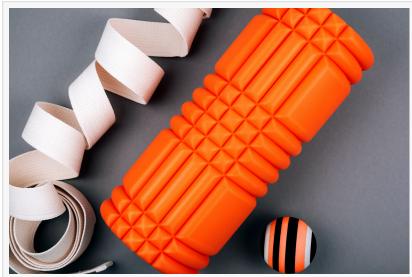# New Article from the Brookbush Institute: Is There a Single Best Approach to Physical Rehabilitation

A formal proof demonstrating that there is a single best approach in physical therapy, athletic training, chiropractic medicine, occupational therapy, etc.

NEW YORK, NY, UNITED STATES, October 15, 2024 /EINPresswire.com/ -- Dr. Brent Brookbush, DPT, PT, MS, CPT, HMS, IMT, publishes a formal proof demonstrating that there is a single best approach in physical therapy, athletic training, chiropractic medicine, occupational therapy, etc.

SNIPPET FROM THE NEW GROUND-BREAKING ARTICLE: [Is There a Single Best Approach to Physical Rehabilitation?](#)

There is a best possible set of interventions - https://brookbushinstitute.com/articles/there-is-one-best-approach-in-physical-rehabilitation

Problems with our industry....

Intervention selection is often "modality driven," based on practitioner preference, and rationalized based on any improvement in an outcome measure that was identified post hoc. Too often, this measure is a subjective assessment of current pain, which is not a reliable measure of short-term or long-term outcomes. This may sound harsh, but an examination of education throughout the industry and social media posts will quickly highlight an obsession with promoting or demonizing an intervention, with almost no reference to a systematic approach, assessment-driven decisions, the relative efficacy of the intervention, support from comparative research, or reference to reliable, objective outcome measures.

Intervention selection, sometimes referred to as clinical decision-making, is a topic that is not given enough attention in college and university curricula or professional continuing education courses. Often, these topics are not given any dedicated time during coursework, resulting in vague rationales and messy heuristics that fall apart when used in professional practice. Perhaps what is most disappointing is that logic, set theory, sorting and labeling, decision theory, and

> "There is an objectively measurable best possible set of interventions, developed from prioritizing techniques based on expected values, that will result in the best possible outcome for all patients."
>
> *Dr. Brent Brookbush, CEO of Brookbush Institute*

information science have continued to progress over the past 80 years, in large part due to technology. Our professions have ignored these sciences or failed to integrate these advancements in any significant way.

The thought experiment that inspired this article...

Imagine placing every possible physical rehabilitation technique in a pile on a table. Every modality, manual technique, exercise, etc., from every physical rehabilitation profession (PT, ATC, DC, OT, DO, etc.). Which techniques should be selected from this pile? It is assumed that most professionals would select the best possible techniques or the best possible combination of techniques (that are within our scope of practice). But what does "best possible" mean? Unfortunately, "best" is too often based on the practitioner's preference (what the practitioner is comfortable performing) or potentially the techniques conventionally performed by a professional designation (e.g., chiropractors perform manipulations, acupuncturists perform acupuncture, etc.). Worse still, selections are often justified if the intervention had any positive effect, with little consideration for what intervention selection would have resulted in the best possible outcomes. By default, this replaces the pursuit of "optimal outcomes" with "it worked for me."

However, there is an alternative. The primary thesis of this article is that "best" is an objectively measurable quantity. It is not a debate that can or should be resolved by subjective opinions and vague references to professional experience. Expert opinion should be replaced with a "mathematical quantity." The definition of "best possible" can be derived from two objective measures: reliability/frequency (the percentage of time it results in a positive outcome) and effect size/magnitude of effect (the amount of improvement made). The product of frequency and magnitude is known as "expected value" (a term that is likely most often referenced in economics). Because sessions are limited in length of time, techniques should be prioritized by expected value, ensuring that the best interventions are performed within the session time and the best possible outcomes are achieved for that session.

QUICK SUMMARY

Practical Application

- Primary Hypothesis: There is an objectively measurable best possible set of interventions, developed from prioritizing techniques based on their expected values, that will result in the best possible average outcome for all patients.

This can be achieved with the following methodology:

1. Use the outcomes (expected value) demonstrated in comparative research to build an intervention model that prioritizes intervention categories by relative efficacy and further lists the best intervention from each category. (Note that developing categories will require better labeling and sorting of intervention types).

2. Additionally, assessments should be carefully selected to differentiate patient populations into subgroups that achieve optimal outcomes from different intervention plans, aiding in the optimal reprioritization of interventions for these subgroups.

3. A methodology of assessment, intervention, and re-reassessment can then be used to test interventions in rank order of their expected values to refine intervention selection for individual patients in practice.

4. Last, a small proportion of session time should be allocated to trying new approaches, with the aim of uncovering strategies that achieve a higher expected value than previously thought possible.

SECTION 1: AXIOMS DEMONSTRATING THERE IS ONE BEST APPROACH

1. Outcomes are Probabilistic: Because an intervention's effect on outcomes is probabilistic, comparing interventions must be based on outcomes and not mechanism/intent.

2. Choices are Relative. Assuming comparisons are of interventions with an effect on outcomes greater than doing nothing, the choice of intervention must be based on relative effectiveness. The effectiveness of an intervention is relative to the effectiveness of all other interventions that could be selected.

3. "Best" is a Measurable Quantity. Effectiveness can be calculated using the formula for expected value: frequency (reliability) x value (effect size) = expected value (effect on outcome measures). This implies the best intervention is the intervention with the highest expected value (reliability x effect size).

4. Intervention selection is a "zero-sum game": Because the length of a session limits the total number of interventions that can be selected, a "zero-sum game" scenario is created, resulting in a need to determine relative efficacy. That is, a limited number of interventions can fit into a session, so beyond that number of interventions, any choice of interventions greater than that number requires the removal or dismissal of interventions.

5. Prioritizing the "best intervention(s)" will result in the "best outcomes": Prioritizing interventions based on the highest expected value will result in the highest expected outcome.

That is, the best possible outcome is the product of summing the interventions with the highest expected values.

6. Assessment aids in re-prioritization of interventions for subgroups: From the perspective of decision theory, the goal of an assessment is to differentiate patient populations into subgroups that achieve optimal outcomes from different intervention plans.

SECTION 2: THE BEST APPROACH IN PRACTICE
- "Best Interventions" Should Be Determined by Comparative Research: It is recommended that the "best interventions" be selected using the best data currently available. The best data for determining relative efficacy is outcomes from peer-reviewed and published comparative research.

- Outcomes Measures Selected Based on Carry-over Effects: The best possible approach should likely consist of selecting interventions that have the largest carry-over effects on the treatable factors correlated with the best short-term and long-term patient outcomes.

- The intervention's effect on outcomes is more important than the correlation between the affected factor and the pathology.

- Experimentation is Necessary to Avoid Local Maxima: To investigate whether better outcomes are possible, it's necessary to experiment with new interventions and new combinations of interventions, even if they deviate from established best practices.

- Modeling May be Necessary: Modeling is likely necessary to test the interaction of multiple interventions and their effect on outcomes.

Check out the rest of the article (Open Access): "Is There a Single Best Approach to Physical Rehabilitation?" Additionally, the Brookbush Institute offers pre-approved continuing education credits and certifications:

Certifications
- Integrated Manual Therapist (IMT) Certification
- Human Movement Specialist (HMS) certification
- Certified Personal Trainer (CPT) Certification

Continuing Education by Profession
- Certified Athletic Trainers
- Athletic Therapists (Canada)
- Certified Personal Trainers
- Chiropractors (DC)
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