

Searching for Literature

By
Eldon Ager

Outline

1. Understand basic database structure
2. Use of Boolean Logic
3. Use Field Searching
4. Use of Controlled Vocabulary
5. Specialty techniques (truncation, etc.)
6. Building your search strategy

Why search literature

- To answer a specific question
- To learn more about a topic (education)
- To determine current best practices (guideline)
- To backup your finding
- To give the best possible recommendation or answer research questions using evidence-based solutions/findings

Types of online databases

- Google scholar
- PubMed
- Web of Science
- Pub Ag
- CAB Direct
- JSTOR
- Science Direct
- Pro Quest
- Nature
- SciFinder Scholar
- Annual Reviews
- ACS
- Bio One

Consider the following before starting the search

- The keywords
- Other ways to spell the keywords
- Other words which mean the same thing (synonyms)
- Related keywords need to be included
- Limits to apply: date, language, age group, publication type

Boolean Logic

- A British mathematician named George Boole (1815-1864) developed an algebraic system of logic that is now widely used in computer systems including database searching.
- While Boole's algebraic system can be complex, a very simple form of Boolean Logic is used for searching most bibliographic databases.

Boolean Operators

- Standard Boolean Logic for database searching uses 3 relationships among search terms.

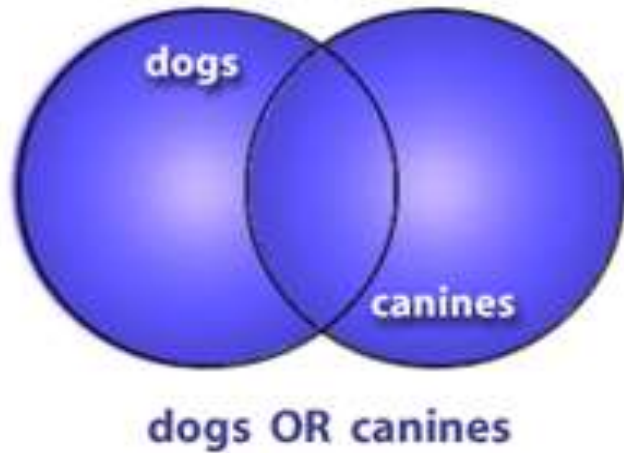
OR

AND

NOT

- It is both simple and powerful.

OR

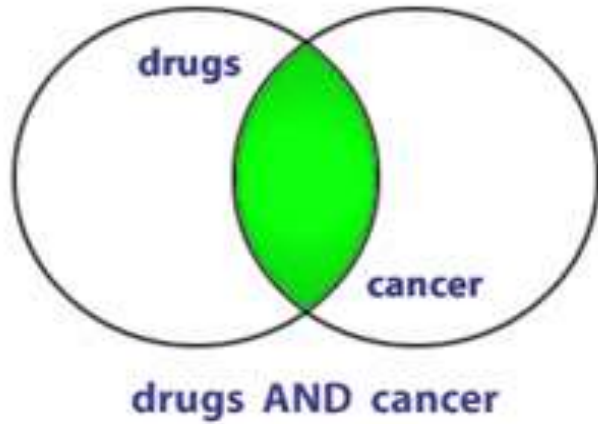


Only one (NOT both) of the terms are in the results
'OR' will retrieve the record if both are included.

Using OR

- “OR” groupings contain terms for the same idea/concept and are usually put in parenthesis
- *(term OR term OR term)*
- where all terms are different ways of representing the same concept
- **(Cattle OR Cows OR Bovine)**
- **(Antibiotic OR Antimicrobial)**

AND

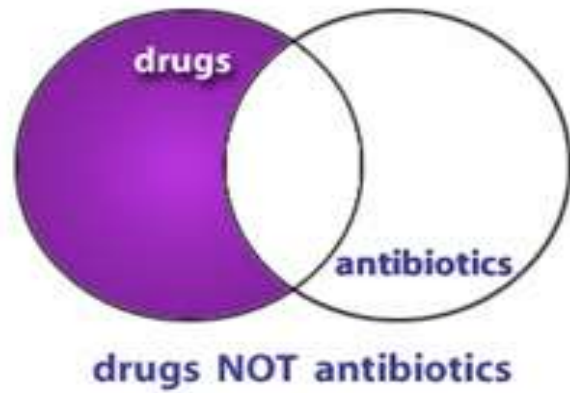


BOTH terms included in any results.
If a record has only one of the two terms, it will not be retrieved.
If the record has neither term, it will not be retrieved.

Using AND

- “AND” groupings contain terms for different ideas/concepts and can combine OR groupings
- *Term AND (Term OR Term)* where each represents a different concept
- **Organic and Agriculture**
- **Lungs AND smoking**
- **Obesity AND exercise**
- **Cancer AND (treatment OR therapy)**

NOT



Excludes any results containing the term
Records containing both will not be
retrieved.

Using NOT

- “NOT” statements are usually put last and can contain an “OR” grouping; they are often used to get rid of a common subgroup
- Students NOT teacher
- milk NOT “Breastmilk”
- N/B: NOT isn’t used often

Putting them together

1. Identify the concepts (Parse the research question)
2. List specific terms for each concept
3. Put the terms for each concept in an OR statements within parentheses
4. Combine OR statements with AND
5. Add any NOT statements to the end

Creating a Boolean Search (PubMed Search terms)

- **Livestock:**

("goats" [MeSH Terms] OR "goat" [TW] OR "goats" [TW] OR "capra" [TW] OR "caprine" [TW] OR "caprines" [TW] OR "cattle" [MeSH Terms] OR "cow" [TW] OR "cows" [TW] OR "cattle" [TW] OR "bovine" [TW] OR "bos" [TW] OR "sheep, domestic" [MeSH terms] OR "sheep" [TW] OR "lamb" [TW] OR "ovis aries" [TW] OR "poultry" [MeSH Terms] OR "poultry" [TW] OR "turkey" [TW] OR "chicken" [TW] OR "duck" [TW] OR "geese" [TW] OR "domestic fowl" [TW] OR "Sus scrofa" [MeSH terms] OR "swine" [TW] OR "sow" [TW] OR "pig" [TW] OR "pigs" [TW] OR "livestock" [MeSH Terms] OR ("livestock" [TW] AND "meat" [TW]) OR ("livestock" [TW] AND ("dairy" [TW] OR "milk" [TW])) OR "beef" [TW] OR "meat production" [TW] OR "dairy production" [TW] OR "dairy farm*" [TW] OR "pork" [TW] OR ("broiler" [TW] AND ("chick" [TW] OR "flock" [TW])) OR ("layer" [TW] AND ("chick" [TW] OR "flock" [TW])) OR "egg" [TW] OR "eggs" [TW] OR "cheese" [TW] OR "milk" [TW] OR "cheese" [MeSH Terms] OR "Milk" [MeSH Terms] OR "cultured milk products" [MeSH Terms])

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- **Bacteria:**

- ("campylobacter"[MeSH Terms] OR "campylobacter"[TW] OR "campylobacters"[TW] OR "escherichia coli"[MeSH Terms] OR "e coli"[TW] OR "escherichia coli"[TW] OR "salmonella"[MeSH Terms] OR "salmonella"[TW] OR "salmonellas"[TW] OR "salmonellae"[TW] OR "staphylococcus"[MeSH Terms] OR "staphylococcus"[TW] OR "staphylococcu"[TW] OR "methicillin resistant staphylococcus aureus"[TW] OR "MRSA" [TW] OR "staphylococcus aureus" [TW] OR "enterococcus"[MeSH Terms] OR "enterococcus"[TW] OR "enterococcu"[TW])

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- **Antibiotic Resistance:**

- ("drug resistance, microbial" [MeSH terms] OR ("antimicrobial" [TW] AND "resistan*" [TW]) OR ("antibacterial" [TW] AND "resistan*" [TW]) OR ("antibiotic" [TW] AND "resistan*" [TW]) OR (("drug" [TW] AND "resistan*" [TW]) AND (antibiotic [tw] OR antibiotics[tw])) OR "antimicrobial susceptibility" [TW] OR "antibacterial susceptibility" [TW] OR "antibiotic susceptibility testing" [TW] OR "antimicrobial susceptibility patterns" [TW] OR "antimicrobial stewardship" [MeSH Terms] OR "antimicrobial stewardship" [TW] OR "microbiological profile" [TW] OR "microbiological profiles" [TW] OR "microbiological profiling" [TW] OR "phylogenetic profile" [TW] OR "phylogenetic profiles" [TW] OR "phylogenetic profiling" [TW])

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- **Organic/Conventional Farming:**

("agriculture" [MeSH Terms] OR ("organic" [TW] AND "agriculture" [TW]) OR ("organic" [TW] AND "farm*" [TW]) OR ("conventional" [TW] AND "agriculture" [TW]) OR ("conventional" [TW] AND "farm*" [TW]) OR (("agriculture" [TW] OR "farm*") AND ("with antibiotic*" OR "without antibiotic*" OR "antimicrobial free")) OR "organic livestock" [TW] OR ("organic" [TW] AND "dair*" [TW]) OR ("conventional" [TW] AND "dair*" [TW]) OR ("organic" [TW] AND "flock*" [TW]) OR ("conventional" [TW] AND "flock*" [TW]) OR ("organic" [TW] AND "herd*" [TW]) OR ("conventional" [TW] AND "herd*" [TW]))

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END!!