# Keywords, Boolean Operators, Phrases, Wildcards & Truncation

## Keywords

The words you choose for your search will have an impact on the results you find. There are many different ways of describing the same topic. Doing the same search multiple times with a variety of terms will yield the most complete results.

Take a moment to learn more about **Keywords**, **Synonyms** and **Related Terms**.

### Keywords

Keywords are words that hold the essence, or the key idea, of what you are trying to find. Keywords are usually nouns, e.g. people, places or things. Don’t include words like *why, what, where, when, if, the,* etc. in your database search.

Using relevant keywords in your search will lead you to better information. You can identify the first keywords from the topic itself. Try to think of 2 - 4 keywords. If you have too few, your search results won’t be specific enough, and if you have too many, you may get too few results.

Example:

* **Topic** : Are text message reminders effective in maintaining lower blood sugars among teenagers with Type 1 diabetes?
* **Keywords**: text message reminders, blood sugars, teenagers, Type 1 diabetes

### Synonyms

Synonyms are words that have the same, or similar meaning as the main keywords. Synonyms of keywords are interchangeable, which means that the meaning of your search will remain the same. Synonyms can be used to broaden your search to retrieve more results.

Here are a few examples of synonyms for the topic: Are text reminders effective in maintaining lower blood sugars among teenagers with Type 1 diabetes?

* **Text message reminders:** SMS reminders
* **Blood sugars:** Blood glucose, glycaemia
* **teenagers:** youth, high school-aged
* **Type 1 diabetes:** juvenile diabetes

### Related Terms

Related terms are words that generally mean the same thing as the main keywords. For example: tablet - device, car - vehicle, pop - carbonated drink. While related terms don’t mean exactly the same thing as the words they are replacing (synonyms), they are an excellent tool for broadening the scope of your search.

Here are a few related terms for the topic: Are text reminders effective in maintaining lower blood sugars among teenagers with Type 1 diabetes?

* **Text message reminders:** email reminders
* **Blood sugars:** hypoglycemia, hyperglycemia
* **teenagers:** children, young adults
* **Type 1 diabetes:** autoimmune disease

## What Are Boolean Operators?

Boolean Operators, including AND, OR, and NOT, are words that make it easy for you to customize the results of your search. [Watch the video](https://youtu.be/O6pTHCKDh3A) and read the information below to learn more about Boolean Operators and how to use them.

When searching for information in a library database or a search engine, you may want to combine some keywords, or exclude certain words, to ensure that your search results are more focused or relevant to your topic.

TIP: In library databases, you don’t need to capitalize proper nouns (e.g. Twitter, Trudeau or Ontario), but Operators must be typed in all capital letters, e.g. *NOT*, *AND*, *OR*.

### AND

Using the **AND** operator tells the database that all words, or terms, that you have connected with AND must be found in any results returned.

If, for example, you are searching for articles about marketing with Twitter, you could search for: *marketing AND Twitter*. Only articles that include both *Twitter* and *marketing* will be in your search results.

### NOT

The Operator **NOT** will narrow your search results by excluding or removing a specific word or words from the search results.

For example, if you’re researching marketing but are not interested in articles about marketing using Twitter, you could search for: *marketing NOT Twitter*.

Your results from this search will not include any articles that contain the word Twitter.

Be careful when using NOT, as it can remove results that would actually have been relevant. For example, if you were searching for articles about adolescents, adding *NOT children* to your search would remove all results that address both adolescents and children - and even articles with titles such as “Treatment X improves sleep in adolescents but not in children.”

### OR

For a broader search, to find articles that discuss marketing with Facebook or Twitter, you could use the Operator **OR**, e.g. *marketing AND (Facebook OR Twitter)*. The results from this search will include articles that talk about marketing and Facebook, or marketing and Twitter, or marketing and Facebook and Twitter.

In the above example, you'll see that brackets are included in the search. When you are using more than one Operator in a search (e.g. AND and OR), you will need to group your keywords and operator words using brackets, so that the database knows which action to perform first.

## How Do I Search for a Phrase?

Sometimes you might want to search for a phrase, where the words always appear together and in a specific order. [Watch the video](https://youtu.be/BSp8Ew7vGHg) and read the information below to learn more about how to search for phrases.

When searching for an exact phrase, (i.e. exactly the same words in the same exact order), most library databases support the use of **"quotation marks" (“ “)** around the phrase, which could be two or more words.

Quotation marks instruct the database to return results that include that exact phrase. Searching for an exact phrase can help to reduce the number of irrelevant results.

For example, if you search for articles about *body language* (without quotation marks), your results will include both words, but *body* might be on the first page of the article, and *language* on the last.

Searching for *“body language”* will only return results that include that exact phrase. Using quotation marks to search for an exact phrase will narrow down your results and make them more relevant. Exact phrase searching with quotation marks will also work in Google.

There are, however, a few databases that do not recognize or support exact phrase searching using quotation marks. If you get no results, or too few, remove the quotation marks from around your phrase and search again.

## What Are Wildcards?

A wildcard is a special character that replaces one or more letters in a word (e.g. colo#r) in order to search for multiple variations of the word. When keyword searching, you may miss relevant and useful results if the term you have searched for does not appear in that exact form in an article or book. Wildcard symbols can help you to find word variations so that you don’t miss anything.

To use a wildcard, insert the wildcard symbol used by that database to replace the letter that may change.

For example, if you do a search for *pediatric* and an article uses *paediatric* instead, that article won't be in your search results. If you searched using a wildcard, you could search for p#diatric and see results for both pediatric and paediatric.

Databases use different symbols for their wildcard. Common wildcard symbols used in different databases include:

* the question mark (?)
* the pound sign (#)
* the dollar sign ($)
* the percentage symbol (%)
* the exclamation mark (!)

If you want or need to use a wildcard in your search, check the help section in the database you’re using to find the wildcard options.

## What is Truncation?

To ‘truncate’ a word simply means to shorten it by removing one or more letters to go back to the root word. Truncating a word allows you to search for multiple variations of a word at once. You can do this by adding a truncation symbol (e.g. \*) to the end of the root of the words. Like with wildcards, different databases use different symbols for truncation; check the database help to find out which one to use. [Watch the video](https://youtu.be/Pzaexl1LxE0) and read the information below to learn more about how to use truncation.

Let’s imagine we are searching for articles about the practice of nursing in Canada. If we search for those keywords only, *nursing AND Canada*, we may miss articles that include the words *nurse, nurses, Canada’s* or *Canadians*. If we truncate each word, we will get more results. So, to search nursing in Canada, we could truncate both keywords and search for: *nurs\* AND Canad\**.

**Tips for truncating:**

* **Be careful not to truncate the word too much.** Truncating too many letters from a word can lead to results that are unrelated to your intended search term. For example, searching for nursing in Canada using the truncated word *nurs\** will also bring back results about nurseries, and truncating Canada to *Can\** may retrieve articles with words like cantaloupe, cancer, canned, etc.
* **Google Scholar uses “automatic stemming”.** This means it automatically treats your search terms as if they have a truncation symbol at the end, so a search for *nurse* would also return *nurses*, but not *nursing*.
* **Some databases have special rules around truncation.**  For example, you may or may not be able to use truncation inside a phrase (with quotation marks), and there may be a limit to the number of characters you must type before the truncation symbol (in PubMed, you must type at least 4 characters, so you would not be able to truncate *nur\**).

## Database Help Pages

Databases typically have help pages and/or user guides to help you use that database. This is also where you can find information on wildcard and truncation symbols. See the information on the help pages for some common health sciences databases below. If you are using a database that is not listed below, look for links with names such as “Help,” “User Guide,” or a question mark.

#### **PubMed:** In [PubMed](https://pubmed.ncbi.nlm.nih.gov/), you can find the help page by clicking **FAQ & User Guide**, which will be located either under the search bar, in the section labelled “Learn.”

#### **CINAHL :** In CINAHL, you can find the help page by clicking **Help**, located in the top right of the page.

#### **Google Scholar**: In [Google Scholar](https://scholar.google.com/), you can find the help page by clicking **Help**, located in the bottom right of the page.