMBASE
Focus = Biomedicine & health	Focus = Broad biomedical scope with in-depth coverage of drugs and pharmacology
More than 5600 journals	More than 8500 indexed peer-reviewed journals
1946 to present with some older material	From 1947 to present
Indexed with NLM Medical Subject Headings (MeSH)	Emtree Thesaurus
MeSH is updated once a year	Emtree is updated every three months
Over 23 million references to journal articles	Over 31 million indexed records

Session Outline

2. How to structure a question



Structuring your search question

- To enable your question to be as specific as possible you can use a framework that will help you identify the elements of your question into a structured question

The PICO framework

P = Patient / Problem / Population (who / what?)

I = Intervention (what do you want to do?)

C = Comparison (are there alternatives?)

O = Outcome (what is the effect of the intervention?)



Structuring your search question

- The PICO framework is particularly suited to clinical questions. For questions that search for meaning, for example why people act in a certain way, questions around patient experience and satisfaction, the SPICE framework might be more appropriate.

The SPICE framework

S = Setting (where? hospital/community?)

P = Perspective / Point of view (for whom?)

I = Intervention / Interest (what do you want to do?)

C = Comparison (are there alternatives?)

E = Evaluation (how is the intervention measured?)

Example - How to break your question down into your framework

Question / Query	<i>In 'children' with 'sickle cell disease' is the long term use of 'prophylactic penicillin' absolutely necessary to 'prevent infections'?</i>
P	Children, child, infant, paediatrics Sickle cell disease, sickle cell anaemia, sickle cell anemia
I	Prophylactic Penicillin
C	No treatment
O	Preventing infections

Activity 2

Does listening to music preoperatively reduce anxiety?

Put this question into a PICO framework

Does listening to music preoperatively reduce anxiety?
Put this question into a PICO framework.

Activity 2- Question

1. Who would be considered to be the **population**?
 - Preoperative patient
 - Listening to music
2. What would be the **intervention**?
 - Listening to music
 - A reduction in anxiety
3. What would be the **comparison**?
 - There is no comparison
 - Listening to music
4. What would be the **outcome**?
 - Preoperative patient
 - A reduction in anxiety

Does listening to music preoperatively reduce anxiety?
Put this question into a PICO framework.

1. Who would be considered to be the population?
 - Preoperative patient
 - ~~Listening to music~~
2. What would be the intervention?
 - Listening to music
 - ~~A reduction in anxiety~~
3. What would be the comparison?
 - There is no comparison
 - ~~Listening to music~~
4. What would be the outcome
 - ~~Preoperative patient~~
 - A reduction in anxiety

Activity 2- Answers

Session Outline

3. How to build a search strategy



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Identifying search terms and key word searching

- Fast method of searching that we are familiar with
- Free text looks for the occurrence of a word/phrase usually within the ***title*** or ***abstract*** of an article.
- Does not allow for spelling mistakes
- Need to think of as many different ways to express the concepts that make up your question

Identifying search terms and key word searching

Brain Cancer(s)	Benign Brain Tumour(s)
Brain Tumour / Tumor(s)	Primary Brain Tumour(s)
Brain Neoplasm(s)	Malignant Brain Tumour(s)
Intracranial Neoplasm(s)	



Identifying search terms with a controlled vocabulary

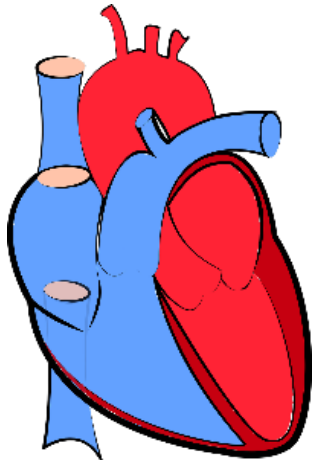
- Index headings (also known as subject headings) are a *controlled vocabulary* of words that are assigned to articles by databases to enable the identification of articles on a particular topic, regardless of the terminology used by the authors.
- Provides a precise results with articles on the subject chosen.
- The results are not dependent on author's usage.
- The subject headings may not match the concept that you are trying to search



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Finding the correct terminology - examples

In Subject Headings in Embase (Emtree), the term used for **heart attack** is **heart infarction**.



Your term mapped to the following Subject Headings:

Click on a subject heading to view more general and more specific terms within the thesaurus.

See term mapped to thesaurus term

Include All Subheadings

Combine with:

OR



Continue

Select	Subject Heading
<input checked="" type="checkbox"/>	heart infarction
<input type="checkbox"/>	heart attack.mp. <i>search as Keyword</i>



Finding the correct terminology - exploding subject headings

			Explode	Focus
<input checked="" type="checkbox"/>	pregnancy	754318	<input type="checkbox"/>	<input type="checkbox"/>
	[Broader Terms]			
	<input type="checkbox"/> reproduction	108005	<input type="checkbox"/>	<input type="checkbox"/>
	[Narrower Terms]			
	<input type="checkbox"/> adolescent pregnancy	11234	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> first trimester pregnancy	60499	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> mother fetus relationship	4033	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> multiple pregnancy.[+NT]	17318	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> second trimester pregnancy	33653	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> third trimester pregnancy	43977	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> unplanned pregnancy	8282	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> unwanted pregnancy	4211	<input type="checkbox"/>	<input type="checkbox"/>

[Exploring Evidence Video: What are MeSH headings?](#)



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Finding the correct terminology

Tips to identifying free text terms:

- Consider different ways of expressing the same meaning / concept
- Consider different British and American spellings of terms (eg color v colour)
 - In articles on your topic review the terms used in the title and abstract

Tips to identifying subject headings:

- In the databases look for the thesaurus
- In articles on your topic look to see what subject headings that they have been given



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Refining your search terms - truncation

- Truncation searching is an easy way to quickly search for root of words. For example Medline uses the * and \$ symbols for truncation searching.
- Searching like this will broaden your search and the database will bring back results with any ending of your root word.





GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Examples of using truncation

pregnan*	will find	pregnant, pregnancy, pregnancies
nurs*	will find	nursing, nurses, nurse
smok*	will find	smoke, smoker, smokers, smoking, smokeless

Take care not to overdo a truncation. For example:

creat*	will find	create, creature, creatine, creator, creating, etc.
---------------	-----------	--



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Refining your search terms - wild cards

- Wild card searching is an easy way to quickly search for words with similar spellings (eg British / American) or irregular plurals. For example Ovid databases uses the # and ? symbols for wild card searching.
- Searching like this will broaden your search and the database will bring back results with a variety of words according to your search.

Wildcard

- Wildcard # allows you to search for one character in a word e.g.

Organi#ation finds organisation or organization

wom#n finds woman or women

- Wildcard ? Will find spelling variations where 1 letter may or may not be present.

Tumo?r will find tumor or tumour

P?ediatrics will find pediatrics and paediatrics

Proximity searching & additional search fields

- Use the abbreviation **'adj'** to help you find words near each other
e.g. "hip adj3 pain" will retrieve:
'Hip pain', 'pain around the hip', 'hip joint pain', 'hip or groin pain'

- Make use of the **search fields** to select title and abstracts to search for terms to make your search more precise.

[Exploring Evidence Video: Database Searching Tips](#)



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Using Limits

- Databases often allow you to apply limits to the search you are performing. This enables you to be very specific in the type of references retrieved.
- Most databases allow you to limit to language, year and publication type. Some also allow you to limit by human, gender, latest update etc.

**[Exploring Evidence Video:
Using Search Hedges](#)**



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Combining terms together

Our search terms have to be combined to narrow or widen a search. The main Boolean operators are:

AND

both terms must be present

OR

either or **both** words must be present

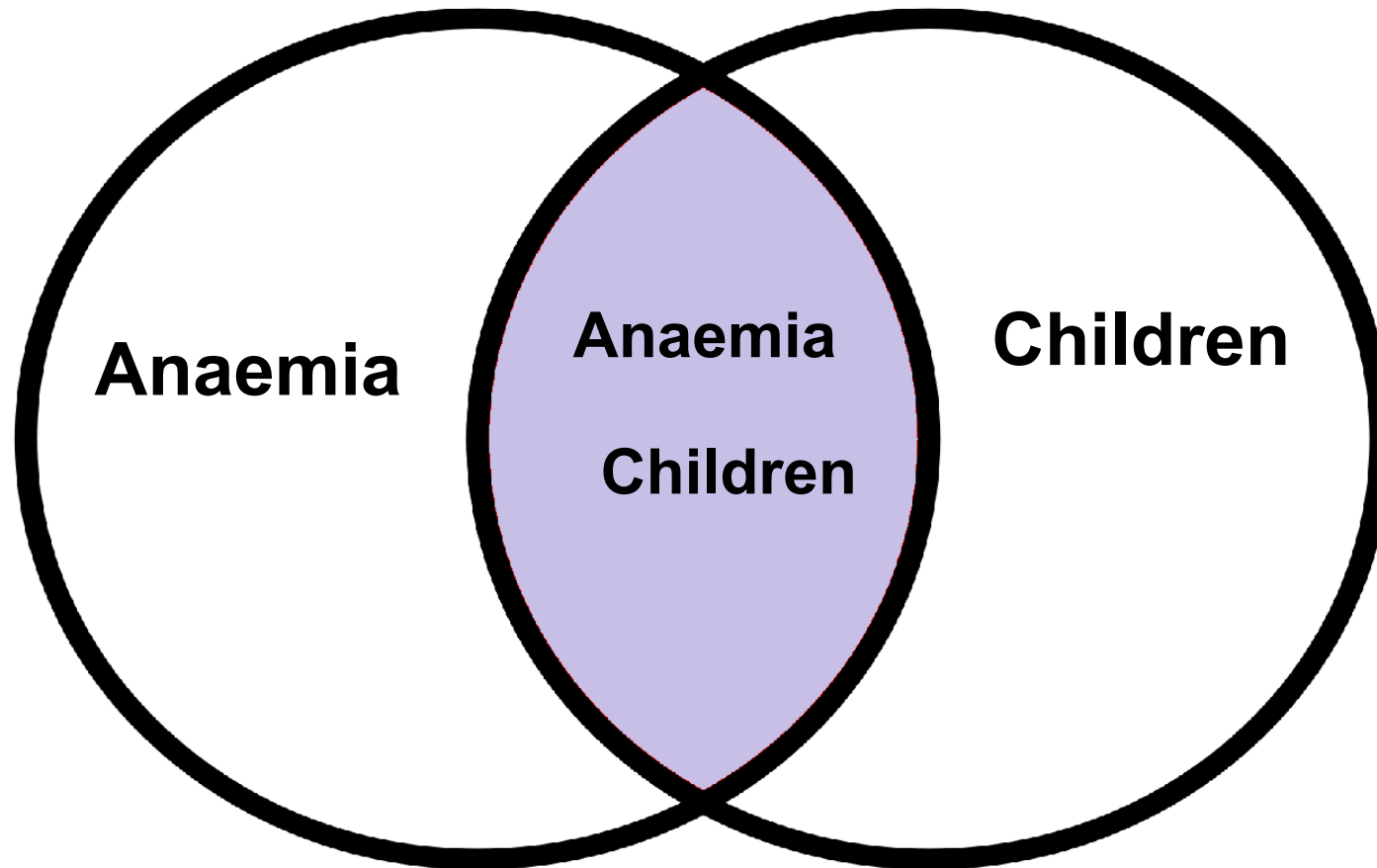
NOT

the **first** but not the **second** word must be present



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

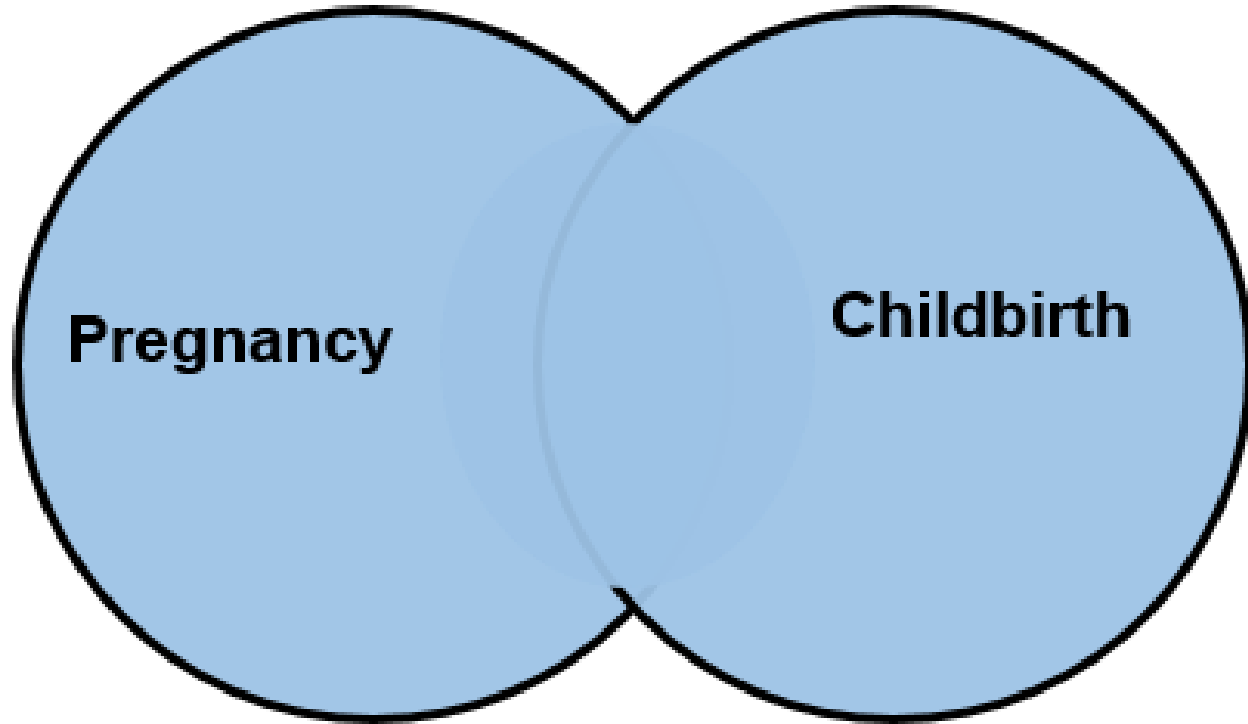
AND narrows your search



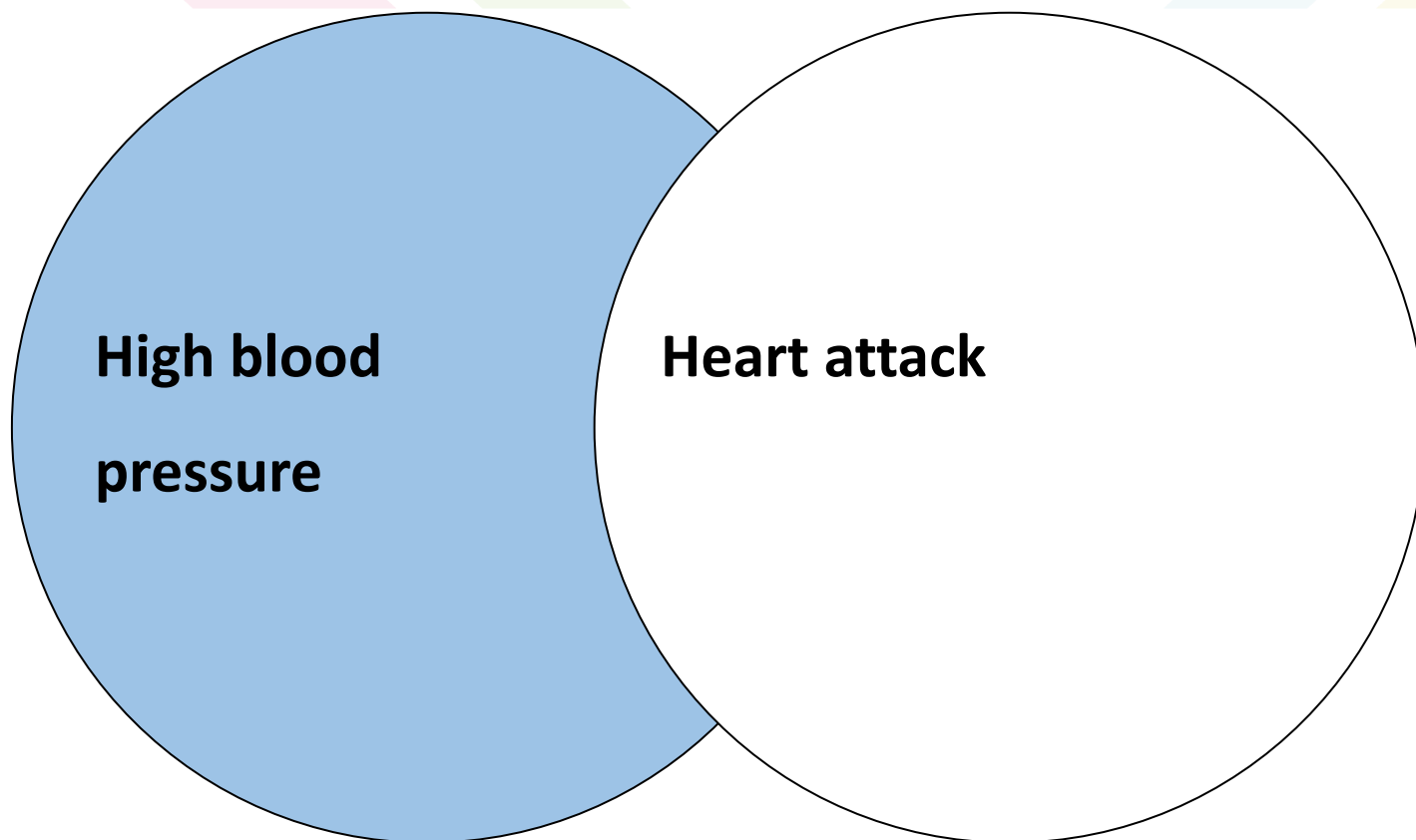


GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

OR broadens your search



NOT excludes terms



P		I		C		O
Pre-surgical	AND	Music*	AND	–	AND	Anxiety
OR		OR		–		OR
Presurgical		Song*		–		Concern*
OR		OR		–		OR
Pre-surgery		Tune*		–		Dread
OR		OR		–		OR
Presurgery		Sound*		–		Panic
OR		OR		–		OR
Pre-operative		Sing		–		Fear*
OR		OR		–		OR
Preoperative		Singer		–		Apprehension
		OR		–		OR
		Singing				Stress*
						OR
			Nervous*			

[Exploring Evidence](#)
[Video: Boolean](#)
[Searching](#)



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Activity 3

Boolean Searching AND/OR/NOT Exercise

1. Which operator would increase the number of search results?
 - AND
 - OR
 - NOT
2. The operator AND...
 - Expands your search results
 - Narrows your search results
 - Excludes search terms
3. What is the purpose of the NOT operator?
 - To expand a search
 - To include only phrases in the search results
 - To exclude a term or phrase from the search results
4. If I wanted to search for articles about anaemia in children, which search string would give me the best results?
 - anaemia OR children
 - anaemia AND children
 - anaemia NOT children

Activity 3- Questions

1. Which operator would increase the number of search results?

- ~~AND~~
- **OR**
- ~~NOT~~

2. The operator AND...

- ~~Expands your search results~~
- **Narrows your search results**
- ~~Excludes search terms~~

3. What is the purpose of the NOT operator?

- ~~To expand a search~~
- ~~To include only phrases in the search results~~
- **To exclude a term or phrase from the search results**

4. If I wanted to search for articles about anaemia in children, which search string would give me the best results?

- ~~anaemia OR children~~
- **anaemia AND children**
- ~~anaemia NOT children~~

Activity 3- Answers

Session Outline

4. Applying a search to a database

Does listening to music preoperatively reduce anxiety?

P- Perioperative patient

I- Listening to music

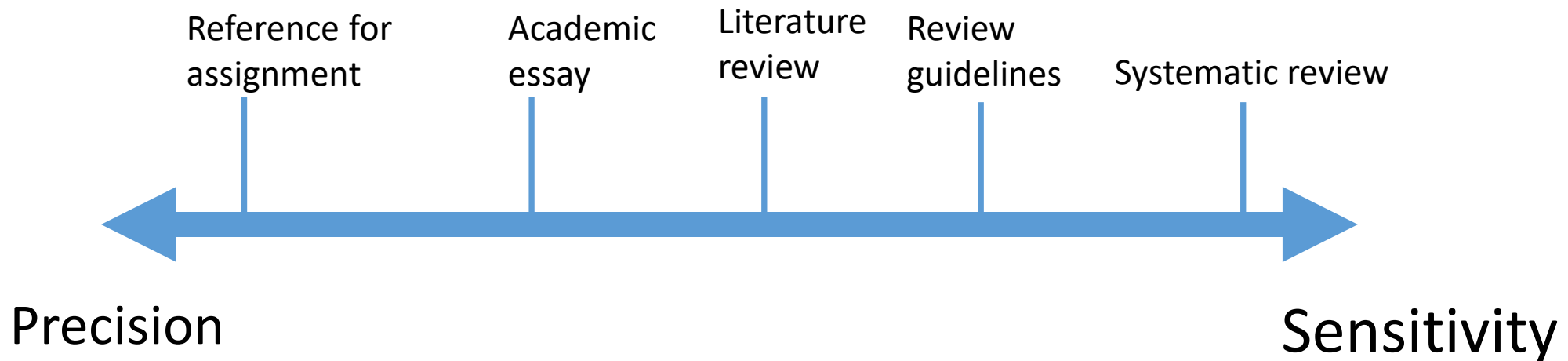
C- Not applicable

O- Reduction in anxiety

Literature searching demonstration

Summary

- There's no such thing as a perfect search
- Precision vs Sensitivity
- Think about your research objectives and tailor your search accordingly



Summary

- Search process from framing our question through to performing the search in a database
- Databases may vary slightly in look and syntax but principles generally remain the same
- NHS Wales Librarians are on hand to support you

www.nhswls.org/contactyourlibrary

Any Questions?

List of resources

NHS Wales Libraries- www.nhswls.org/

NHS Wales e-Library- <https://elh.nhs.wales/>

NHS Wales Library Catalogue- <https://nhswaleslibrarysearch.cardiff.ac.uk/>

SURE Unit Critical Appraisal Checklists- <https://www.cardiff.ac.uk/specialist-unit-for-review-evidence/resources/critical-appraisal-checklists>

CASP Checklists- <https://casp-uk.net/>

[NHS Wales Guides - YouTube](#)

Exploring Evidence Videos:

[Exploring Evidence: Boolean Searching](#)

[Exploring Evidence: Levels of Evidence](#)

[Exploring Evidence: What are MeSH headings?](#)

[Exploring Evidence: Database Searching Tips](#)

[Exploring Evidence: Hedges](#)



GWASANAETH LLYFRGELL
GIG CYMRU | NHS WALES
LIBRARY SERVICE

Evaluation form