


**Critical Appraisal  
Where Do I Start?**

An Introduction to the  
New PHAC Toolkit



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**Why is Critical Appraisal of  
Studies Important?**

- Recommendations and decisions are made based on studies (evidence informed)
- These decisions often have huge far reaching implications
  - Unintended consequences for patients and staff
  - Costs and resources – finite amount available
  - Reallocation of resources away from something important to something not so important

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**In the IPAC World**

Recommendation = knowledge of organism, process or outcome + weak/moderate design study + case report + outbreak report + opinion



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# Joanne Archer presentation at PICNet 2018 Educational Conference

## Example: PICNet ARO Guidelines

1,672 citations found by CADTH  
388 citations found by CRNBC  
Health Librarians



155 studies used

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## Strength of Study Design



- *RCT (randomized controlled study)*
- *CCT (controlled clinical trial) = controlled before-after = lab experiment*
- *Meta-analysis (depending upon strength of studies pooled)*
- *Cohort*
- *Case-control*
- *Interrupted time series with adequate baseline*
- *Cohort with non equivalent comparison group*
- *Uncontrolled before-after*
- *Interrupted time series with inadequate baseline*
- *Descriptive (cross-sectional > ecological)*

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## PHAC Critical Appraisal Toolkit

- Guides one through the process of appraising a study's design and quality and there by the strength of the evidence.
- Ideally appraisals are done by a group of people who discuss and reach consensus on conclusions
  - There is no perfect study
  - Critical appraisal is NOT an exact science

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### My Experience with the Toolkit

- Took a lot of brain power and concentration
- Frequent looking back and forth when appraising a study
- Length of time to go thru all the steps initially almost an hour per study
- By the end of the afternoon I wanted to poke myself in the eye with a sharp stick



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### A Very Useful Tool BUT.....

Assumed a graduate student level of knowledge  
Very time consuming to learn and develop skill using it.  
– Concerns that this would prevent folks from discovering and using it

**YET**

Thirst for knowledge and skills surrounding evaluating evidence  
What can I develop to assist this process?

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### Introduction to Critical Appraisal Toolkit Learning Module

- A module to review some of the terms used in the toolkit
- Go in to further explanations about the elements of various study designs
  - Expand on the information in the toolkit and fill in the pieces where knowledge was assumed
- First experiences using the toolkit will be less frustrating, more gratifying

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<https://learninghub.phsa.ca>

- Module 1: Introduction to Critical Appraisal
- Module 2: Study Designs
- Module 3: Study Quality (bias, confounding, generalizability, reliability, validity, ethics, statistical or clinical significance, retention and follow-up).
- Knowledge checks after each modules
- Final Quizz

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**Keep in Mind ....**

This process will still take practice, patience and time.



Your skills will require continual nurturing

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**It all starts with a Question – Question Everything**

- We will find better solutions when we become the people who ask whether we have asked enough questions rather than the people who are the keepers of all the answers.
- One of the biggest mistakes we make is when we assume that someone else already knows the answer to our question rather finding out whether anyone has ever even asked the question before.

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**Evaluation of Module**

Looking for folks for evaluation group

What's involved?

- Pre-test
- Complete module and do quizzes
- Post-test and questionnaire

Possibly write this up for an academic journal

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**Interested in Being involved?**

Let's chat:

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