Change Healthcare Clinical Evidence Classification

References cited in the clinical content are classified according to the type of evidence presented. The class ratings, I through V, are intended to provide a classification of the evidence but are not necessarily hierarchical. Classifications appear in parentheses at the end of each reference. References followed by an (NC) are not classified; examples include pre-published research or information from government, manufacturer, laboratory, or patient education websites.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Type of Evidence</th>
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</thead>
<tbody>
<tr>
<td>Class I</td>
<td>Meta-analysis, technology assessment, or systematic review</td>
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<tr>
<td>Class II</td>
<td>Randomized controlled trial</td>
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<tr>
<td>Class III</td>
<td>Observational or epidemiologic study</td>
</tr>
<tr>
<td>Class IV</td>
<td>Evidence-based guideline</td>
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<td>Class V</td>
<td>Expert opinion, panel consensus, literature review, text or reference book, descriptive study, case report, or case series</td>
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**Class I**

Class I sources synthesize the results of multiple studies. When quantitative synthesis is possible, meta-analyses can provide a more accurate estimate of the effect or association size than individual smaller studies can. A Class I study that finds insufficient evidence to support or refute an intervention (due to a lack of appropriate primary research) is inconclusive. A potential weakness of Class I studies is that they may only assess published research, potentially leaving their findings vulnerable to publication bias.
Class II
A randomized controlled trial (RCT) is an experimental study design in which subjects are
randomly assigned to an intervention or a control group. An RCT is the gold standard for testing
cause and effect relationships. Intention-to-treat analysis should be performed to account for
missing data points.

Class III
Observational or epidemiologic studies can suggest an association between events or findings.
These associations cannot be used to establish causality. Cross-sectional, cohort, and case-
control studies are all used to identify possible risk factors. Cross-sectional studies are also used to
determine the prevalence of a condition. Cohort studies are used to study incidence, the
natural history of a condition, prognosis after a specific exposure, and associated harms.
Nonrandomized controlled trials are sometimes used when randomization is impossible or
unethical.

Class IV
Evidence-based guidelines are systematically developed recommendations for clinical
practice. Evidence-based guidelines identify the methodology used to gather the evidence on
which the recommendations are based. Usually, a grading system for both the quality of the
evidence and the strength of the recommendations is provided. Guidelines that are evidence-
based may also contain consensus recommendations in areas where evidence is lacking, but
these recommendations are clearly identified and appropriately graded.

Class V
Class V references may be the best information in the absence of other evidence. Expert
opinion, panel consensus, literature reviews, and descriptive studies (case reports or case series)
are subject to significant bias. A case series with comparison to historical controls can be
plagued with missing data, and data extraction inconsistencies are common. The use of
historical controls does not address how the diagnosis of disease or its treatment has evolved
over time with newer technologies or medication. Text book information may be out of date by
the time the book is published.

Comparative Effectiveness Research (CER)

Citations are designated with the CER label as part of the evidence classification if the article
cited is one of the following:

1. A clinical trial or other clinical study that directly compares two or more health care
   interventions for the same clinical scenario.
2. A systematic review that compares two or more health care interventions by synthesizing
   the research from previous clinical studies.
Bibliography


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National Organization for Rare Disorders. Congenital Fibrosis of the Extraocular Muscles Danbury, CT: National Organization for Rare Disorders; 2013. (IV)

Olson et al. Cataract in the Adult Eye Preferred Practice Pattern(R). Ophthalmology 2016. (IV)


Yuksel et al. 23 gauge pars plana vitrectomy for the removal of retained intraocular foreign bodies. BMC Ophthalmol 2015. 15:75. (III)