

Searching the biomedical literature  
basics:

**CINAHL**

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# OBJECTIVES

At the end of this workshop you will:

- Be better able to formulate a clear search question
- Be more familiar with CINAHL: a key biomedical database for Nurses and Allied Health Professionals
- Be able to conduct a successful search in CINAHL
- Be more familiar with CINAHL Education, able to successfully create a personal account, and know how to navigate the interface well enough to complete a continuing education lesson

# CINAHL

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- 1 Scenario
- 2 Background Knowledge & Formulating an Answerable Question
- 3 Searching
- 4 Continuing Education with CINAHL
- 5 Reminder & References

# Getting to the database

JGH Health Sciences Library Website Homepage > JGH e-Resources or CIUSSS e-Resources (depending on where you are physically) > CINAHL Complete

➤ Go to:

<https://www.jgh.ca/care-services/health-sciences-library>

➤ Then scroll down and click on **CINAHL Complete**

## JGH e-resources

- 🌐 CINAHL Complete
- 🌐 CINAHL Education (CE for Nurses and allied health professionals)
- 🌐 Cochrane Library
- 🌐 DSM-5
- 🌐 eBook Nursing Collection (via EBSCO)
- 🌐 EMBASE (via Ovid)
- 🌐 Evidence Based Mental Health Journal
- 🌐 Healthstar (via Ovid)
- 🌐 JGH Journals by Topic A-Z
- 🌐 Medline (via Ovid)
- 🌐 Natural Medicines
- 🌐 Nursing Reference Center Plus
- 🌐 Oxford Clinical Psychology
- 🌐 Psychiatry Online (POL)
- 🌐 PsycINFO (via Ovid)
- 🌐 PubMed (Medline, etc.)
- 🌐 RxVigilance
- 🌐 UpToDate

## CIUSSS West Central Montreal e-resources

- 🌐 CINAHL Complete
- 🌐 CINAHL Education (CE for Nurses and allied health professionals)
- 🌐 Online Care Methods
- 🌐 Rx Vigilance

# 1. Scenario

# Scenario

- Your patient is an 8 year old boy with autism spectrum disorder.
- His parents regularly have him taking a variety of nutritional supplements.
- They say that this dramatically improves his symptoms.
- You would like to verify the validity of using nutritional supplementation to treat autism spectrum disorder.

How would you search?

## 2. Background Knowledge & Formulating an Answerable Question

# What is CINAHL?

- CINAHL stands for: “Cumulative Index to Nursing and Allied Health Literature”
- CINAHL is a biomedical database that covers nursing and allied health topics
- CINAHL Complete is a version of CINAHL

<b>Producer</b>	EBSCO Health
<b>Coverage &amp; Updating</b>	1937 to present, updated weekly 5400+ journals indexed
<b>Full text coverage</b>	Complete or partial full text for nearly 1 400 journals indexed.
<b># of references</b>	4.1 million+
<b>Languages</b>	22
<b>Content</b>	<ul style="list-style-type: none"><li>▪ Indexes literature in nursing &amp; allied health (physiotherapy, occupational therapy, speech and language pathology, nutrition, etc.).</li><li>▪ Books, book chapters, conference proceedings, journal articles, websites, consumer health literature, dissertations and theses.</li></ul>
<b>Search Options</b>	<ul style="list-style-type: none"><li>▪ Subject headings (MeSH + CINAHL SH) and subheadings, AND, OR, limits by age group, year of publication, language, review articles, etc.</li><li>▪ Keyword searching by field, truncation using *</li></ul>



# Keywords vs. Subject Headings

## Keywords

- Keywords are words that appear in the record
- They are usually words in the title or abstract of the article and are in the authors vocabulary
- You will only find your keyword if it is in the article's record exactly as you have entered it (exact spelling, no plural, no synonyms...)
- You can use truncation \*

### Examples of Keywords:

Cancer, Cancers, Cancerous, Tumor, Tumour, Tumors, Tumours, Carcinoma, Sarcoma, Neoplasm, Neoplasms, Neoplastic (...)

## Subject headings

- Subject headings or “subject terms” in CINAHL, are a controlled vocabulary used to index contents in different databases
- Indexing is done by humans or computers
- If the indexing is perfect, when you search a subject heading, you will find all the articles about this topic
- Each Biomedical Database has it's own Subject Headings
- Subject Headings are organized into trees

Example of corresponding CINAHL Subject Heading:  
Neoplasms

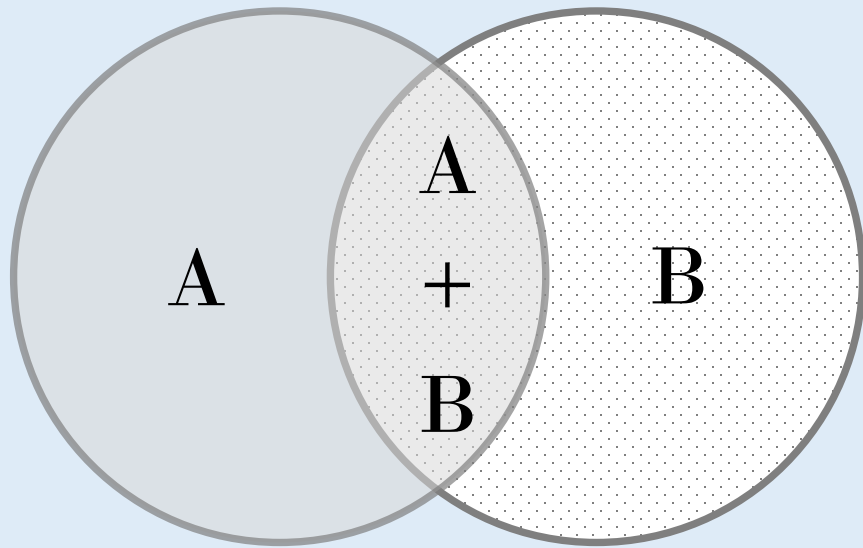
Which should I use?

# BOTH



- Indexing is never perfect as it usually done by humans
- There may not be a subject heading for your concept
  - Example: Concepts like “72 hours” or a very rare disease may not have a corresponding subject heading
- Searching using subject headings and keywords together works like building blocks: take one concept at a time and build your search
- Searching using only keywords is more imprecise:
  - Formulating a search with both subject headings and keywords will give you the best chance of getting as many relevant results as possible without having too many irrelevant results

# BOOLEAN OPERATORS



Use Boolean operators to combine your concepts  
(Subject headings/keywords)

**AND** = A+B (both concepts must be included - use to build your final search, based on the PICO if you have one)

**OR** = A, A+B, B (either of selected concepts are included - use to combine Subject heading/keyword synonyms)

**NOT** = A only (use to see what has been excluded from one search combination compared

# TYPES OF QUESTIONS

- Knowing what you want to find before you begin is half the battle.
- There are two kinds of questions you may encounter: **background** and **foreground**
- **Background Questions:**
  - “Ask for general knowledge about a condition, test or treatment”<sup>1</sup>
  - Their answers can usually be found in textbooks
- **Foreground Questions:**
  - “Ask for specific knowledge to inform clinical decisions or actions”<sup>1</sup>
  - Can be answered by searching the literature (for example in CINAHL)
  - **Important:** A question that you may ask yourself in clinical practice may contain multiple clinical questions!

# EXAMPLE: Background Question

- Question:
- What are the symptoms of autism spectrum disorder?
- Where to search for an answer: In a textbook

# FORMULATING FOREGROUND OR CLINICAL QUESTIONS

**P** (Patient or population) Whom is the question about?

**I** (Intervention or exposure) What intervention are you considering in the patient or population? Define

**C** (Comparison) If necessary, define what you are comparing your intervention or exposure to.

**O** (Outcome) Define your desired outcome

# EXAMPLE: Foreground question

**Question:** You are looking for literature on the validity of using nutritional supplementation as a therapy for children with autism spectrum disorder.

**P**opulation (children with autism spectrum disorder)

**I**ntervention (nutritional supplementation )

**C**omparison /

**O**utcome (improved autism spectrum disorder symptoms)

**Where to search for an answer:**  
In biomedical databases (like CINAHL)



# Identifying Key Concepts without PICO

Look at your question. Remove all extra words:

You are looking for literature on the validity of using nutritional supplementation as a therapy for children with autism spectrum disorder.



~~You are looking for literature on the validity of using nutritional supplementation as a therapy for children with autism spectrum disorder.~~

# Concept Map

OR	AND		AND		AND	
	Concept 1	Concept 2	Concept 3	Concept 4		
						SYNONYMS

S  
Y  
N  
O  
N  
Y  
M  
S

# EXAMPLE: Concept Map

OR  OR	AND		S Y N O N Y M S
	Concept 1	Concept 2	
	Autism spectrum disorder	Nutritional supplements	
	Aspergers syndrome	Nutritional supplementation	
	Autism	Dietary supplements	

# SEARCH ALGORITHM FOR BIOMEDICAL DATABASES

Subject Heading

OR

Keyword

AND

Subject Heading

OR

Keyword

=

Results

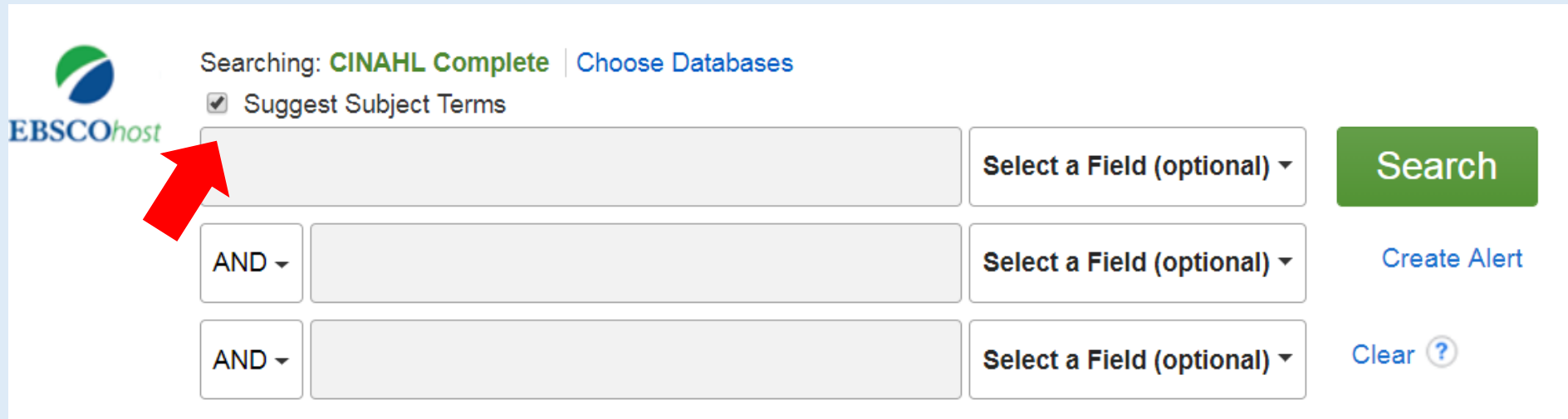
# 3. Searching

# Suggest Subject Terms

Use keywords to “map” to Subject headings

In other words...

1. You type in your keyword: autism
2. Database suggests the best Subject Heading: Autistic disorder



The screenshot shows the EBSCOhost search interface. At the top left is the EBSCOhost logo. To its right, it says 'Searching: CINAHL Complete' with a link to 'Choose Databases'. Below this is a checkbox labeled 'Suggest Subject Terms' which is checked. A red arrow points to the first search input field. To the right of the input fields are three dropdown menus, each labeled 'Select a Field (optional)'. On the far right, there are three buttons: a green 'Search' button, a blue 'Create Alert' button, and a blue 'Clear' button with a question mark icon.

# SUBJECT HEADINGS & KEYWORDS

**Results For: autism**

Check box to view subheadings. | Click linked term for tree view.

Explode (+) | Major Concept | Scope

Autism Use: [Autistic Disorder](#)

☐ [Autistic Disorder](#)

Autism Spectrum Disorders Use: [Autistic Disorder](#)

Autism Spectrum Disorder Use: [Autistic Disorder](#)

Autistic Spectrum Disorders Use: [Autistic Disorder](#)

Autistic Spectrum Disorder Use: [Autistic Disorder](#)

( ... )

☐ [Rett Syndrome](#)

☐ [Developmental Disabilities](#)

☐ [Asperger Syndrome](#)

☐ autism (Search as Keyword) ?

When you are using suggest subject terms:

- You will have the option to search whatever you typed in as a keyword

# Explode, Major Concept, & Scope

- Explode: click this box if you want to include in the search all the concepts that are narrower- click on the Subject heading to see where it falls on the tree (this will expand your search)
- Major Concept: click this box if you want to find only articles in which the indexer has designated this subject heading as being a major concept in the article (this will limit your search)
- Scope: click here to view the scope note

- Example: Scope Note For Blood Glucose

<b>Scope Note:</b>	The primary sugar produced by the body in response to intake of food, and the main source of energy for the body. Blood glucose concentration is used to diagnose hypoglycemia and hyperglycemia.
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# Using the Search History

































☐ Select / deselect all
 

Search with AND

Search with OR

Delete Searches


Refresh Search Results

Search ID#	Search Terms	Search Options	Actions		
<input type="checkbox"/> S8	 S3 AND S6	<b>Limiters</b> - Published Date: 20140101-20191231  <b>Narrow by SubjectAge:</b> - all child  <b>Narrow by Language:</b> - english  <b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (42)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S7	 S3 AND S6	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (178)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S6	 S4 OR S5	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (37,736)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S5	 "nutrition* supplement**"	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (2,392)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S4	 (MH "Dietary Supplements") OR "dietary supplements" OR (MH "Dietary Supplementation")	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (36,720)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S3	 S1 OR S2	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (24,747)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S2	 "autism spectrum disorder**"	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (10,203)	 <a href="#">View Details</a>	 <a href="#">Edit</a>
<input type="checkbox"/> S1	 (MH "Autistic Disorder") OR "autism"	<b>Search modes</b> - Boolean/Phrase	 <a href="#">View Results</a> (24,747)	 <a href="#">View Details</a>	 <a href="#">Edit</a>

The order  
searched in




# LIMITING AND EXPANDING THE SEARCH

MY  Searching: **CINAHL Complete** | [Choose Databases](#)

☒ Suggest Subject Terms

	Select a Field (optional) ▼	<b>Search</b>	<a href="#">Create Alert</a>
AND ▼			
AND ▼			

[Clear](#) 

[Basic Search](#) [Advanced Search](#) [Search History](#)

## Search Options

### Search Modes and Expanders

#### Search modes

- ☒ Boolean/Phrase
- ☐ Find all my search terms
- ☐ Find any of my search terms

#### Apply equivalent subjects

☐

#### Apply related words

☐

#### Also search within the full text of the articles

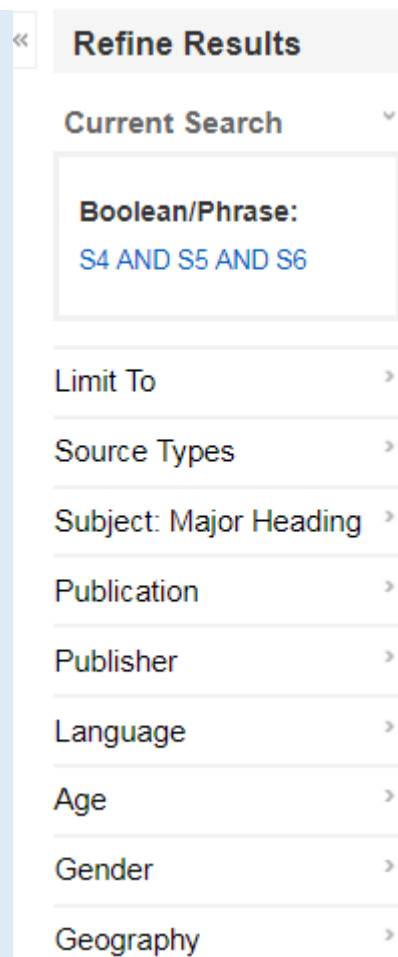
☐

**Reset**

( ... )

- Advanced Search  
Limiters and Expanders:
- Expanding the search =  
Getting more results
- Limiting the search =  
Getting fewer results

# Refining the Search



- Situated on the left hand side of your search results
- In our example we could refine our search as follows:
  - Limit to: Last 5 years (= Publication date 2014 to 2019)
  - Age: All child
  - Language: English & French

# Create a Personal Account for CINAHL

- To save your searches
- To set up search alerts to stay informed of the latest developments on topics of particular interest to you
- Is the same personal account as for Nursing Reference Center Plus & our Nursing e-book Collection!

[New Search](#) [Publications](#) [CINAHL Subject Headings](#) [Evidence-Based Care Sheets](#) [More ▾](#) [Sign In](#) [Folder](#) [Preferences](#) [Languages ▾](#) [Ask a JGH Librarian](#) [Help](#)



Searching: **CINAHL Complete** | [Choose Databases](#)

☒ Suggest Subject Terms

Select a Field (optional) ▾

**Search**

AND ▾

Select a Field (optional) ▾


[Create Alert](#)

AND ▾

Select a Field (optional) ▾

[Clear](#) [?](#)

[Basic Search](#) [Advanced Search](#) [Search History](#)

 [Library Logo](#)

# What to do when you are stuck?

- If you find one relevant article use it as a lead to find more:
  - Look at the subject headings used to index the article - reformulate your search
  - Find synonyms in the title or abstract
  - Snowball:
    - Use the “Find Similar Results” function
    - Look at the references
  - Try another database
  - Try Nursing Reference Center plus, Google, or Google Scholar to learn more about the topic and maybe find more literature

Find Similar Results  
using SmartText Searching.

- This is an iterative process



## 4. Continuing Education with CINAHL

# What are CEUs?

- Online modules that can be completed independently for accredited CE hours, usually taking 1-2 hours
- Accredited by the American Nurses Credentialing Center and the International Association for Continuing Education and Training, with select modules accredited by the Commission for Case Manager Certification
- Consist of course content, an interactive review, and an exam. The exam must be completed and passed to get the CE credit
- When you have completed a CEU and passed the course, you can print a certificate for your records



# Recognition by Quebec Professional Orders

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- CINAHL education CEUs are currently recognised by Quebec nursing professional orders as a self-study activity with certified learning assessment (e.g., e-learning)



# Sign in or create an account

## CINAHLeducation

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Welcome to **CINAHL**education.

The **CINAHL**education program provides nursing, social work, and allied health professionals a convenient way to obtain their certificates of completion for continuing education required by the states in which they practice or the facilities in which they work. These interactive modules allow health professionals to satisfy CE requirements online. Each module consists of course material, an interactive review, a competency test, and a module evaluation. A certificate is awarded upon satisfactory completion of the competency tests. Completion requirements are provided in each module.

If you are a **NEW** user and have not registered before, please [click here to pre-register](#).

If you are a **RETURNING** user, log in using the form below:

Email Address:

[I forgot my email address.](#)

Password:

[I forgot my password.](#)

Login

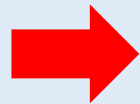
[I lost my activation email.](#)

➤ Go to:

<https://ceu.cinahl.com/login>

➤ Create a CINAHL education account (different than your CINAHL account) or sign in if you already have one

# Select “CINAHL Complete”



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This is not you? Please [click here](#).

**Select a Product**

To continue, please select the product from which you came from the list below.

- CINAHL Complete**
- CINAHL Plus
- CINAHL Plus with Full Text
- Dynamic Health
- Nursing Reference Center

( ... )

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# Search for a Topic and Select It

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**Diabetes Mellitus, Type 2** Disclaimer  
Tanja Schub, BS; Jeanne Parks-Chapman, RN, BSN; Teresa-Lynn Spears, RN, MSN

**Quick Lesson  
...about**

**Diabetes Mellitus, Type 2**

( ... )



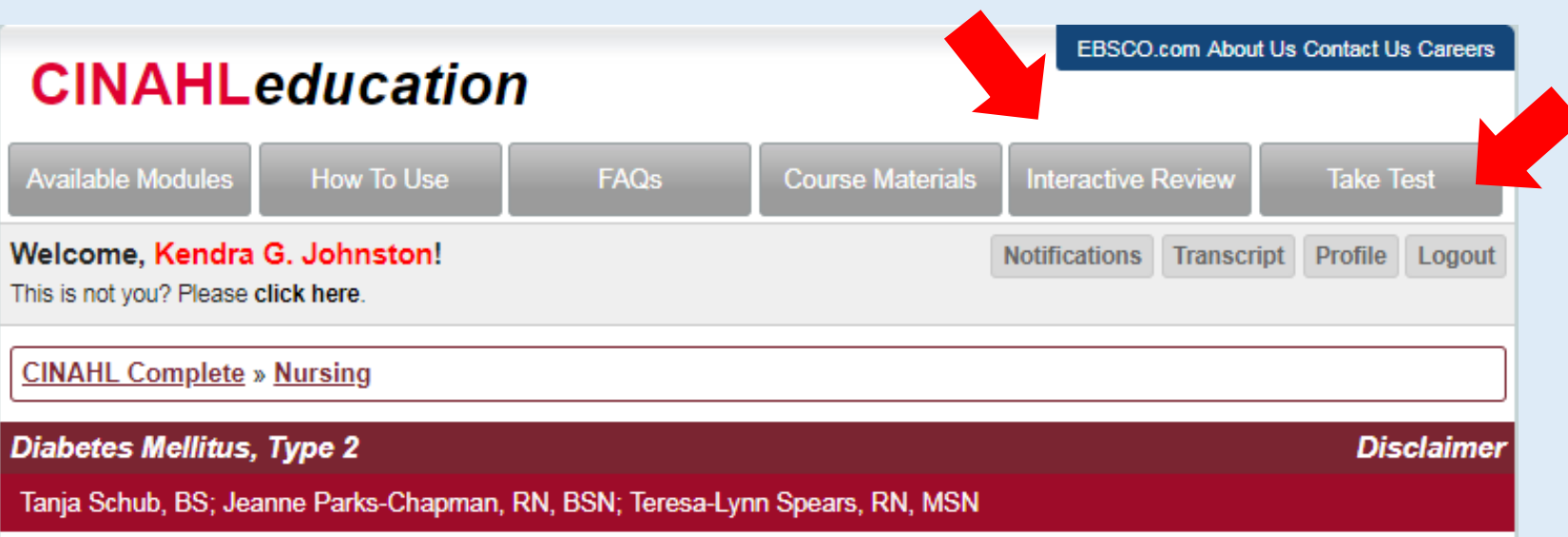
[Click here to Accept and Continue](#)

- or -

[Click here to Cancel](#)

- Search for a topic that interests you in the menu
- Select it
- Read the disclaimers
- Go to the bottom of the page and “Accept and continue” to access the module

# Navigate using the menu at the top



- Points to Remember: You can take the test 2 times. If you do not pass on the first try, you have 72 hours to take it again; if you do not pass the second try you must wait 90 days
- You **can not** save your place in a CEU exam and return at a later time

- Navigate using the menu at the top of the page
- Study the content in the module
- You can do practice questions in the “Interactive Review” tab
- When you are ready to take the test go to the “Take test” tab

## 5. Reminder & References

# REMINDER

- A Librarian is available to provide one-on-one instruction and help:

@ JGH: **Kendra Johnston**, 514 340 8222 x22453

[kendra.johnston.ccomtl@ssss.gouv.qc.ca](mailto:kendra.johnston.ccomtl@ssss.gouv.qc.ca)

@Constance Lethbridge: **David Farley-Chevrier**, 514 487 1891 x220

[david.farley-chevrier.clethb@ssss.gouv.qc.ca](mailto:david.farley-chevrier.clethb@ssss.gouv.qc.ca)

- To access this presentation:

<https://www.jgh.ca/care-services/health-sciences-library/instruction/workshop-presentations-handouts/>

# REFERENCES

1. Straus, S. E., Glasziou, P., Richardson, W. S., & Haynes, R. B. (2018). Evidence-Based Medicine E-Book: How to Practice and Teach EBM. Elsevier Health Sciences.
2. Greenhalgh, T. (2014). How to read a paper: the basics of evidence-based medicine. John Wiley & Sons.
3. Frati, F., Touchette, J. (2015) The basics of searching biomedical databases, Presented at JGH

# THANK YOU

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