

Manipulation: Rating A - supported by good evidence from relevant studies  
Exercise: Rating A

**Evidence Rating Scales**

*Bronfort:* Which of the following are used for evidence level rating of A?

- Similarity of baseline characteristics to adjusted effects reported
- Concealment of treatment allocation
- Blinding of patients
- Blinding of provider/attention bias
- Blinding of assessor/unbiased outcome assessment
- Dropouts reported and accounted for in the analysis
- Missing data reported and accounted for in the analysis
- Intention-to-treat analysis/balance co-intervention

Randomized controlled trials, while they still represent a high level of evidence, they're not as translationally relevant as pragmatic/practice-based trials

*SIGN approach-* there are 11 questions, separated into 2 parts: Part 1 has 10 questions and examines elements of internal validity, while Part 2 has a single question concerning overall assessment of the study. For Part 1, each question has 6 possible choices: well covered, adequately addressed, poorly addressed, not addressed, not reported, not applicable. Criteria for evaluating the overall study in Part 2 is defined by three options: + (strong, most criteria fulfilled), n (neutral), or - (weak, few or no criteria fulfilled). The Part 1 considerations include

- The study addresses an appropriate and clearly focused question
- The assignment of subjects to treatment groups is randomized
- An adequate concealment method is used
- Subjects and investigators are kept "blind" about treatment allocation
- The treatment and control groups are similar at the start of the trial
- Only difference b/n groups is the treatment under consideration
- All relevant outcomes are measured in a standard, valid and reliable way
- The percentage of dropouts is given for each tx arm of the study
- Multisite studies have comparable reporting methods at all sites
- All the subjects are analyzed using an intention to treat analysis

There are 3 points where the study may be categorically rejected; if there is no indication of randomization; if the groups were not treated equally; and if the outcome measure are not stated or if the study bases its conclusions on secondary outcomes

★ **Intention to Treat:** plan for how you're going to include missing data in your data analysis - data can be missing for several reasons- patient may have dropped out of study, may have lost the data, etc

**Definitions for evidence ratings:**

**GRADE A: Supported by good evidence from relevant studies**

Explanation

The evidence consists of results from studies based on appropriate research designs of sufficient strength to answer the questions addressed

The results are both clinically important and consistent with minor exceptions at most

The results are free of any significant doubts about generalizability, bias, and flaws in research design

Studies with negative results have sufficiently large sample sizes to have adequate statistical power

**GRADE B:**

**GRADE C:**

**GRADE D:** Supported by expert opinion and usual and customary clinical practice

**GRADE I:** No recommendation can be made because of insufficient or non-relevant evidence

★ **Look up CCGPP on Iqweb to get these evidence ratings**

**Evidence-based medicine**

- Search the literature for high-quality RCTs and SRs
- Critically appraise their methodology
- Synthesize key research findings by level of evidence

- Adopt interventions with strong supporting evidence
- Discard interventions with insufficient supporting evidence

### Difficulties with EBM

- Usually insists on clear-cut evidence from methodologically sound, double-blinded, placebo-controlled RCTs
  - ★○ What is the problem with RCTs
    - Not always done right
    - Statistically meaningful outcomes that aren't clinically significant
    - Lack translational evidence
      - Not close approximations of what people do in practice
- Where such evidence is unclear, conflicting or unavailable, EBM can be frustrating mirage
- If interventions for CLBP were limited to those with strong supporting evidence of clinical effectiveness, safety, and cost-effectiveness, patients would be examined and sent home

### Evidence-informed management

- No formal critical appraisal scales were imposed on authors, who could simply describe study strengths and weaknesses
- Also encouraged to summarize methods and results in tables
- No formal mechanism for defining overall levels of evidence
- Authors encouraged to provide practice recommendations

Research Articles that Chiropractors publish in with an **Impact Factor Below 1**

JMPT (.8)

Journal of Chiropractic Medicine

### Impact Factor Over 2

Spine (2.8)

Pain

4/15/09

### Final Review - 25Qs

P value

Statistical power and sample size relationship

Peer Reviewed Journal

Indexing

Impact Factor- JMPT .8, Spine 3.0

Hypothesis test the effects of the independent variable on the dependent variable

Theory vs. Hypothesis- which one is more broad or narrow

Reliability vs. Validity - how are they different

Descriptive vs. Inferential Statistics

Mean, Median, Mode definitions

Nominal, ordinal, interval, ratio

Which level of measurement has a true zero and equal intervals?

Characteristics of a Normal Distribution

Intention to treat analysis-refers to how missing data resulting from dropouts are handled

Effect Size

Subject bias, experimental bias

Characteristics of Information literacy

Translational research: relevance/translates to practice

Know the parts of a journal article- what's a title supposed to tell you, in an abstract, purpose of introduction, methods, results, discussion, conclusion

Don't need to know all the different types of evidence rating- just what it is/does generally