

Under Closer Scrutiny

Functional capacity evaluations must be evidence based and valid.

BY JIM MECHAM, MS, OTR/L, AEP

Evidence-based medicine can consume your everyday clinical practices. And being an evidence-based practitioner means reading and keeping up with evidentiary changes in your specialized rehabilitation field.

Industrial rehab, especially performing functional capacity evaluations (FCEs), is no different. In fact, staying abreast of evidence-based practices is even more important in this area of rehab.

When discussing the evidence that's necessary to perform FCEs, you need to start at the top of the ladder. When performing an FCE, there's a chance that the evaluation could be deposited in a workers' compensation court case and a therapist may be asked to testify as an expert. Although these instances don't occur too often, it does tend to scare rehab professionals from specializing in FCEs. Nevertheless, you can use federal rules of evidence and case laws to improve testing methodologies whether you perform a commercially based FCE or an in-house testing methodology.

BY THE BOOK

It's important to recognize the federal rules of evidence that govern court proceedings and be familiar with these stipulations when performing FCEs. When you're hired by a physician, attorney, insurance company or patient to perform an FCE, you're considered an expert. When you're called into court as an expert witness, you'll be asked

to derive conclusions from a scientific method. For FCEs, that means the following:

- the methodology must have been or could be tested empirically
- the methodology must have been subjected to peer review and publication
- the methodology has a known or potential error rate
- the methodology has been accepted within the relevant scientific community.

Over the last 10 years, there has been a push for commercially based FCE systems to perform empirical research, specifically reliability and validity research. Reliability research is considered good for commercially based FCE systems because it's easy to achieve a level of intra/inter-rater reliability with a good standardized testing methodology. In-house FCE systems may have good reliability, but many of them have never been tested. Validity is much more difficult to achieve.¹

So why are FCEs still admissible as evidence and why is a clinician considered an expert witness when these tools haven't been considered valid to determine return to work or functional abilities? Frankly, they're the best tools we have at our disposal.

Commercially based FCEs are created from known methodologies for gathering a patient's functional abilities. These FCEs must be standardized to meet high reliability levels.

BALANCING A SWINGING SCALE

Reliability and validity of FCEs are constantly swinging on an equilibrium scale. As reliability increases, validity decreases, and vice versa.

If the FCE you perform is deposited in a court case, the company you purchased it from should provide evidence-based development articles and research that demonstrates reliability and validity. But even though this information proves invaluable, individual FCE testers must recognize that they're ultimately responsible for the results. This responsibility becomes even greater when you create your own in-house system.

Since reliability and validity significantly play off each other with FCEs, you need to maximize both of these components during individual tests. To maintain a high level of reliability, you should perform tests in a standardized fashion. But to achieve a high level of validity, you can't conduct tests in this type of standardized fashion.

Consider the following situation. When performing a job-specific FCE, you need to maximize validity by testing as close to the actual heights,



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weights and distances that are required of the client's job. This type of job simulation or actual job testing significantly improves validity, since you can't perform the exact same test on a carpenter as you would on an assembly line worker. Although they both perform lifting in their jobs, each one has different heights, weights and distances that are required to lift, carry, push and pull.

Your test should be tailored to the specific job. And even though you've learned a specific testing methodology, in regard to reliability you need to adjust this system to increase validity.

Then in a court of law you will have established the highest levels of validity and reliability for that client. If you're performing a disability FCE, maintain a high level of standardization and perform in the exact manner you've been taught.

OVERWHELMING EVIDENCE

The next rung down the ladder is evidence-based testing, which has even greater meaning for in-house FCE systems. (For the most part, commercially based systems have met these criteria.) An FCE can be broken up into many parts, and within each of these parts there should be documentation of the peer reviewed methodology that has been accepted by the medical community.

The amount of evidence for various FCE tests can be overwhelming. The bigger issue is that a great deal of the evidence falls on both sides of the fence. For example, many colleagues have gone back and forth

over the last 10 years about whether you can or can't use the coefficient of variation (CV) as a predictor of sincerity of effort during grip strength testing. There are many facets to this issue, and it's best to read the literature and come up with your own opinion regarding testing methodologies. However, the evidence regarding using CV in grip strength testing is clear—you shouldn't apply it to determine sincerity or consistency of effort on a weak upper extremity.

Some of the other evidence-based items in the literature indicate that FCE testers shouldn't use the term "sincerity of effort." To label someone as being insincere is making an opinion about character. There's no evidence or objective data that suggests you can label a person as being insincere.

Instead, the true issue is if a person performed at his maximum ability during FCE testing. A better term to use is "consistency of effort." To say someone is consistent or inconsistent is based more on observation, and many research-driven tests can determine consistency of effort.

A new methodology that may have a place in FCE testing is called reliability of pain. All clinicians have patients who report high pain levels, and as the evaluator you question that pain level based on observations. Since pain is subjective, it's difficult to question a patient's assessment, even though your gut feeling says that the client's pain isn't really a 10 out of 10.

Research is starting to observe that with psychometric pain tests, functionally based pain scales, a rating of perceived exertion vs. heart rate and Waddell testing, clinicians may be able to justify a patient's pain

FCEs

report and consider it reliable or unreliable.

Research indicates that you shouldn't be using Waddell signs for sincerity or consistency of effort, due to unreliability and that this testing wasn't developed to do this. However, research is promising for Waddell signs and reliability of pain. Fifteen evidence-based studies showed consistent evidence between Waddell signs and pain, and 12 of them showed a relationship between greater pain and Waddell signs.

The other side of the issue is the highly subjective nature of pain. If you could objectify a client's pain level, you would have a better feel for how that pain affects function. Incorporating a functional pain scale into a testing methodology helps objectify pain.

Having an evidence-based FCE testing methodology is critical to a successful program. It can help you achieve success for individual client evaluations and medico-legal FCEs. If you're using a commercially based FCE system, make sure that you have access to research that has been performed on that methodology and the evidence-based testing that was used to develop it.

If your preferred route of FCE testing is your own in-house system, it's important to conduct validity and reliability research and compile articles that outline the evidence-based testing methodologies. But most importantly, make sure that with individual evaluations, you always take into account the validity of that specific FCE. ■

Reference

1. Innes, E.V., & Straker, L. (1999). Validity of work related assessments. *Work*, 13, 125-152.

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