

What are Boolean Operators and how do I use them in CINAHL?

The main Boolean Operators which we use in CINAHL are OR and AND.

How does OR work?

OR helps you to get **more** results. It's important to think about all the ways an authors could have described a topic, in order to make sure all the possible, useful research articles come back in your search. Once you've identified the main keywords you can use OR to search for them all.

In literature searching this is called **Sensitivity**. It shows you are trying to find all the relevant research for your topic.

Searching with OR

Before you start to type your words into CINAHL, think about your topic. This could be a question, or it could be a research area.

Then decide what you think are the main keywords (ignore any stop words such as the, a, an, in etc.).

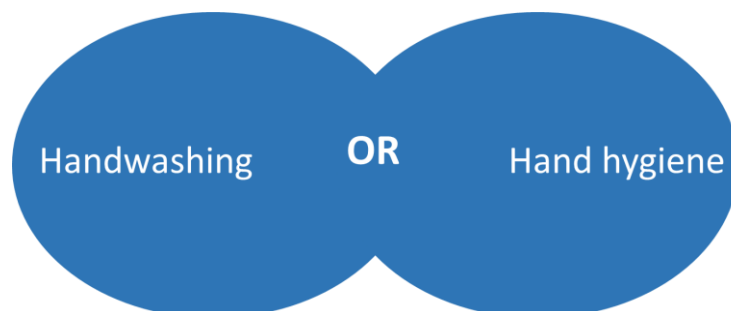
For example:

Does **handwashing** among **healthcare workers** reduce rates of **hospital acquired infection**?

In this example, the main keywords for this research question are **handwashing**, **healthcare workers** and **hospital acquired infection** or you could just say **hospital infection**.

Then think about those keywords. Are there other ways to say them (synonyms)? There might be lots of other ways to say your keywords or there may only be one way.

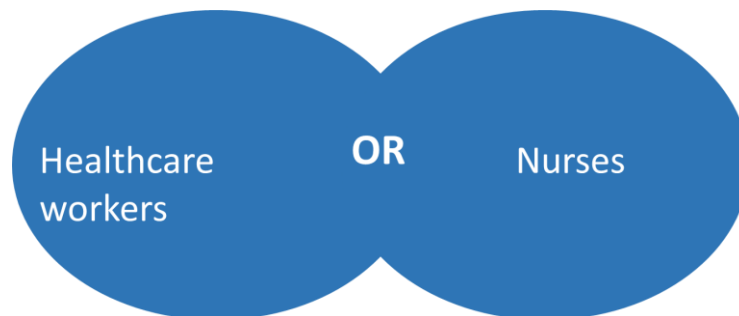
This is an example of two ways to say handwashing. Handwashing OR Hand hygiene. Hand hygiene is a synonym for handwashing.



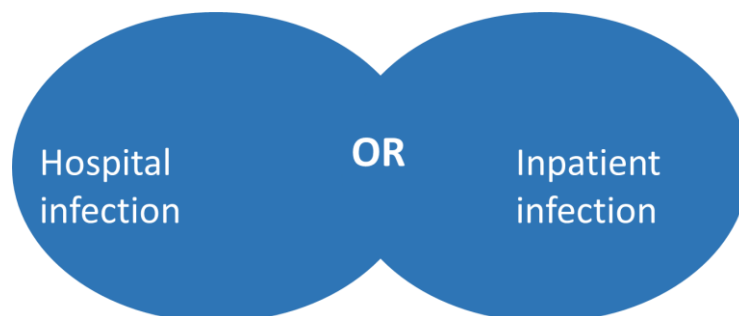
When you combine them with **OR** you get **mORe** results as it is looking for one or both of the words.

You can do this with the other keywords from the question too.

This is an example of two ways to say healthcare workers. Healthcare workers OR Nurses. Nurses is a synonym for healthcare workers.



This is an example of 2 ways to say hospital infection. Hospital infection OR inpatient infection. Inpatient infection is a synonym for hospital infection.



Searching with OR in CINAHL



Using the example above, type the first set of keywords into the search box, one keyword or phrase at a time. This will build up your search history.

Then choose to combine your search terms with OR.

This means the database will look for articles which contain one OR the other of your keywords. You will get more results than if you had just used one of the terms.

[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)



Select / deselect all

Search ID#	Search Terms
<input checked="" type="checkbox"/> S2	 hand hygiene
<input checked="" type="checkbox"/> S1	 handwashing

Repeat this step with each set of keywords. You will then have three OR searches in your search history.



[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)

Select / deselect all

Search ID#	Search Terms
<input checked="" type="checkbox"/> S5	 nurses
<input checked="" type="checkbox"/> S4	 healthcare workers

[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)

Select / deselect all

Search ID#	Search Terms
<input checked="" type="checkbox"/> S8	 inpatient infection
<input checked="" type="checkbox"/> S7	 hospital infection

This is how the search would look in CINAHL.

Every time you combine your keywords with OR, you get more results than you would get if you just search for one of the keywords on their own. Next you need to connect these three OR searches with AND.

Search History/Alerts

[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)

<input type="checkbox"/> Select / deselect all <input type="button" value="Search with AND"/> <input type="button" value="Search with OR"/> <input type="button" value="Delete Searches"/> <input type="button" value="Refresh Search Results"/>			
Search ID#	Search Terms	Search Options	Actions
<input type="checkbox"/> S9	S7 OR S8	Search modes - Boolean/Phrase	View Results (8,376) View Details Edit
<input type="checkbox"/> S8	inpatient infection	Search modes - Boolean/Phrase	View Results (360) View Details Edit
<input type="checkbox"/> S7	hospital infection	Search modes - Boolean/Phrase	View Results (8,110) View Details Edit
<input type="checkbox"/> S6	S4 OR S5	Search modes - Boolean/Phrase	View Results (458,721) View Details Edit
<input type="checkbox"/> S5	nurses	Search modes - Boolean/Phrase	View Results (449,675) View Details Edit
<input type="checkbox"/> S4	healthcare workers	Search modes - Boolean/Phrase	View Results (11,919) View Details Edit
<input type="checkbox"/> S3	S1 OR S2	Search modes - Boolean/Phrase	View Results (8,619) View Details Edit
<input type="checkbox"/> S2	hand hygiene	Search modes - Boolean/Phrase	View Results (3,367) View Details Edit
<input type="checkbox"/> S1	handwashing	Search modes - Boolean/Phrase	View Results (7,834) View Details Edit

How does AND work?

Once you have made each part of search bigger using OR, you need to narrow it down by connecting the terms together with AND.

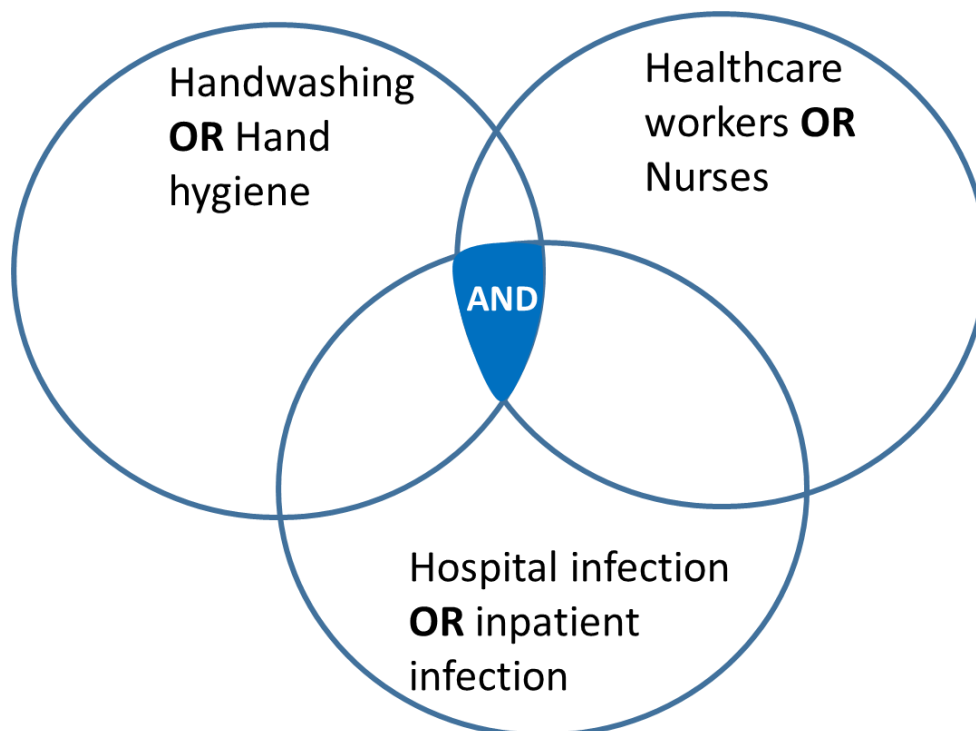
Using AND will reduce the number of results you get, but should make them more specific to your research topic, as the results which comeback should contain a combination of all of you keywords.

In literature searching this is called **Specificity** and it shows you have conducted a focused search.

Searching with AND

Above, there are three separate searches where the main keywords have been combined with synonyms using OR. Those separate searches need to be connected together in order to get less results which are more relevant or specific to the research question.










Although you get less results when you use AND, the results should contain each set of keywords.



Searching with AND in CINAHL

To use AND in CINAHL, select the boxes for each of the OR searches in the search history and choose to search with AND.

[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)

<input type="checkbox"/> Select / deselect all	Search with AND	Search with OR	Delete Searches
Search ID#	Search Terms		
<input checked="" type="checkbox"/> S9	 S7 OR S8		
<input type="checkbox"/> S8	 inpatient infection		
<input type="checkbox"/> S7	 hospital infection		
<input checked="" type="checkbox"/> S6	 S4 OR S5		
<input type="checkbox"/> S5	 nurses		
<input type="checkbox"/> S4	 healthcare workers		
<input checked="" type="checkbox"/> S3	 S1 OR S2		
<input type="checkbox"/> S2	 hand hygiene		
<input type="checkbox"/> S1	 handwashing		









































Searching with AND gives you less results. You can view the results below your search history. Although searching with AND gives you fewer results, they should be more relevant to your research topic.

This is how the full search would look in CINAHL:

Search History/Alerts

[Print Search History](#) [Retrieve Searches](#) [Retrieve Alerts](#) [Save Searches / Alerts](#)

Select / deselect all **Search with AND** **Search with OR** **Delete Searches** [Refresh Search Results](#)

Search ID#	Search Terms	Search Options	Actions
<input type="checkbox"/> S10	 S3 AND S6 AND S9	Search modes - Boolean/Phrase	 View Results (261)  View Details  Edit
<input type="checkbox"/> S9	 S7 OR S8	Search modes - Boolean/Phrase	 View Results (8,376)  View Details  Edit
<input type="checkbox"/> S8	 inpatient infection	Search modes - Boolean/Phrase	 View Results (360)  View Details  Edit
<input type="checkbox"/> S7	 hospital infection	Search modes - Boolean/Phrase	 View Results (8,110)  View Details  Edit
<input type="checkbox"/> S6	 S4 OR S5	Search modes - Boolean/Phrase	 View Results (458,721)  View Details  Edit
<input type="checkbox"/> S5	 nurses	Search modes - Boolean/Phrase	 View Results (449,675)  View Details  Edit
<input type="checkbox"/> S4	 healthcare workers	Search modes - Boolean/Phrase	 View Results (11,919)  View Details  Edit
<input type="checkbox"/> S3	 S1 OR S2	Search modes - Boolean/Phrase	 View Results (8,619)  View Details  Edit
<input type="checkbox"/> S2	 hand hygiene	Search modes - Boolean/Phrase	 View Results (3,367)  View Details  Edit
<input type="checkbox"/> S1	 handwashing	Search modes - Boolean/Phrase	 View Results (7,834)  View Details  Edit

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