IJSPT
INTERNATIONAL JOURNAL OF SPORTS PHYSICAL THERAPY

Cook G. Data-Driven Prognosis and Improved Outcomes Part 2: The Opportunity of Grading Risk. *IJSPT*. 2024;19(5):646-648. doi:10.26603/001c.116860

Digital Health Corner by Genie Health

Data-Driven Prognosis and Improved Outcomes Part 2: The Opportunity of Grading Risk

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https://doi.org/10.26603/001c.116860

International Journal of Sports Physical Therapy

Vol. 19, Issue 5, 2024

In the preceding editorial, I demonstrated how diagnosis helps us partially arrive at prognosis while risk factors help complete the data set that allows us to project outcomes with greater confidence.

One of my greatest concerns for the future of physical therapy is that, although there may be agreement with my statements, I do not feel that today's clinician is armed with objective, measurable action points that will allow them to adjust orthopedic-and sports-accepted protocols of treatment with the clear valuation of the burden of MSK risk factors outside of the primary diagnosis.

I previously posed these questions: "Diagnosis is the *first* consideration of prognosis, but does that always make it the greatest determinant of outcome? Can complicating factors carry equal weight with the diagnosis when making a prognosis?"

The answers are fully dependent on the level of risk presented by the complicating factors:

- High Risk - the risk factor could possibly take priority over diagnosis.
- Medium Risk - the risk factor shares priority with diagnosis.
- Low Risk - proceed to treat the diagnosis and monitor risk factors.

We are accustomed to grading the severity of our diagnoses, and know that different grades of sprains or fractures can change a patient's prognosis. Complicating risk factors are no different. There need to be actionable gradations.

A grade 1 ankle sprain with a high level of MSK risk could potentially be a more complicated prognosis than a grade 2 or 3 ankle sprain with low MSK risk. If we only focus on the diagnosis and the protocols associated with it, we would assume the latter diagnosis would be the more complicated treatment. Those are the assumptions that hurt our outcomes.

We know that diagnosis alone is insufficient. It must be weighted for severity. If additional risk factors are considered in prognosis they must be weighted for severity as well.

If we reflect on the less-than-favorable Army recovery study outcomes[1] we are seeing a problem that spans the rehabilitation industry: much of the information that is collected to justify graduation from rehabilitation is historically based on pain measurements and impairment measures - ROM and strength - and although these impairment measures are helpful in charting progress they do not paint the complete picture of function, even though functional measures can have significant predictive value.

Many of these soldiers likely bore the burden of high MSK risk entering rehabilitation and retained it upon return to duty.

The clarity of the Army study outcomes came from post-rehabilitation use of the SFMA to demonstrate that therapy was largely targeted at MSK symptoms and impairment measures, but not overall functions like balance, mobility, stability and symmetry within practical patterns of movement. All too often, functional measures are seen as complementary or non-essential screening/testing or as having an educational barrier to their use. That is not the case.

After 25 years in education, I've consistently heard two excuses for not including a measurable functional perspective: "I don't need it and/or I don't have the time."

A recent study suggests that you *do* need it and that you *do* have the time.

Matsel, *et al* demonstrates that capturing risk imposes little burden on the rehabilitation process.[2] This study looks at an app-based movement self-screen (Symmio) and vets it as a "reliable and feasible screening tool that can be used to identify MSK risk factors."

If self-screening and reporting of movement quality works to identify known risk factors for MSK injury, why aren't we using it?

There are valid reasons why it may not be possible on intake, though it could provide beneficial information that may change the course of treatment. What is stopping the implementation of a self-screen on exit? How about in the pre-participation physical for athletes? Pre-employment for any workforce? Pre-service for military, tactical, or first responders?

We can now reliably and practically identify the presence of MSK risk factors and determine their level (High, Medium, or Low) in a low-cost manner. This perspective will allow us to target and factor risk severity alongside diagnostic severity, pointing us toward more accurate prognoses and improved feedback loops with the intent of more favorable outcomes. The feedback loops that are most beneficial are those that constantly challenge your confirmation bias.

The Functional Movement Screen has long been our feedback loop on exit. The FMS consistently forced acknowledgement of the functional inconsistencies in our outcomes and gave us an opportunity to help those patients

focus on additional dysfunctions. It also allowed us to refine our intake protocols and build the Selective Functional Movement Assessment (SFMA). This perspective also demonstrated the efficiency of using rehabilitation to target MSK risk factors - many of which fit the definition of regional interdependence - while still addressing diagnostic protocols.

The knowledge from Matsel, *et al*[2] that we can reliably and efficiently gain information regarding MSK risk factors is not the same as knowing how to use the specific risk factor information on the patient in your care.

If the individual presents with additional movement risk factors, should I consider how they may contribute to the current episode or injury and its resolution? If the risk persists through release, what is my responsibility? What are my opportunities?

Self-screening can bring transparency to risk factors that affect outcomes. Those associated with behavior change should be accessible to the patient for testing and intervention. Are you prepared to have the proactive conversations that support the data your prognosis must consider?

I personally find that managing patients and clients with a relevant dashboard of MSK risk factors allows me to be both transparent about my responsibilities for prognosis as well as any risk factors that can be monitored and managed with simple behavior and health modifications.

Having these conversations earlier in the rehabilitation process helps me feel like a more complete provider and makes me want to modify Ben Franklin's aphorism as it applies to my practice:

"An ounce of proactive wellness is worth a pound of reactive healthcare."

In part three of this editorial, we will look at MSK risk factors collected by screens and surveys associated with lifestyle and self-care behaviors alongside what we've already learned regarding movement self-screens.

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