<table>
<thead>
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<th>1</th>
<th><strong>Brief patient scenario:</strong> Thumbnail sketch of your patient’s presentation, problem and working diagnosis (Maximum 3-4 sentences). Include enough detail so that the reader has the appropriate context for the question posed.</th>
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| 2 | **Critically Question (PICO)**  
- **First:** write the clinical question in your own words. Do not enter this in the CAT  
- **Second:** convert the question to the PICO format and enter in the CAT.  
- Some questions may not seamlessly transfer to PICO format (best approximation is appropriate).  
  - **P** (patient or problem): description of the patient and/or the disorder (e.g. geriatric patients with dizziness).  
  - **I** (intervention): the intervention of interest (e.g. diagnostic test, therapy, exposure (harm), prognosis (risk) factor).  
  - **C** (comparison): comparison of intervention to other intervention (e.g. conservative care vs. surgery) or placebo.  
  - Clinical questions often do not require a specific comparison.  
  - **O** (outcome): outcome of interest (e.g., decrease pain or disability, side effects, early return to work). |
| 3 | **Search String Used**  
- List the string of search terms, including connecting terms (Boolean operators), and symbols (*) or punctuation (parentheses, quotation marks)  
  Example: geriatric patients AND proprioceptive exercise AND fall prevention |
| 4 | **Databases/search engines**  
- List which data bases (e.g. PubMed) or search engines (e.g. TRIP) you accessed. Indicate which one accessed your study.  
- It is often important to use more than one engine or data base to increase the odds of finding the best available evidence.  
- Don’t use DynaMed for this assignment. It is more of a destination site providing information than a search engine to find studies. |
| 5 | **Reference:** List the journal reference or references used for this CAT in the following Vancouver style format. Do not use studies more than 10 years old.  
- Author (surname, initials), title of article, title of journal (abbreviated), date of publication: volume number (issue number) page numbers. |
| 6 | **Study Category:** Determine the category that matches your clinical question.  
- **Diagnosis**  
- **Therapy**  
- **Harm**  
- **Prognosis**  
- **Other**  
- Harm includes studies on risk factors for a disorder (e.g., risk factors for first time low back pain) and studies on side effects (e.g., stoke and cervical manipulation)  
- Other types of studies include etiology, differential diagnosis, and prevention. |
| 7 | **Study Type:** Mark all that apply.  
- Case reports and case series should not be used for 10th or 11th CATS. They serve an important clinical role but are not appropriate for this level of discussion.  
- Narrative reviews should not be used for 10/11 CATS. They often do not cite elements that are important to our level of discussion (i.e. test validity or therapeutic effectiveness, quality of research, etc.)  
- Text books should not be used. Text books usually do not reflect the most current information. They are only appropriate to answer a patient based clinical decision making question when no other evidence can be found.  
- Pilot studies should not be used. The typical small sample size and preliminary results often do not provide enough strength of evidence to impact clinical decisions  
- **Systematic review (qualitative)**  
- **Systematic review (Meta-analysis)**  
- **RCT**  
- **Cohort**  
- **Case control**  
- **Guidelines**  
- **Clinical Prediction Rule**  
- **Cross sectional**  
- **Prospective design**  
- **Retrospective design** |
| 8 | **EBP sandwich format**  
- What is the answer to the question/topic (the meat): Summarize the take-home message of what your research revealed in one or two sentences.  
- What is the magnitude of treatment effect, test accuracy or prognostic/risk factor (the bread): Are the results statistically and clinically significant? This concerns the degree of difference between intervention and control groups as well as intra-group improvement compared to baseline. It is often expressed in both qualitative terms (i.e. “statistically significant,” “clinically significant,” large, moderate) and quantitative terms NNT, LR, effect size, etc.). Include numbers whenever possible. Don’t include all of the results; just highlight the most important outcomes that you want to emphasize.  
- How strong is the evidence (the other bread): This is based on the quality of the study and type of study (include a few of the major threats to internal validity). If pre-appraised evidence (synopsis, guidelines, systematic review, etc.) include number and type of studies. Enter quality scores and grade of recommendation if included in study. |
### Methods summary: Brief outline.
- What is the hypothesis/question addressed?
- Who were the subjects studied and what was the clinic setting (e.g., primary care, specialty or surgical clinic)?
- How many subjects and how many in each group?
- What are the endpoints/outcomes measured and how are they measured (e.g., OPS, PSFS, Oswestry)?
- For Therapy studies:
  - What were the treatments (including treatment schedule) and control interventions?
  - Who provided the treatment (e.g. therapist, chiropractors, neurologist, etc.)?
- For Systematic reviews:
  - Indicate whether the review was a qualitative or meta-analysis.
  - List the data bases the authors searched.
  - List the number of studies and patients that were included in the analysis.
  - List the inclusion/exclusion criteria.
  - Did the authors use a quality rating system to determine which studies to include in the review? If so what method did they use and what was the quality score needed for inclusion.

### Results: Answer to the study question.
- Express results quantitatively (include confidence intervals). Report results for all outcome measures, but you don’t need to give numbers for all of the outcomes, especially if they are secondary and showed no change.
  - Therapeutic studies: report any common measures of change such as NNT, OR, RRR, and ARR.
  - Diagnostic studies: report measures of test validity such as likelihood ratios, sensitivity, specificity, and/or predictive values. Include test reliability if reported.
- Statistical significance: Yes or No. This can be determined by citing p values or interpreting confidence intervals.
- Clinical significance: Yes or No. Were results large enough to meet a known MCID (remember published MCIDs pertain to comparing a group to its own base line not necessarily comparing groups to each other) or in your clinical judgment do the results seem large enough to make a clinically meaningful difference for your patients.
- Precision of results: Were result estimates precise? (This will be based on your opinion on whether the confidence intervals are wide or narrow.)

### Notable weaknesses or strengths?
- For a therapy study address the most relevant questions from the following (ABCDFIX)
  - Were and how were subjects randomized?
  - A: was allocation concealed?
  - B: Was there blinding? If so, whom? (patient, practitioner, outcome measurer, statistics analyzer?)
  - C: Comparable groups (after randomization)? Were groups treated comparably aside from intervention?
  - D: Drop outs (5-20%, were they accounted for?)
  - F: Follow up long enough? More than 20% lost to follow up?
  - I: Were the results analyzed by “intention to treat”?
  - X: Any other factors that you think introduced bias or affect generalizability (e.g., commercial sponsor, study size, sampling bias)?
- For a diagnostic study address the most relevant questions from the following
  - Was this a convenience sample or consecutive patients?
  - Was the patient type adequately described (e.g., severity of condition, practice setting, age, gender)?
  - Was there adequate blinding? Who? (patient, practitioner, outcome measurer, statistics analyzer)
  - What was the nature of the gold/reference standard? Was it applied to everyone in the study?

### Applicability/generalizability (Would this information affect management of your patient?) Elements to consider:
- Is there sufficient similarity between the patients studied and your/chiropractic patients (e.g., severity of condition, practice setting, age, gender)?
- Is the application practical (cost, skill level required)?
- Is this test or treatment compatible with your patient’s needs, wants, etc.?
- Does the diagnostic test studied have value relative to the prevalence or pre-test likelihood of the disorder in your/chiropractic patients?
- Was this test/therapy verified by any other studies? (See introduction and discussion sections of the study.)