



Critical Appraisal Toolkit

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Critical Appraisal Toolkit for Diagnostic Test Studies

How to use this toolkit?

Three broad issues need to be considered when appraising a diagnostic test study:

- Are the results of the study valid?
- What are the results?
- Will the results help me and my patients / population?

The 12 questions on the following pages are designed to help you think about these issues systematically.

The first two questions are screening questions and can be answered quickly.

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

A question should include information about:

- The population
- The test
- The setting
- The outcomes

Yes Can't Tell No

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

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

Yes Can't Tell No

If you have answered "Yes" to both questions, it is worth continuing with the appraisal

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

Were both received regardless of the results of the test of interest?

Check the 2x2 table (Verification bias)

Yes Can't Tell No

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

Was there blinding?

Were the tests performed independently? (Review bias)

Yes Can't Tell No

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

Consider:

- Prescribing symptoms
- Disease stage or severity
- Co-morbidity
- Differential diagnoses (Spectrum bias)

Yes Can't Tell No

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

Was a protocol followed?

Yes Can't Tell No

7. What are the results?

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?

Yes Can't Tell No

8. How sure are we about these results?

Consider:

- Could they have occurred by chance?
 - Are there confidence limits?
 - What are they?
-

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

Do you think your patients / population are so different from those in the study that the results cannot be applied?

Cont. overleaf

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

Cont.

Consider:

- Age
- Sex
- Ethnicity
- Spectrum bias

Yes Can't Tell No

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

Think of resources and opportunity costs

Consider the levels and availability of expertise required to interpret the test

Consider current practices and availability of services

Yes Can't Tell No

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

Will the knowledge of the test result improve patient wellbeing?

Will the knowledge of the test result lead to a change in patient management?

Yes Can't Tell No

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

For more information or assistance in using this toolkit, please contact the Knowledge and Informatics Trainer for the Knowledge and Information Service:
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