

AACN Levels of Evidence: What's New?

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PRIME POINTS

- Developed in 1993, AACN's original grading system identified the strength of evidence supporting practice issues, meeting the needs of members at the time.
- The Evidence-Based Practice Resource Work Group has revised AACN's grading system to include more recent study designs and to minimize confusion with other grading systems.
- All new and revised AACN resources will include the new evidence-leveling system.

With the tremendous emphasis on the importance of basing nursing care decisions on the best available evidence to promote the highest quality of care for patients and families, evidenced-based practice has become a common phrase in health care.¹ Although evidence is most often supported by research, other forms of evidence such as case studies and expert opinion are considered valuable when research is lacking. Strength of the evidence has also been the focus of attention because not all research studies are equal in quality.² Levels of evidence or grading systems to rank research studies and other forms of evidence have been developed to offer practitioners a reliable hierarchy to determine the strongest evidence. Evidence is

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used by practitioners to guide practice related to disease management or skills. As a leader in this area, the American Association of Critical-Care Nurses (AACN) has published numerous resources to help practitioners appraise evidence for integration into clinical practice. Publications such as *Practice Alerts*, *Protocols for Practice*, and *Procedure Manual*³ contain recommendations for clinical practice based on a comprehensive and scientific review of the evidence. To support these recommendations, AACN developed a hierarchy system to grade the level of evidence. AACN's grading system was originally referred to as a rating scale and was used to rank individual recommendations according to the level of supporting evidence available (Table 1).⁴

Background

AACN was a pioneer of evidence-leveling systems; the association developed its grading system in

Table 1 AACN's original rating scale⁴

Level I	Manufacturers' recommendations only
Level II	Theory based, no research data to support recommendations; recommendations from expert consensus group may exist
Level III	Laboratory data only, no clinical data to support recommendations
Level IV	Limited clinical studies to support recommendations
Level V	Clinical studies in more than 1 or 2 different populations and situations to support recommendations
Level VI	Clinical studies in a variety of patient populations and situations to support recommendations

1993. The purpose was to create a tool to assist practitioners to determine whether statements about clinical practice were based on research or other reliable evidence. The original rating scale identified higher levels of evidence by the number "VI." Evidence that was not supported by research was ranked lower on the scale, the lowest level indicated by the number "I." The original AACN

rating scale identified the strength of evidence supporting practice issues, meeting the needs of the association's members at that time (M. Chulay, oral communication, December 2008).

Shortly after the AACN evidence-leveling system was developed, the Centers for Disease Control and the Agency for Healthcare Research and Quality (previously named Agency

for Health Care Policy and Research) developed an evidence hierarchy system.^{5,6} By 1999, the leveling systems used by many organizations to support practice statements or clinical practice guidelines had a reverse order to the system used by AACN. Over time, this created confusion for end-users of AACN resources.

In addition to confusion regarding the ordering of evidence, feedback by AACN members and readers included identification of omissions from the evidence-rating system. As evidence-based practice evolved, certain types of evidence such as qualitative research were found to be missing. As a result, AACN's Board of Directors tasked the 2008-2009 Evidence-Based Practice Resource Work Group (EBPRWG) to perform a review of AACN's leveling system and to specifically focus on the order of leveling and content.

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Process

In 2008, AACN's volunteer EBPRWG conducted a comprehensive review of AACN's evidence-leveling system, which included a review of 12 existing grading systems from other organizations.⁶⁻¹⁸ Following lengthy discussions, a decision was made to reverse the order of AACN's evidence-leveling system to maintain consistency with the hierarchies used by other health organizations. The Gerontological Nursing Intervention Research Center's leveling system most closely matched the criteria desired by AACN members.^{7,8} Because this leveling system lacked some of the more recent study designs, the new AACN leveling

system was born from an adaptation of the leveling system by the Gerontological Nursing Intervention Research Center.

In comparison to the original AACN rating system, recent revisions include clarification of the term “clinical studies” by specifying individual research designs. Research designs identified in the new leveling system include meta-analysis, meta-synthesis (the qualitative counterpart to meta-analysis), randomized and nonrandomized studies, qualitative research, descriptive or correlational studies, systematic reviews, and integrative reviews. Nonresearch evidence includes peer-reviewed professional organizational standards and case reports as well as expert opinion and manufacturers’ recommendations. Meta-analyses and meta-syntheses are placed as the highest levels of evidence.¹⁹⁻²¹

To minimize confusion for readers of previously published older AACN resources, the levels were changed from a numerical to alphabetical scale. The highest levels of evidence are represented by the letter “A” progressing through lower levels of evidence before ending with the letter “M.” The lowest level M, now used to identify manufacturers’ recommendations, is easily separated from traditional standards of evidence. The new evidence leveling system is outlined in Table 2.

Implementation

All new and revised AACN resources will include the new evidence-leveling system. Specifically, practitioners will begin to see the revised evidence-leveling system on AACN’s Web site (www.aacn.org) as

Table 2 AACN’s new evidence-leveling system

Level A	Meta-analysis of multiple controlled studies or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention or treatment
Level B	Well designed controlled studies, both randomized and nonrandomized, with results that consistently support a specific action, intervention, or treatment
Level C	Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results
Level D	Peer-reviewed professional organizational standards, with clinical studies to support recommendations
Level E	Theory-based evidence from expert opinion or multiple case reports
Level M	Manufacturers’ recommendations only

Practice Alerts are updated with current references and new *Practice Alerts* are created. The *AACN Procedure Manual*, currently undergoing revisions with an expected publication date in late 2009, will also include the new evidence-leveling system.

Conclusion

The EBPRWG has completed revisions to the new evidence-leveling system for AACN’s publications to offer consistency with other health organizations and incorporate a more comprehensive list of evidence. It is important for readers to acknowledge that evidence hierarchies vary between organizations. Although evidence hierarchies may appear similar in design, the content may differ slightly. Moreover, in addition to the levels used by an evidence hierarchy, readers must assess the quality of the evidence before making clinical practice decisions. With growth in the evidence-based practice movement, nurses are inundated with a plethora of evidence. Consequently, practitioners require tools to assist with reviewing the best evidence to guide their clinical practice. The new AACN evidence-leveling

system furthers AACN’s mission to supply acute and critical care nurses with resources to enhance their knowledge to incorporate evidence-based practice into patient care.

AACN and the EBPRWG welcome feedback on the new AACN evidence-leveling system, in addition to suggestions for *Practice Alerts* or resources required to assist nurses in clinical practice. **CCN**

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