

CASP Checklist: 12 questions to help you make sense of a **Diagnostic Test study**

How to use this appraisal tool: Three broad issues need to be considered when appraising a trial:

- ▶ Are the results of the study valid? (Section A)
- ▶ What are the results? (Section B)
- ▶ Will the results help locally? (Section C)

The 12 questions on the following pages are designed to help you think about these issues systematically. The first three questions are screening questions and can be answered quickly. If the answer to both is “yes”, it is worth proceeding with the remaining questions. There is some degree of overlap between the questions, you are asked to record a “yes”, “no” or “can’t tell” to most of the questions. A number of italicised prompts are given after each question. These are designed to remind you why the question is important. Record your reasons for your answers in the spaces provided.

About: These checklists were designed to be used as educational pedagogic tools, as part of a workshop setting, therefore we do not suggest a scoring system. The core CASP checklists (randomised controlled trial & systematic review) were based on JAMA 'Users' guides to the medical literature 1994 (adapted from Guyatt GH, Sackett DL, and Cook DJ), and piloted with health care practitioners.

For each new checklist, a group of experts were assembled to develop and pilot the checklist and the workshop format with which it would be used. Over the years overall adjustments have been made to the format, but a recent survey of checklist users reiterated that the basic format continues to be useful and appropriate.

Referencing: we recommend using the Harvard style citation, i.e.: *Critical Appraisal Skills Programme (2018). CASP (insert name of checklist i.e. Diagnostic Test Study) Checklist. [online] Available at: URL. Accessed: Date Accessed.*

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Paper for appraisal and reference:.....

Section A: Are the results of the trial valid?

1. Was there a clear question for the study to address?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: A question should include information about

- the population
- the test
- the setting
- the outcomes

Comments:

2. Was there a comparison with an appropriate reference standard?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Is this reference test(s) the best available indicator in the circumstances

Comments:

Is it worth continuing?

3. Did all patients get the diagnostic test and reference standard?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Consider

- were both received regardless of the results of the test of interest
- Check the 2x2 table (verification bias)

Comments:

4. Could the results of the test have been influenced by the results of the reference standard?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- was there blinding
 - were the tests performed independently
 - review bias

Comments:

5. Is the disease status of the tested population clearly described?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- presenting symptoms
 - disease stage of severity
 - co-morbidity
 - differential diagnoses (spectrum bias)

Comments:

6. Were the methods for performing the test described in sufficient detail?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- was a protocol followed

Comments:

Section B: What are the results?

7. What are the results?

- HINT: Consider
- are the sensitivity and specificity and/or likelihood ratios presented
 - are the results presented in such a way that we can work them out

Comments:

8. How sure are we about the results?
Consequences and cost of alternatives performed?

- HINT: Consider
- could they have occurred by chance
 - are there confidence limits
 - what are they

Comments:

Section C: Will the results help locally?

Consider whether you are primarily interested in the impact on a population or individual level

9. Can the results be applied to your patients/the population of interest?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

HINT: Do you think your patients/population are so different from those in the study that the results cannot be applied, such as age, sex, ethnicity and spectrum bias

Comments:

10. Can the test be applied to your patient or population of interest?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- resources and opportunity costs
 - level and availability of expertise required to interpret the tests
 - current practice and availability of services

Comments:

11. Were all outcomes important to the individual or population considered?

Yes	<input type="checkbox"/>
Can't Tell	<input type="checkbox"/>
No	<input type="checkbox"/>

- HINT: Consider
- will the knowledge of the test result improve patient wellbeing
 - will the knowledge of the test result lead to a change in patient management

Comments:

12. What would be the impact of using this test on your patients/population?

Comments: