

## Effective Search Techniques (and, or, not, truncation, wildcards and phrase searching)

### *The basics of AND, OR, and NOT*

There are 3 primary Boolean logic operators: **AND**, **OR**, and **NOT**. **AND** narrows your search, **OR** broadens your search, and **NOT** is used to exclude concepts. We'll describe these logical operators in more detail below, and you can view the brief Examples of Boolean Logic at the end of this page.

#### **AND** (narrows search)

Use the **AND** logical operator when you want to narrow your search. The **AND** operator requires that all the concepts you've requested are present in the records retrieved. In other words, if you type "**cats AND dogs**," you will get records where both cats and dogs are part of the study population. You won't get records dealing only with cats.

#### **OR** (broadens search)

Use the **OR** logical operator when you want to broaden your search or when you want to include synonyms of your main search term. The **OR** operator requires that any of the concepts you've requested are present in the records retrieved. In other words, if you type "**cats OR dogs**," you will get records where either cats or dogs, or both, are part of the study population. To get the most retrieval, you might want to include "kittens" and "puppies" as synonyms for cats and dogs in your search statement:

**"cats OR kittens OR dogs OR puppies"**

#### **NOT** (excludes certain words)

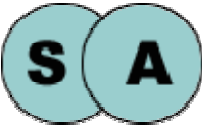


Use the **NOT** logical operator when you want to exclude concepts from your search. The **NOT** operator requires that whatever comes after the **NOT** operator is not present in the records you retrieve. In other words, if you type "**cats NOT dogs**," you will get records that discuss cats, excluding records that discuss dogs.

**Be very careful using the NOT operator!** You could miss an article that might be just what you're looking for. For example, if you're interested in why people like cats, and you type "**cats NOT dogs**," you would not get the following article:

**Personality characteristics of dog and cat persons**

The order of your search statement is important when using the NOT operator. **Be sure to list the concepts you want BEFORE you list the concepts you don't want.**

## Examples of Boolean Logic

Shaded areas indicate retrieval	Search Statement	Types of records retrieved	Number of records retrieved
	stress OR anxiety	Documents that discuss <b>either</b> stress <b>or</b> anxiety	1127
	stress AND anxiety	Documents that discuss <b>both</b> stress <b>and</b> anxiety	51
	stress NOT anxiety	Documents that discuss stress <b>but not</b> anxiety	687

## Truncation and Wildcard Symbols

**Truncation** allows a symbol (usually an asterisk \*) to be used at the end of a root word to retrieve variant endings of that word.

For example:

Truncating the word **tattoo\*** will retrieve the following variations:

Tattoos	Tattooed	Tattooist	Tattooists
Tattoo-related	Tattooee	Tattooing	tattooees

**Wildcards** allow a symbol (usually a question mark ?) to be embedded within a word to replace a single character.

For example:

Using a wildcard with the word **wom?n** would retrieve the following variations:

Woman	Women	Womyn	Womin
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## Phrase Searching

**Phrase searching** allows you to search for specific phrases and usually this is done with quotes “”. If you do not use quotes some databases will automatically insert the Boolean operator **AND** in-between the words in the phrases.

For example:

With quotes, “teenage pregnancy” will retrieve articles that have the phrase “teenage pregnancy” in it. Quotes will narrow your search results. Without quotes, teenage pregnancy will retrieve articles on teenage **AND** pregnancy. This will broaden your results.