# 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

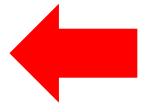
1. Scenario
2. Background Knowledge & Formulating an Answerable Question
3. Searching
4. Continuing Education with CINAHL
5. Reminder & References

# 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
- 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.)
- RxVigilence
- UpToDate

## CIUSSS West Central Montreal e-resources

- CINAHL Complete
- Online Care Methods
- Rx Vigilence

# 1. Scenario

# Scenario

Your diabetic patient has high blood sugar and you would like to prove that nutritional counselling helps lower blood sugar in diabetics so you can justify your treatment plan or your recommendation to refer them to a dietician.

## 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

| | |
|---|---|
| **Producer** | EBSCO Health |
| **Coverage & Updating** | 1937 to present, updated weekly<br>5400+ journals indexed |
| **Full text coverage** | Complete or partial full text for nearly 1 400 journals indexed. |
| **# of references** | 4.1 million+ |
| **Languages** | 22 |
| **Content** | ▪ Indexes literature in nursing & allied health (physiotherapy, occupational therapy, speech and language pathology, nutrition, etc.).<br>▪ Books, book chapters, conference proceedings, journal articles, websites, consumer health literature, dissertations and theses. |
| **Search Options** | ▪ Subject headings (MeSH + CINAHL SH) and subheadings, AND, OR, limits by age group, year of publication, language, review articles, etc.<br>▪ Keyword searching by field, truncation using * |

# 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:

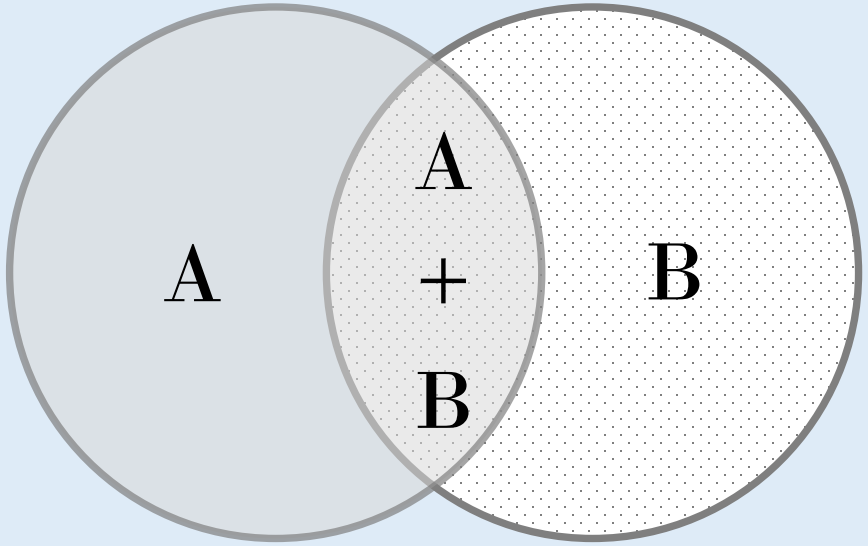
Neoplasms

# 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.
- The are two kinds of questions you may encounter: **background** and **foreground**
- **Background Questions:**
  - "Ask for general knowledge about a condition, test or treatment"[1]
  - Their answers can usually be found in textbooks
- **Foreground Questions:**
  - "Ask for specific knowledge to inform clinical decisions or actions"[1]
  - 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:**

How do you treat high blood sugar in diabetics?

- **Where to search for an answer:**

In a textbook, in a point of care tool (like Nursing Reference Center Plus)

# 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 impact of dietary counselling on minimizing blood glucose levels of adults with type 2 diabetes.

**P**opulation (adults with type 2 diabetes)

**I**ntervention (dietary counseling)

**C**omparison (no dietary counseling)

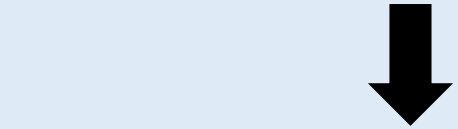
**O**utcome (lowered blood glucose levels)

**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 impact of dietary counselling on minimizing blood glucose levels of adults with type 2 diabetes.



~~You are looking for literature on the impact of~~ **dietary counselling** ~~on minimizing~~ **blood glucose levels** ~~of~~ **adults with type 2 diabetes.**

# Concept Map

| | AND | AND | AND | |
|---|---|---|---|---|
| | **Concept 1** | **Concept 2** | **Concept 3** | **Concept 4** |
| | | | | |
| **OR** | | | | |
| **OR** | | | | |
| **OR** | | | | |

**SYNONYMS**

# EXAMPLE: Concept Map

| | AND | | AND | |
|---|---|---|---|---|
| | **Concept 1** | **Concept 2** | **Concept 3** | |
| | Dietary counselling | Blood sugar | Type 2 diabetes | |
| **OR** | Nutrition Counseling | Blood glucose | Type 2 diabetes mellitus | **SYNONYMS** |
| **OR** | Nutritional therapy | | | |

# SEARCH ALGORITHM FOR BIOMEDICAL DATABASES

Subject Heading

OR

Keyword

AND

Subject Heading

OR

Keyword

=

Results

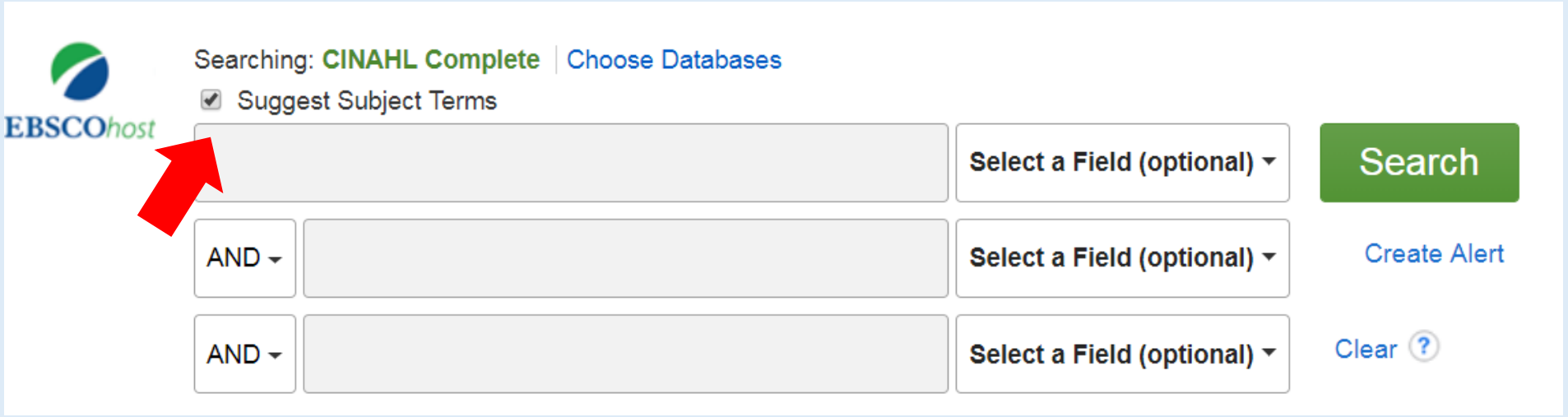
# 3. Searching

# Suggest Subject Terms

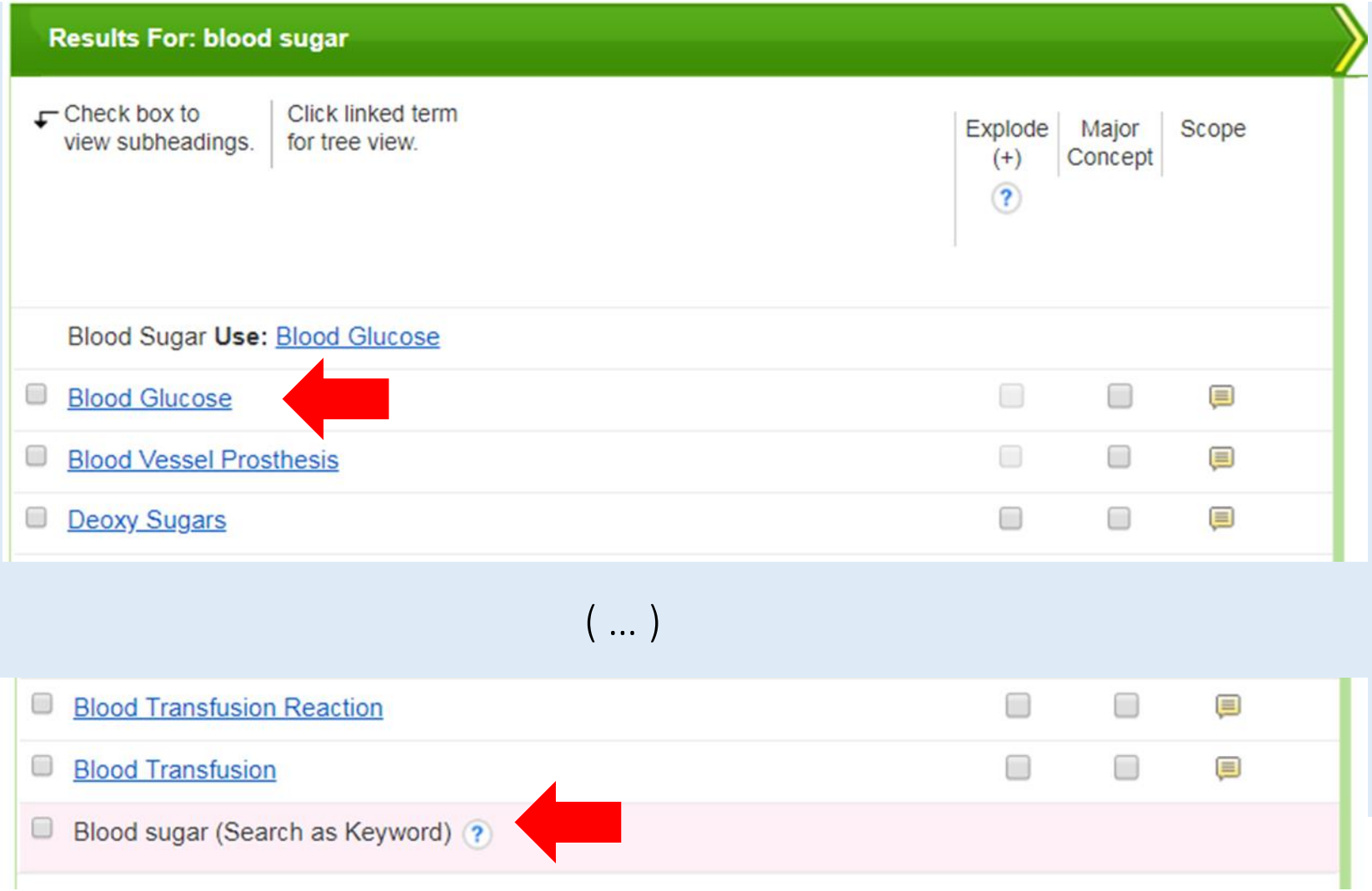
Use keywords to “map” to Subject headings

In other words…

1. You type in your keyword: blood sugar
2. Database suggests the best Subject Heading: blood glucose



# SUBJECT HEADINGS & KEYWORDS




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

| | |
|---|---|
| **Scope Note:** | 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. |

# Using the Search History

The order searched in

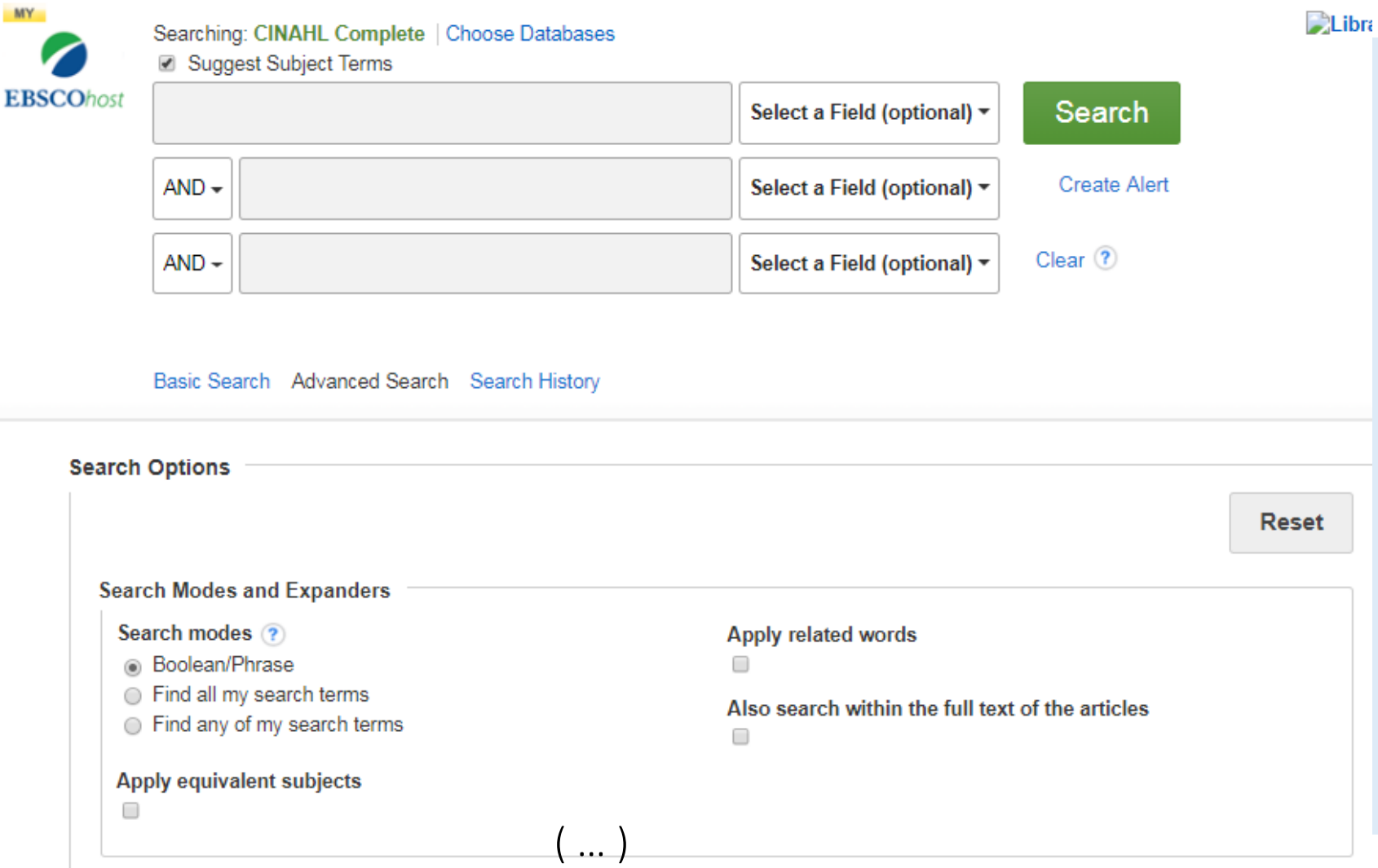
## Search History/Alerts

Print Search History | Retrieve Searches | Retrieve Alerts | Save Searches / Alerts

Select / deselect all | **Search with AND** | **Search with OR** | **Delete Searches** | **Refresh Search Results**

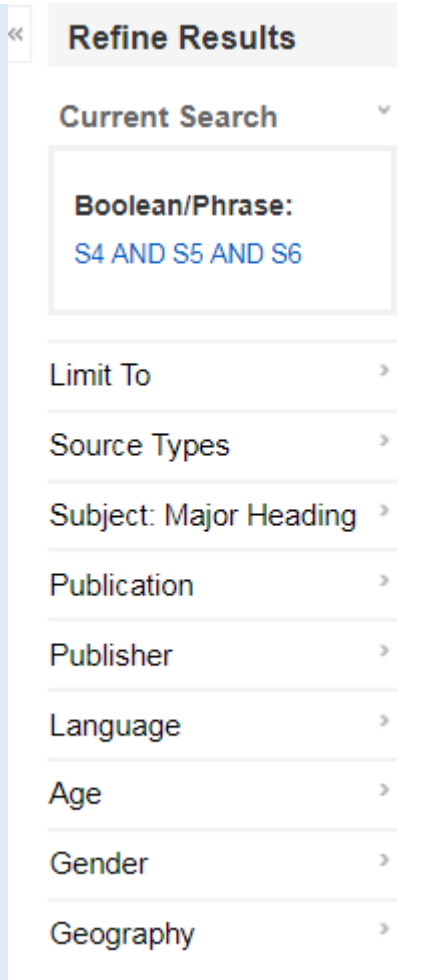
| Search ID# | Search Terms | Search Options | Actions |
|---|---|---|---|
| S7 | S4 AND S5 AND S6 | **Search modes** - Boolean/Phrase | View Results (63) \| View Details \| Edit |
| S6 | (MH "Diabetes Mellitus, Type 2") OR "type 2 diabetes" | **Search modes** - Boolean/Phrase | View Results (61,840) \| View Details \| Edit |
| S5 | (MH "Blood Glucose") OR "blood sugar" | **Search modes** - Boolean/Phrase | View Results (31,793) \| View Details \| Edit |
| S4 | S1 OR S2 OR S3 | **Search modes** - Boolean/Phrase | View Results (5,950) \| View Details \| Edit |
| S3 | (MH "Diet Therapy") OR "nutritional therapy" | **Search modes** - Boolean/Phrase | View Results (3,612) \| View Details \| Edit |
| S2 | "dietary counselling" | **Search modes** - Boolean/Phrase | View Results (158) \| View Details \| Edit |
| S1 | (MH "Nutritional Counseling") OR "nutritional counseling" | **Search modes** - Boolean/Phrase | View Results (2,290) \| View Details \| Edit |

# LIMITING AND EXPANDING THE SEARCH




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

# Refining the Search

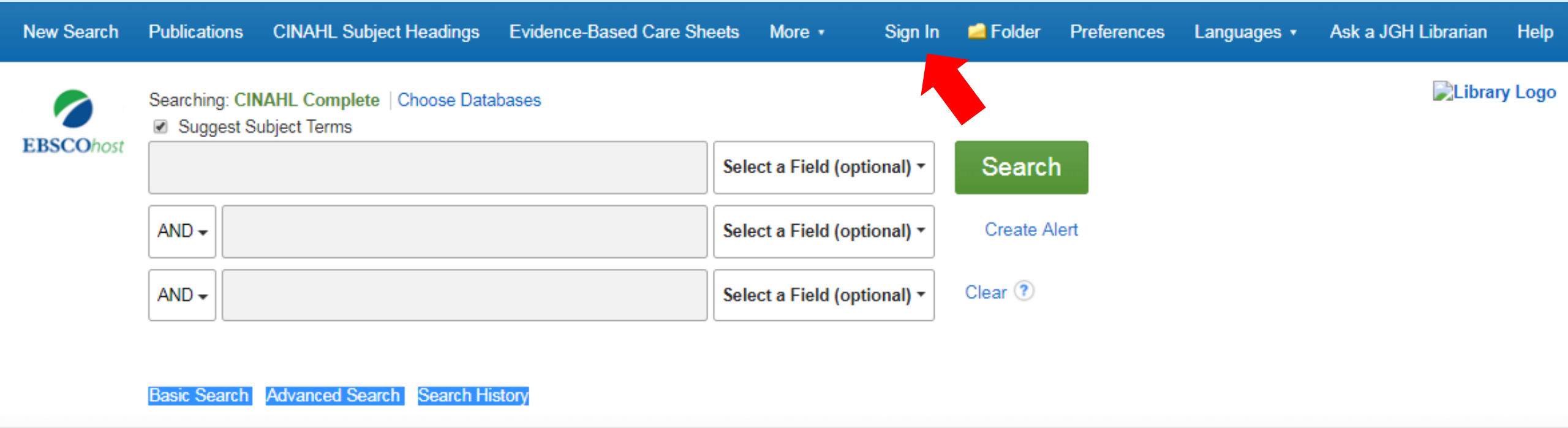



- Situated on the left hand side of your search results

- In our example we could refine our search as follows:
  - Limit to: Abstract Available & Last 10 years (= Publication date 2009 to 2019)
  - Source Type: Academic Journals
  - Language: English & French

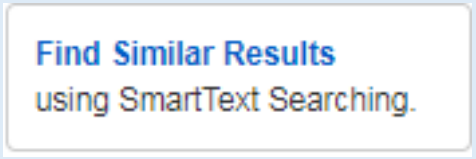
# Create a Personal Account for CINAHL

- 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!



# 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

- This is an iterative process

# 4. Continuing Education with CINAHL

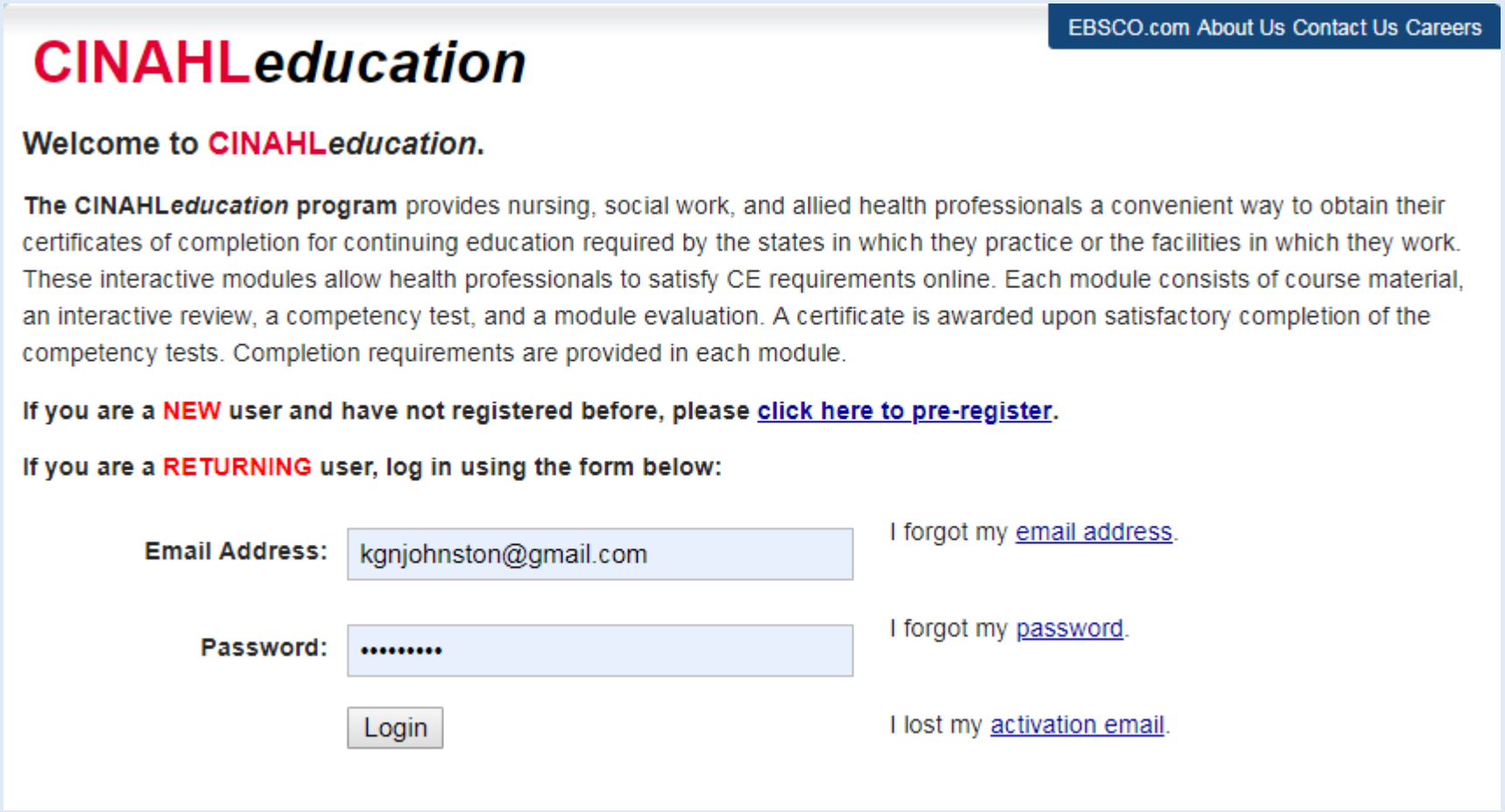
# What are CEUs?

- 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

- 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

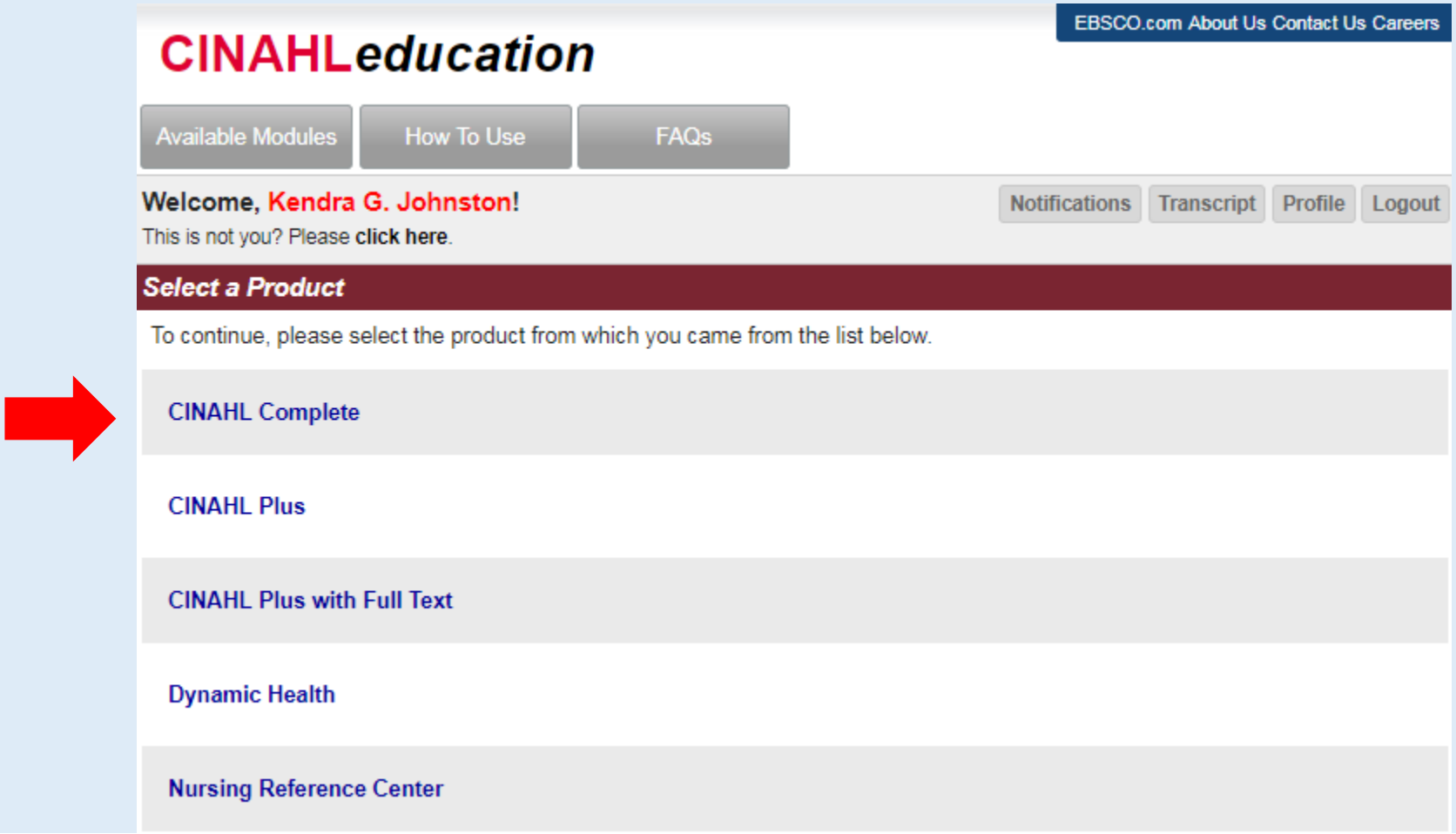



- Go to:

https://ceu.cinahl.com/login

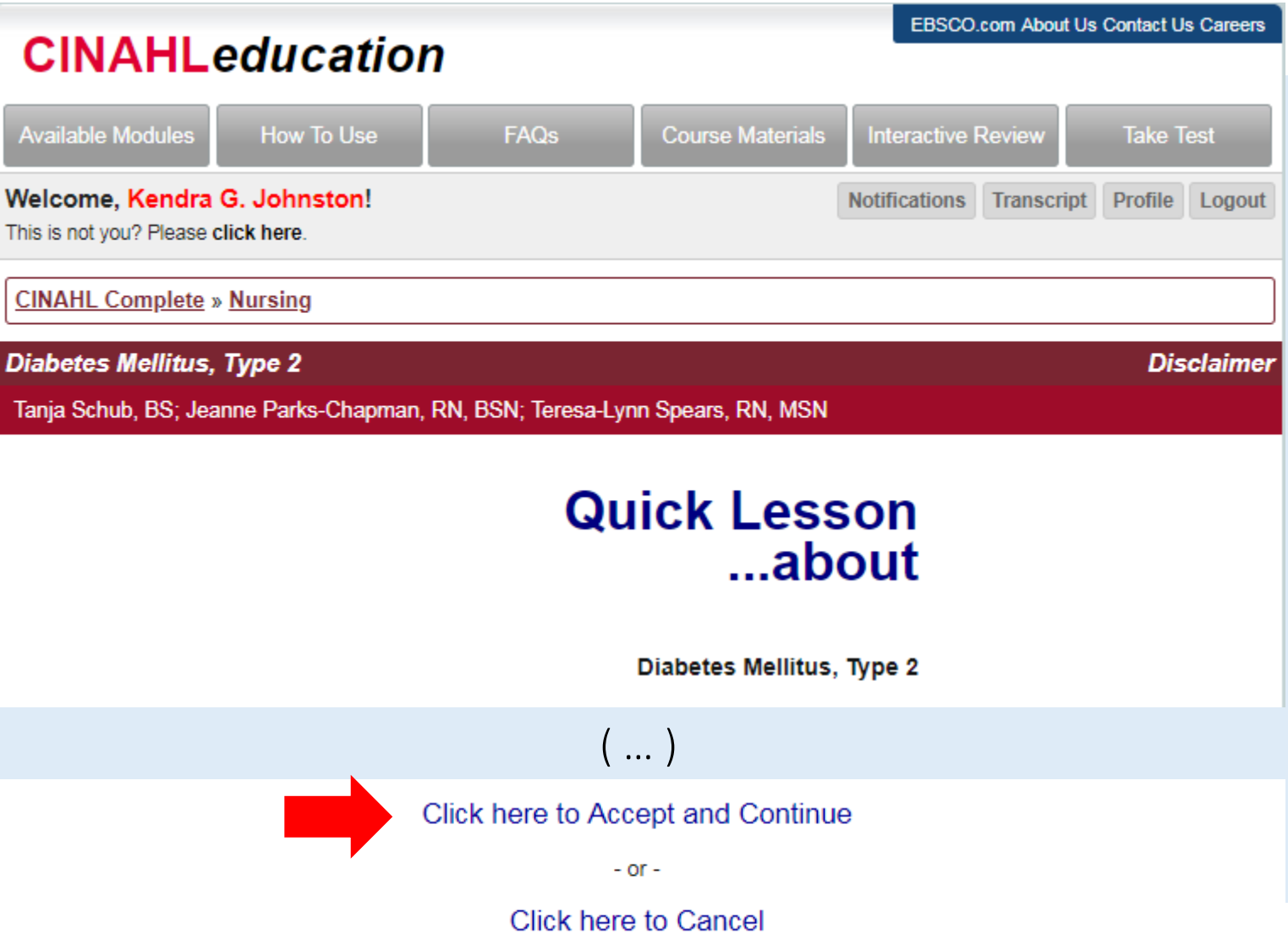
- Create a CINAHL education account (different than your CINAHL account) or sign in if you already have one

# Select “CINAHL Complete”



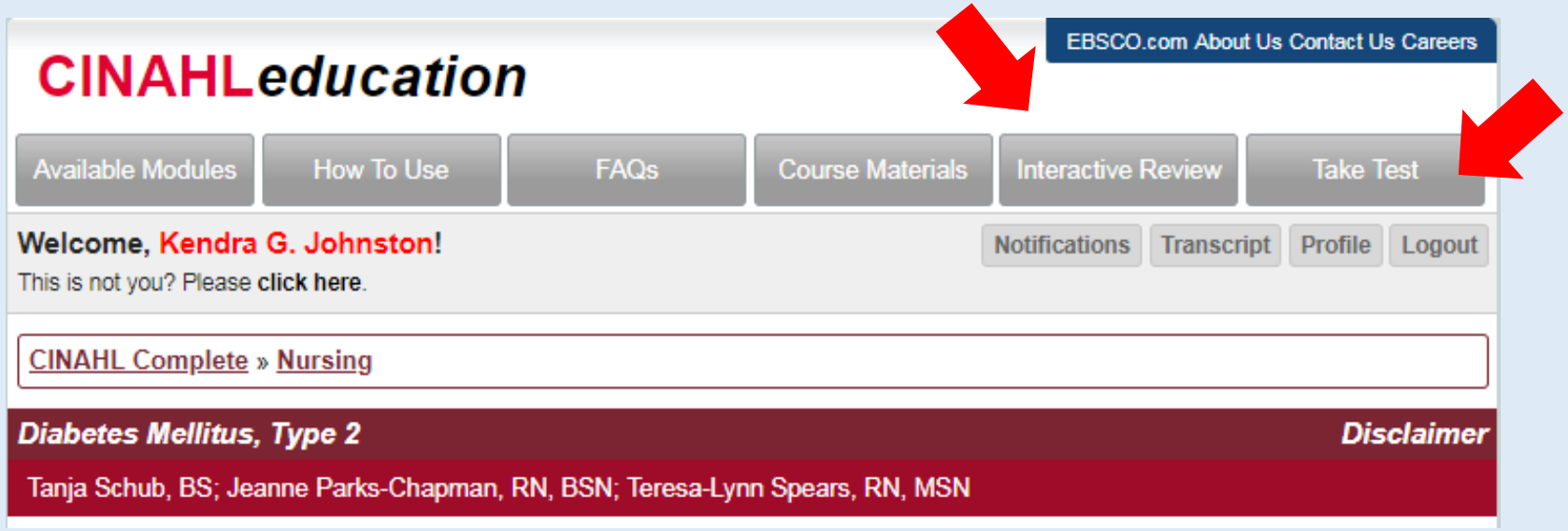

( … )

# Search for a Topic and Select It




- 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




- 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

- 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

# 5. Reminder & References

# REMINDER

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

  Kendra Johnston, 514 340 8222 x22453
  kendra.johnston.ccomtl@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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