



# **Evidence-Based Practice: Illustrating Critical Appraisal**

Working with children, youth, families, and communities impacted by trauma is both fulfilling and incredibly challenging. Mental health clinicians and supervisors are asked to navigate multiple demands, while also needing additional time and resources for the training and tools required to provide trauma-informed care. With that in mind, this guide was developed to assist you as a clinician engaged in this essential work, to better apply critical appraisal with a trauma-informed perspective as illustrated by a case example.

This tool and the guidance in it are intended to be used by clinicians at all stages of professional development. You may feel as if you or your organization are not ready to implement some of the suggestions in this guide, and that is okay. Those suggestions can be something you work towards. It will provide you with a way to consider what is reasonable and possible when working with trauma-impacted clients and will inform the assessment and treatment process. This tool may be especially helpful when used within the context of clinical supervision, consultation, or training and is a companion to be used along with the NCTSN's <u>Evidence-Based Practice Position Statement</u>. Additional guidance and resources are available in the NCTSN Position Statement on <u>Prerequisite Clinical Competencies for Implementing Effective, Trauma-informed Intervention</u>.

#### Introduction

To use an evidence-based practice approach, clinicians should have comprehensive training in evidence-based treatments and assessment, knowledge of how to use scientifically informed treatment guidelines and rating systems, and organizational leadership support. In evidence-based practice, the client is a partner in treatment; the client's preference is a consideration of equal importance to clinical expertise. The following vignette, which describes the process of critical appraisal, assumes the clinician is practicing in an environment where these circumstances are in place. The guidance illustrated in this document is not comprehensive, prescriptive, or exhaustive, but is intended to serve as a guide that you can apply to your work.

Aspects of critical appraisal require some training and/or resources that are not always accessible to clinicians in practice. As a result, this resource will highlight a variety of web-based resources, including evidence-based treatment guidelines and rating systems, which are widely available for clinicians and other professionals to use.

#### What is critical appraisal?

Critical appraisal is the process of carefully and systematically examining evidence to judge its trustworthiness, value, and relevance in a particular context. In other words, critical appraisal is one component of evidence-based practice that involves the conscientious use of evidence in the field to inform clinical practice. Critical appraisal is the process by which clinicians ask themselves, "Do I know the latest evidence for key issues in this case?" or "Does the evidence suggest an answer to specific questions I have in selecting a specific approach to trauma treatment for this specific client?"

<sup>&</sup>lt;sup>1</sup>Select web-based guides include: NCTSN, California Evidence-Based Clearinghouse for Child Welfare, Blueprints for Healthy Youth Development, Office of Juvenile Justice and Delinquency Prevention Model Programs Guide, Penn State's Clearinghouse for Military Family Readiness, American Academy of Child and Adolescent Psychiatry - Parameters, Updates, and Guidelines; American Psychological Association Practice Guidelines, ISTSS Prevention and Treatment Guidelines, Cochrane Reviews



To help make this clearer, let's look at an example from a healthcare setting, where critical appraisal is used routinely. The following illustrates a physician using critical appraisal to treat a patient with cancer.

If one has a cancer diagnosis, the patient expects their doctor to have up-to-date knowledge about the presenting problem, know what the current science recommends for treatment, and that they will provide the top standard of treatment for the type and stage of cancer the patient has, all while taking into consideration "them as the patient" which includes their individual circumstances and preferences. If the state-of-the-art chemotherapy their doctor would normally use for this type of cancer has a side effect

of toxicity to human kidneys and this patient has kidney disease, it is reasonable for the patient to expect that the doctor will have critically appraised the research so that this specific patient won't get treatment that will harm what little kidney function they have remaining. The doctor can tell the patient if there is an alternative treatment with similar outcomes that preserves kidney function. Though this treatment has some other side effects the doctor wanted to avoid, the doctor reviews the treatment, its side effects, and any limitations with the patient. The patient can ask questions and share concerns and preferences. The doctor also informs the patient that they will closely monitor progress via metrics such as the patient's lab work, scans, and symptoms – all along the treatment journey – and adjust as necessary without deviating from national guidelines for the treatment's effectiveness. The doctor may revisit the evidence base as treatment progresses, especially if something new or complicated enters into the picture. The doctor will also be aware of new treatments or new evidence about the outcomes and risks of the current, or other potential, treatments.

Although medically focused, this analogy has practical relevance to the application of good practice in mental health, especially as it relates to treatment for children exposed to trauma. Critical appraisal can help guide clinical decision making and case planning in mental healthcare in a manner supported by the best available evidence. The following case vignette illustrates the critical appraisal process with a client with trauma-related presentation and symptoms. This guide uses the vignette to describe how to critically appraise client need and proposed treatment solution (i.e., how to determine what needs to be treated and how) as well as how to search the literature and interpret those search results to support development of a treatment plan (i.e., how to determine if the evidence you are reviewing is appropriate to apply in the context of your individual client).

# The NCTSN aspires for each child to have access to treatment by a clinician using an evidence-based approach.

- Ask the right clinical question (i.e. Is trauma-informed treatment appropriate for this client presenting with these symptoms that are due to these trauma exposures and circumstances?)
- Identify the best evidence with which to answer the key question
- Critically appraise the evidence for its validity (closeness to the truth) and usefulness (clinical applicability)
- Act on the evidence:
  - Integrate the appraisal with clinical expertise;
  - Explain to your client the balance of evidence considering the pros and cons; and
  - Apply the results in practice.
- Assess and evaluate your performance: assess progress along the way and evaluate with the use of outcomes.

Sackett, DL. Evidence-based medicine. Seminars in Perinatology, Vol 21, 1997; and Students 4 Best Evidence in Healthcare. "What are key steps in Evidence-based Medicine?" 2015. Downloaded 11.12.17



# Case Example:

# **Taylor**

Taylor is a White, 15-year-old who identifies as male. He experienced physical abuse by his stepfather for the past five years and has witnessed both physical and verbal abuse of his mother by his stepfather. His biological father is not involved in Taylor's life. Child protective services recently removed Taylor from his home, and he is currently in a temporary out of home placement with his maternal grandparents (i.e., kinship care). Taylor's caseworker referred him to you to begin therapy to help Taylor cope with the negative effects of the abuse and his transition into kinship care. Taylor discloses to you that he uses marijuana as a way to cope/escape when he is feeling depressed and missing his mother. He denies past or intended suicide attempts or a plan. Other symptoms include difficulty falling asleep, nightmares, irritability, intrusive traumatic memories, and difficulty concentrating at school and on homework. You have administered several different reliable and valid screening and assessment tools<sup>2</sup> to better understand Taylor's current and past exposure to traumatic stressors, adversities, symptoms, potential trauma reminders,



and functional impairment. His score on the Child PTSD Symptom Scale was 48, placing him in the severe range for PTSD symptoms. In addition, Taylor's grandparents are concerned because he has been skipping school to spend time with friends. The grandparents believe that these friends are not a good influence on Taylor's behavior and that his grades have fallen since he has been spending so much time with them. Taylor describes "shutting things out" by playing video games and browsing social media. It is also known that although Taylor's mother has experienced intimate partner violence, she is not ready to address the relationship issues with his stepfather.

Now that you have met with Taylor and conducted initial screenings and assessments you are ready to begin developing a case plan. Taylor's case presents a number of factors to consider. His substance use, risk-taking behavior, and the condition of his family relationships could indicate a traumatic stress response to the physical and verbal abuse he has experienced and the intimate partner violence he has witnessed. His nightmares and intrusive traumatic memories may suggest the need for treatment that involves therapeutic trauma memory processing. In light of Taylor's tendency toward avoidance and emotional numbing, interventions to increase his sense of self-efficacy and safety, and to help him with emotion regulation, may be important. His transition to kinship care with his maternal grandparents may also pose challenges for Taylor. His grandparents report Taylor's mother and stepfather are in court ordered-individual therapy and his mother is being evaluated for when she will be ready for parenting/family therapy. Taylor's stepfather is out on bail awaiting a court date for misdemeanor child abuse. Also, there may be a possibility of reunification with the mother and possibly the stepfather, which will need to be addressed in treatment. After further discussion, both you and Taylor feel that his PTSD symptoms are the target for intervention. This was also discussed with his grandparents, who agree. You are reassured that Taylor has disclosed his substance use, and hope that the therapeutic relationship you have begun to establish will enable Taylor to continue to engage with you in therapy.





# How can a mental health clinician apply critical appraisal in practice?

#### Appraisal of client need and proposed approach to therapy

After collecting information from screening and assessments, you should be familiar with, or turn to the evidence-base, to guide your next steps in case planning. In Taylor's example, you (the clinician), consider Taylor's history of violence and abuse as potentially traumatic experiences and you begin to identify questions related to his circumstances and symptoms to take to the literature to help you determine an approach to treatment for a client with circumstances similar to Taylor. As you develop questions, consider what you have learned about Taylor, your professional expertise, and what you need to learn from the literature. In other words, ask yourself:

- "Do I know the latest evidence for key issues in this case?"
- "Does the evidence suggest an answer to specific questions I have in selecting a specific approach to trauma treatment for this specific client?"

A common framework that is used to help clinicians from different fields search the evidence to assist them in treating clients, is known as **Patient/Problem, Intervention, Comparison, and Outcomes (PICO)** (see Table 1).<sup>3,4,5,6</sup> This framework helps you develop questions to review evidence based on the clinical situation you have encountered. PICO helps you consider your client, their context, and presenting problems, as well as what intervention or treatment you are considering based on your professional expertise, other alternatives you think might be helpful, and the outcomes you would like to achieve.

As you weigh the case elements for treatment planning for Taylor, you can use the PICO framework to develop questions to use in your review of the evidence from peer-reviewed research and other sources. The following PICO questions are selected examples that may be helpful to consider in a case such as Taylor's:

# P - Patient/Problem

What population are you working with and providing treatment to (consider age, gender, ethnicity, or group with a disorder or symptoms)?

Taylor is a white adolescent who identifies as male and is presenting with issues related to experiencing abuse and witnessing intimate partner violence. He has recently transitioned to a temporary kinship care placement with his maternal grandparents. He also has difficulty falling asleep, nightmares, irritability, traumatic memories, and difficulty concentrating at school and on homework. You administered many screening and assessment tools and found that Taylor's PTSD symptoms were severe.

You and the client feel that these PTSD symptoms are the target for intervention; the grandparents agree.

#### - Intervention

What are the best proven therapies for a person like Taylor who has experienced child abuse and witnessed intimate partner violence in the past, is currently safe, and has re-experiencing, avoidance, and other PTSD symptoms?

- You could also go further to ask: Have those therapies been shown to work well with male adolescents?
- Do any of the approaches demonstrate better engagement and retention in treatment for someone like Taylor?
- If Taylor begins reunification with his mother and stepfather, is there evidence for approaches that would include working with them and Taylor?



# C - Comparison

Are you comparing two interventions or comparing two variables (such as for clients with or without a risk factor)?

- Here you may be trying to determine what treatment approaches would be best, recognizing there are multiple trauma exposures, and that Taylor is in a kinship placement. You may wonder how to best work with the grandparents, the mother, and/or if there is any possibility of contact with the stepfather.
- You find evidence that physical-abuse focused therapy can improve the relationships between children and caregivers in families involved in conflict, physical force/ discipline/aggression, child physical abuse, or child behavior problems. Is this type of treatment something that should be considered compared to a trauma treatment that focuses primarily on the child's symptoms? See Table 1 which illustrates how to use the PICO framework for this question about the specificity and/or timing of traumatic stress management and trauma narrative processing vis a vis physical abuse specific therapy for families with severe conflict.

## O - Outcome

What is the expected result or what do you hope to accomplish, improve, or affect? As stated above, you, the child, and grandparents, are focusing on reducing Taylor's significant distress, and are targeting his PTSD symptoms. Further, just as studies document effects through measures and assessments, clinicians also use assessments and track outcomes.

Table 1: Tips for Using Critical Appraisal in Child Trauma Treatment

#### PICO Framework - Patient/Problem, Intervention, Comparison, Outcomes

	Patient/ Problem	Intervention (a cause, prognostic factor, treatment, etc.)	Comparison Intervention (If necessary)	Outcomes
Tips for building effective clinical questions (that may require review of the evidence)	Starting with your client, ask yourself: "How would I describe a group of clients similar to Taylor?"	Ask: "What do I want to do for my patient?"; "Which main intervention am I considering?"	Ask: "What is the main alternative to compare with the intervention in question?"	Ask: "What can I hope to accomplish?" or "What could this adaptation really affect?" Be specific.
Continue Building: Upon deciding Taylor is stable and his grandparents and mother are willing to be involved in treatment:	Ask: What are the most relevant characteristics and problems of my patient? ask yourself: "I want to help an adolescent male exposed to physical abuse and interpersonal violence who is triggered by traumatic reminders and engages in avoidance and risk-taking behavior."	Ask: "Is trauma-focused treatment that is child focused and includes psychoeducation, stress management, facilitating a trauma narrative with cognitive and affective processing, emotion regulation, and includes attending to developmental progression the right approach to this case?"	Ask: "Or is physical abuse and family violence as a focus for individual and family work that teaches parents and children interpersonal skills, enhanced self-control, promotes positive family relations, and reduces violent behavior the direction to go?	"Our goals / desired outcomes for treatment are building physical and psychological safety and reducing PTSD and other traumatic stress symptoms. This includes close work with the grandparents in this initial phase of treatment and does not pre-empt work with the mother if indicated.

Note: Adapted from Richardson, Wilson, Nishikawa, & Hayward (1995), Duke University and University of North Carolina at Chapel Hill EBP Tutorial (2019), Oxford Centre for Evidence-Based Medicine website, and Amaya-Jackson & DeRosa (2007)



# Appraisal of the research literature – how to conduct a literature search and interpret your findings

As you begin researching to determine what treatment approaches might be beneficial for Taylor, you use a variety of resources including open-access peer-reviewed journal articles and evidence-rating systems such as the California Evidence-Based Clearinghouse (CEBC) and evidence-based treatment guidelines such as those provided by the American Academy of Child and Adolescent Psychiatry, the American Psychological Association, the International Society for Traumatic Stress Studies, or the Cochrane Reviews.

As a clinician, there are several approaches you can take to explore best practices to effectively treat a client's presenting clinical symptoms. Below are some examples of the types of searches you might consider for a client with Taylor's history, using the questions you developed.

- 1. Explore websites that summarize evidence-based programs according to mental health or trauma topics. Search for keywords that are important to consider in Taylor's case plan. For a case such as Taylor's, consider keyword searches for "anxiety," "trauma," "PTSD," "physical abuse," "interpersonal violence exposure," "kinship care," or "adolescent." Websites similar to those listed below will offer information on practices that could be considered beneficial to Taylor, as well as access to resources, training, and support to assist in the implementation of these approaches with a client.
  - SAMHSA's Evidence-Based Practices Resource Center
  - California Evidence-Based Clearinghouse for Child Welfare
  - Blueprints for Healthy Youth Development
  - NCTSN Intervention Fact Sheets
  - Youth.gov Program Directory
  - Penn State Clearinghouse for Military Family Readiness
  - National Institute of Justice Crime Solutions
  - Office of Juvenile Justice and Delinquency Prevention Model Programs Guide
- 2. Use Google Scholar to find open access peer review articles to help guide treatment planning. In Google Scholar, enter the keywords relevant to Taylor's case to learn about the most recent research on treatments, interventions, or core components of each that could be used to address Taylor's symptoms in a developmentally and culturally appropriate way. Of note, many articles on Google Scholar may be restricted and difficult to acquire without a university affiliation. A list of fully open access journals is available at the National Child Advocacy Center's Child Abuse Library Online. Similar to the Google Scholar search, open access journal sites can be searched using a keyword approach to obtain useful readings.
- 3. Search national association websites focused on trauma and mental health.

These sites often have exceptional resources for mental health professionals on best practices, as well as affiliates who are delivering such practices in your local area. Here are a few examples relevant to Taylor's case that include trauma and therapy resources for mental health professionals.

- Association for Behavioral and Cognitive Therapies
- International Society for Traumatic Stress Studies
- American Academy of Child and Adolescent Psychiatry
- The American Professional Society on the Abuse of Children
- Zero to Three
- American Psychological Association



Now that you have an idea of where you may want to search for research literature, you think about Taylor's referral to you and how it is related to reducing distress and enhancing coping for the effects of the abuse and violence in his family (i.e., his traumatic stress symptoms of PTSD, behavior problems, and marijuana use) as well as helping him deal with any shame, fears for him and his mother's safety, examining his feelings about his stepfather and his grandparents' new roles as his guardians. You search the evidence for child abuse, family violence, and removal from parents. You find a couple meta-analyses, visit the CEBC, and visit the NCTSN website to review a list of interventions. You find that the current evidence suggests that a traumafocused treatment, which involves non-offending caregivers and includes treatment components on anxiety management, skill building, addressing trauma reminders, use of gradual exposure (including – but not limited – to using a trauma narrative), and trauma memory processing and cognitive restructuring could help a person with Taylor's experiences.

Based on the past interpersonal violence in Taylor's family, ensuring both physical and psychological safety are underscored in the literature along with treatment guidelines with recommendations for care and caution that children need to be safe from threat before applying a gradual exposure paradigm using a trauma narrative. After reading some descriptions on the CEBC about physical abuse and family violence programs that deal with reducing or preventing effects of exposure to violent behavior, anger, and self-control, you make a note that if there are parent reunification efforts for Taylor, you may need to revisit the best treatment considerations with previously offending parents, especially if Taylor shows emotional or behavioral distress. CEBC is a good place to resume your search for EBTs that address family violence. But as of right now, neither the grandparents or Taylor appear to be experiencing behavioral dysregulation. You consider addressing Taylor's substance use, skipping school with friends, and use of video games as mechanisms for avoidance and distress numbing but will monitor them as treatment progresses. You note that in the literature on adolescents with multiple forms of interpersonal violence, the possibility for complex trauma sequela may include emotional/behavioral dysregulation. After learning this, you decide to add a measure for complex trauma.

Although you have reviewed the literature and many other sources to help identify a treatment approach for Taylor, you also recognize that it is important that you critically appraise the evidence you have reviewed to determine how trustworthy or reliable it is, and whether you want to use the information. This can seem daunting if you are not embedded in a research environment or familiar with how to assess a research paper to determine if the methodology was sound, if the sample size was appropriate, etc. However, there are many tools that can assist. First, evidence rating systems such as those mentioned above (e.g., CEBC, etc.) are freely available and have largely done this work for you. So, if you are short on time, please refer to those. If you have more time, you might consider using an existing rubric or checklist designed to walk you through the process.<sup>7,8</sup>

### **Considerations for Information Seeking and Applying to the Therapeutic Process**

There is so much clinical information available, and it can be overwhelming to decipher the most meaningful information. Here are a few suggestions that may assist as you seek information and support for using these skills in therapy:

- 1. In general, sites that are supported by government agencies and clearinghouses are a good starting point because these sites highlight programs funded by research. These sites are often more reliable sources of information than something posted on individual clinic or professional websites.
- 2. While government and clearinghouse sites simplify the way to access information on effective programs and practices, it can be more challenging to access training or the support needed to learn the





approaches required for effective delivery to a client. Getting connected to clinicians trained in evidence-based programs in your area can be a good first step to learn about local options for training and consultation. Reaching out to the contact persons listed on the clearinghouses/ websites can also be helpful. While training and consultation for new programs can be expensive, there are often opportunities to participate in training at reduced costs as the result of grants or other initiatives. Some practices even have opportunities for free online training that therapists can complete on their own (i.e., the NCTSN Learning Center).

**3.** Reaching out to funded NCTSN sites or affiliates in your state can help clinicians access trainings and resources that can assist in using best practices for trauma treatment.

#### What should the clinician consider before applying the evidence?

Now that you have completed your search of the evidence and determined its applicability and reliability, there are several other considerations you must weigh before applying the evidence and finalizing Taylor's treatment plan, which is focused on targeting his PTSD symptoms. Here are some questions to consider:

- Do you have the requisite training and supportive infrastructure to use the recommended assessment(s) or the recommended intervention(s)? If no, where can you get expert consultation, or where and to whom could you make a referral for trauma-focused or other indicated assessment or treatment?
- What, if any, trauma-focused or other psychotherapy or family therapy treatments or other therapeutic services has Taylor had in the past? How were they helpful, or not?
- What are Taylor's views and preferences about therapy and therapeutic services?
- What does Taylor know about trauma and traumatic stress, and what information (and from what source did he obtain that from) would be most meaningful and relevant to him?
- How can you engage with him and provide information about trauma-focused therapy that will begin a therapeutic relationship and help him feel hopeful and motivated?
- In order to help Taylor with the intrusive trauma memories he is experiencing (including his nightmares):
  - a. what do you need to do to prepare Taylor to engage in trauma memory processing
  - b. what timing, pacing, and approach(es) should be considered for this trauma-focused memory work with him?
- Are there immediate safety issues (e.g., suicidality, self-harm, substance use, ongoing family, school/ peer, or community violence), and how should trauma-focused therapy be implemented so as to maintain Taylor's safety with regard to those risks?
- What is the state of the relationship between Taylor and his current primary caregivers, his grandparents:
  - a. is Taylor willing to have them be involved in the treatment?
  - b. are his grandparents supportive and willing and able to be engaged in the treatment?





- What is the state of Taylor's relationship with his mother and stepfather, and:
  - a. does Taylor want either or both to be involved in the treatment?
  - b. would additional services or treatment be needed by either or both his mother or stepfather in order for them to be able to participate helpfully in the treatment?
  - c. are either or both the mother or stepfather supportive and willing to be involved in Taylor's treatment?
  - d. what is the best timing and way to involve either or both of them in Taylor's treatment now or in the future?
- Are there other sources of family or social support (e.g., adult mentors, teachers, friends, support groups)
   that are available and that you can help Taylor access?
- Has the treatment delivery context been considered and matched to the intervention selected (e.g., privacy to discuss trauma details, feasibility of tele-health application)?

Careful consideration of these and other factors will aid you as you finalize a plan to treatment that both you and Taylor feel confident in pursuing. It is important to note that critical appraisal doesn't end once your treatment plan is final. As illustrated in the medical analogy on pages 2 and 3, as you move through Taylor's treatment plan you must check in with Taylor regularly to assess progress and determine if the plan is working, needs modification, or perhaps necessitates a new approach. This may require additional searches of the most current evidence to inform your work. Further, the more adaptation or modifications you make to your treatment approach, the more measurement you have to do along the way. This process of ongoing data-driving decision making is key to a strong evidence-based practice approach.

Keep in mind, as you work through your critical appraisal process, there are many resources available to help you appraise the relevant resources and literature to address the trauma exposure and high PTSD symptoms in Taylor's case example. If upon completing the steps in the critical appraisal process you believe you do not have the training and support infrastructure to use the recommended assessment(s) or the recommended treatment(s), you can consider accessing expert consultation, or determine if referral to another provider with the requisite competencies might be more appropriate.

# **Conclusion/Summary**

Critical appraisal is an ongoing process throughout clinical work and broader practice, and over time with each client. As you encounter roadblocks, such as challenges for the client to engage in treatment, stalled progress, or newly emerging problems, the evidence should be revisited for new ideas and insights. As you become more familiar with asking these important questions, it will become increasingly more natural to routinely apply these strategies for enhancing clinical assessment and conceptualization of the client's needs and looking at evidence-based treatments with a critical eye for alignment with the client's presentation and circumstances. In addition to the enhancement of clinical skills, using critical appraisal for ongoing, data-informed decision making will help you master other related components of evidence-based practice, including measurement-based care in the use of evidence-based treatments and promising practices.

For more complete guidance on applying critical appraisal in mental health treatment, you are encouraged to seek further consultation on best practices from a supervisor and colleagues, or seek further training and education in relevant topics. Additional information on trauma, screening, assessment, and evidence based-treatment is available at www.NCTSN.org.



 $<sup>^{1}\,\</sup>text{Centre for Evidence-based Medicine. (n.d.)}.\,\,\text{Critical appraisal. https://www.cebma.org/resources-and-tools/what-is-critical-appraisal/}$ 

### **Suggested Citation**

Amaya-Jackson, L., Absher, L., Ford, J., Hodgdon, H., Jaycox, L., Mannarino, A., Self-Brown, S., Sprang, G., & Walsh, C. (2022). *Evidence-based Practice: Illustrating Critical Appraisal*. Los Angeles, CA & Durham, NC: National Center for Child Traumatic Stress.

#### **Acknowledgments**

The authors would like to thank the following individuals for their feedback and contributions to this resource: Cynthia Arreola, Nova Evans, Chase Giroux, Jennifer Grady, Tanya Toyer, and Jessica Wozniak.

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<sup>&</sup>lt;sup>4</sup> Centre for Evidence-Based Medicine. (n.d.). Finding the evidence: A how-to guide. https://www.cebm.ox.ac.uk/resources/ebm-tools/finding-the-evidence-tutorial

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