Guidelines for Meta-analyses Evaluating Diagnostic Tests

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Table 1. Steps in Conducting a Meta-analysis of a Diagnostic Test and Summary of Guidelines

- 1. Determine the objective and scope of the meta-analysis
 - Is there a clear statement about:
 - The test of interest?
 - The disease of interest and the reference standard by which it is measured?
 - The clinical question and context?
 - Is the objective to evaluate a single test or to compare the accuracy of different tests?
- 2. Retrieve the relevant literature Is the literature retrieval procedure described with each and link terms given? Are inclusion and exclusion criteria stated?
- 3. Extract and display the data Are studies assessed by two or more readers? Do the authors explain how disagreements between readers were resolved? Is a full listing of diagnostic accuracy and study characteristics given for each primary study?
- 4. Estimate diagnostic accuracy

Does the method of pooling sensitivity and specificity take account of their interdependence? When multiple test categories are available, are they used in the summary?

5. Assess the effect of variation in study validity on estimates of diagnostic accuracy Is the relation examined between estimates of diagnostic accuracy and study validity of the primary studies for each of the following design characteristics?

Appropriate reference standard

- Independent assessment of the test or tests and reference standard
- Avoidance of verification bias

In comparative studies, were either all of the tests of interest applied to each patient or were patients randomly allocated to the tests?

Are analytic methods used that estimated whether study design flaws affect diagnostic accuracy rather than just test threshold?

6. Assess the effect of variation in the characteristics of patients and test on estimates of diagnostic accuracy (generalizability)

Is the relation examined between estimates of diagnostic accuracy and characteristics of the patients and test?

Are analytic methods used which differentiate whether characteristics affect diagnostic accuracy or test threshold?