# Collaborative Center for Integrative Reviews and Evidence Summaries

## CCIRES® Evidence Leveling System (ELS)

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>DESCRIPTION</th>
<th>RELEVANT ARTICLES</th>
<th>ARTICLE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Meta-analysis of multiple large sample or small sample* randomized controlled studies, or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment</td>
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<tr>
<td>B</td>
<td>Well-designed controlled studies, both randomized and nonrandomized, prospective or retrospective studies, and integrative reviews with results that consistently support a specific action, intervention, or treatment</td>
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<tr>
<td>C</td>
<td>Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results</td>
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<tr>
<td>D</td>
<td>Peer-reviewed professional organizational standards, with clinical studies to support recommendations</td>
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<tr>
<td>E</td>
<td>Theory-based evidence from expert opinion or multiple case reports, case studies, consensus of experts, and literature reviews</td>
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<tr>
<td>MA</td>
<td>Manufacturer’s recommendation; Anecdotes</td>
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<td><strong>Total</strong></td>
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* A large sample has adequate power to detect the observed effect with confidence (as seen in significant Confidence Intervals). A small sample may lack confidence in the power of the desired effect (Polit & Beck, 2008)
CCIRE S ELS Glossary of Terms

**Meta-analysis:** An analysis of analyses; that is, the statistical analysis of a large collection of analyses resulting from individual studies for the purpose of integrating the findings (Glass, 1976 & Glass, 1981). A summary of past research studies using statistical techniques to transform findings of studies with related or identical hypotheses into a common statistical metric and calculating the overall effect, the magnitude of effect, and subsample effects (Clemmens, 2001).

**Randomized controlled trials:** A planned experiment designed to assess the efficacy of a treatment by comparing the outcomes in a group of subjects treated with the test treatment with those outcomes observed in a comparable group of subjects receiving a control treatment. Both groups are enrolled, treated, and followed over the same time period. Different study groups are assigned by random allocation, that is, each subject has an equal chance of being assigned to either the treatment or the control group, rather than by conscious decisions of investigators or subjects (Meinert & Tonascia, 1986).

**Large-sample:** A large sample has adequate power to detect the observed effect with confidence (as seen in significant Confidence Intervals). The sample for the study equals or exceeds the projected sample size that was generated through a statistical sample size calculation technique such as a power analysis (Polit & Beck, 2008).

**Small-sample:** The sample for the study either (1) did not meet the size generated through a statistical sample size calculation technique such as power analysis or (2) was not calculated using a statistical technique. A small sample may lack confidence in the power of the desired effect (Polit & Beck, 2008).

**Meta-synthesis:** A summary of past research combining the findings from multiple qualitative studies (Beck, 2002; Polit & Beck, 2008).

**Non-randomized controlled prospective study:** A study in which (1) the sample is drawn from a potential pool of subjects from whom the data are to be collected and (2) the allocation to the treatment or control group is made by birth date, chart number, day of clinic appointment, bed availability, or any other strategy that would make the allocation known to the investigator prior to obtaining informed consent from the patient (Association of Cancer Online Resources, 2000).

**Non-randomized controlled retrospective study:** A study in which (1) the sample is drawn from existing data sources such as existing medical record and (2) the allocation to the treatment or control group was made by birth date, chart number, day of clinic appointment, bed availability, or any other strategy that would make the allocation known to the investigator prior to obtaining informed consent from the patient (Association of Cancer Online Resources, 2000).

**Integrative Review:** A summary of the literature on a specific concept or content area whereby the research is summarized, analyzed, and overall conclusions are drawn (Redeker, 2000). The strength of an integrative review is its distinctive and rigorous methodology that draws conclusions about the current state of knowledge amongst diverse studies, such as RCTs, observational descriptive studies, cohort studies, and other types of evidence (Whitemore & Knafl, 2005; Torraco, 2005). Integrative reviews do not employ summary statistics, as sample sizes cannot be pooled due to the heterogeneity of studies and samples (Melnyk & Fineout-Overholt, 2005).
**Systematic Review:** a summary of past research using an objective and rigorous approach of studies with related or identical hypotheses (Forbes, 1998). This literature compilation of like studies addresses a specific clinical question using a detailed, comprehensive search strategy and rigorous appraisal methods. The synthesizing approach identifies the relevant research evidence needed to summarize, appraise, and communicate contradictory results or unmanageable amounts of research through narrative or statistical analysis (Armola et al., 2009; Melnyk & Fineout-Overholt, 2005; Whittemore & Knafl, 2005).

**Cohort Study:** An observational study that begins by identifying exposed individuals (study group) and non-exposed individuals (control group) to a factor being observed over time with regard to disease, health, or other outcome. Almost always longitudinal in that a particular group of patients is followed forward from a point in time. May or may not be population-based (Rothman, 2002).

**Case-controlled study:** An observational, non-interventional (usually retrospective) study that begins by identifying individuals with a disease, health or other status (cases) for comparison to individuals without the disease, health, or other status (controls or reference group) from a single population (Rothman, 2002).

**Non-controlled clinical series:** A descriptive, observational study of a series of cases (more than 1) typically describing the manifestations, clinical course, and prognosis (outcomes) of a condition or health status (Zwanstein, 1999).

**Descriptive studies:** An observational study that seeks to determine the distribution or variation of a single variation or the relationship (correlation) between two or more variables that exist in a single population (Zwanstein, 1999).

**Case study:** A descriptive, observational study of a single case typically describing the manifestations, clinical course, and prognosis (outcomes) of a condition, disease, health, or other status (Zwanstein, 1999).

**Consensus of Experts:** Opinions, conclusions, standards or guidelines that based in the collective agreement of a group of respected authorities in the field of concern, including the interpretation of nonresearch-based information (Stetler et al., 1998).

**Literature Review:** An account of published materials on a topic of interest to set a research problem into context (Armola et al., 2009). The purpose of the review is to convey the current state of knowledge and ideas on a topic and examine their strengths and weaknesses. A literature review serves as a general background discussion of a particular issue, rather than answering a clinical question (Armola et al., 2009; Whittemore & Knafl, 2005).

**Manufacturer’s Recommendation:** Suggested directions for action or methods from the persons responsible for a product’s development and creation.

**Anecdotes:** A usually short narrative of an interesting, amusing, or biographical Incident (Merriam-Webster Dictionary, 2003).
References


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