

Data-Driven Prognosis and Improved Outcomes Part 3: Clinical Intelligence vs. Clinical Wisdom

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If known risk factors for musculoskeletal injury are currently considerable burdens on our outcomes (Part 1), and we have efficient and low-cost (time and money) methods to screen and tally these risk factors (Part 2), then why do we continue to treat symptomatically? Why aren't we using information that we can easily know to manage regional interdependence during rehabilitation, to measure risk at the completion of rehabilitation, and to bring awareness to overall asymptomatic movement burdens (or opportunities) rather than the current complaint?

The first step within *intelligent* management is the differentiation of the types of risk factors that can interrupt our rehabilitation efforts and outcomes. Risk factors for musculoskeletal injury can be categorized as movement-based or self-care/lifestyle-based.

My initial editorial described risk factors in this manner:

Clinical outcomes can improve if we employ a functional wellness screening mentality, considering risk associated with (1)undiagnosed MSK complicating factors affecting outcome, (2)diagnosed complicating factors, outside of specialty, affecting outcome, and (3)undiagnosed complicating factors, outside of specialty, affecting outcome.

Movement-based risk factors (*undiagnosed MSK complicating factors affecting outcome*) can be further divided to benefit our work. What are we looking for?

1. Inappropriate movement pain within normal patterns,
2. Inappropriate activity levels/movement quantity within normal patterns (both too much/not enough), or
3. Inappropriate movement quality within normal patterns. (Asymptomatic movement dysfunction)

Most of our training and the daily work we perform focuses on the first two categories, but 20 years' worth of compelling data should shift our focus towards movement quality - the *wisdom* play.

The Matsel *et al.*¹ study discussed in my previous editorials demonstrates that untrained individuals can reliably screen movement for all three categories of risk. The burden to collect this information is no longer on healthcare. It's my opinion that our outcomes would be better if we used an improved awareness of risk to clear complicating factors as we care for the current complaint.

What can be done regarding the lifestyle-based risk factors, or as I referenced them earlier, the *diagnosed compli-*

cating factors, outside of specialty, affecting outcome, and undiagnosed complicating factors, outside of specialty, affecting outcome?

I think of the lifestyle risk-factors as having a binary split. We're trying to uncover significant imbalances in the movement stress and movement recovery cycles.

Imbalances in the stress and recovery cycles of life are known risk factors for MSK injury. While this editorial is not a literature review, I have accepted the following contributing lifestyle risk factors based on research, my personal experience, and successful outcomes. My job has always been to find the "good enough" functional limits agreed upon by the experts in each domain pertaining to stress and recovery.

In my management of risk factors for MSK injury, I consider the screening, monitoring, and correcting of the following lifestyle domains to be indispensable:

Behavioral Health - Anxiety and Depression are known risk factors for MSK injury. Also, is there something going on today that's more important than movement?

Injury History - Are they fully cleared of pain and dysfunction from previous injuries.

Breathing Quality - It should be clear that breathing dysfunctions can alter many movements or exertive activities. How efficiently and effectively a person breathes affects overall health and directly impacts sleep, movement and behavioral health.

Physical Activity - Too much or not enough, both impact movement health and lifestyle.

Body Composition - Overnourished or undernourished - both are malnutrition and both impact movement health and lifestyle.

Sleep Quality - Poor sleep quality and sleep deprivation are risk factors for physical injury and are known to negatively impact overall cognitive and physical performance.

Nutritional Awareness - The qualities and quantities of what we consume strongly impact not only our MSK health, but our physical development and health of our entire being.

Along with the Symmio movement screen, there are reliable screens and surveys that efficiently look at the seven lifestyle domains for dysfunction. If they can contribute to making people well, why aren't we using them?

Living with risk should not simply be accepted as inevitable, with long-term management as the only option. Wisdom says: *Why correct what you can protect, why protect what you can prevent, why prevent what you can avoid?* We

should be using awareness of risk to improve our outcomes, but we must use that awareness correctly.

Here's how I integrate risk factor management parallel to my rehabilitation efforts:

1. Screen and survey movement and lifestyle. (Know risk factors)
2. Don't add risk factors during rehabilitation. (Do no harm)
3. Resolve the current episode and, if possible, reduce existing risk factors.
4. Re-screen and Re-survey movement and lifestyle.
5. Disclose remaining risk(s).

Numbers 3 and 5 are two sides of the same coin: whether you use an awareness of risk to improve outcomes or to explain outcomes, it is of benefit.

This system is vital for athlete return-to-play. Today's athlete does not simply need injury triage, physical modalities, and corrective exercise.

Today's athlete is part of a broken physical culture still trying to play the games that an earlier physical culture played with far less risk. If you are going to say that an athlete is ready to play, that statement is not only a reflection of your diagnostic intervention, it is a statement of prognosis and must factor the risks inherent to the individual (vulnerability) and to the specific environment (threat).

If you don't have the tools to manage risk, why do you think you have the authority to return them to play?

Clinical intelligence provides the right information at the right time without regard to awareness. Clinical wisdom brings awareness by exposing blind spots in objective and measurable ways. Clinical wisdom upgrades the value of the same information in a precise and personal way.

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REFERENCES

1. Matsel K, Kirsch J, Netelbeek T, Rodriguez R, Velic E, Schwartzkopf-Phifer K. Self-Movement Screening using the Symmio Application is Reliable and Valid for Identifying Musculoskeletal Risk Factors. *Int J Sports Phys Ther.* 2023;18(2):439-449. [doi:10.26603/001c.73319](https://doi.org/10.26603/001c.73319)