

Clinician's Commentary on Recknor et al.¹

As a profession rooted in evaluating, quantifying, adapting, and prescribing movement to our clients, physiotherapists must have as part of our repertoire validated functional tests that are specific to conditions presented. Recknor and colleagues¹ have done an excellent job of documenting the background reliability and demonstrating a relevant clinical use of the Safe Functional Motion (SFM) test for people at risk of fragility fractures.

Osteoporosis is a disease that we would scarcely notice if it did not increase the potential for fracture. In fact, vertebral fractures (VFs) are barely noticeable but absolutely debilitating. VFs can result from accidents or from lifting heavy objects, but nearly 60% are spontaneous or occur incrementally; furthermore, a large percentage are not accompanied by pain² but develop silently over time.

The statistics related to VFs should lead clinicians to take careful notice of this slyly morphing bony damage. For example, one in four women who have a new VF will experience another fracture within 1 year;³ patients are at the highest risk of subsequent fracture in the first few months following a VF;⁴ prevalent VF has been associated with a two- to threefold risk of developing hip fractures over a 10-year period;⁵ increased kyphosis (as a secondary development from VFs) has been associated with increased body sway and fall risk;⁶ and both hip and vertebral fractures are associated with an increase in mortality.⁷

This may all seem like old news to the physiotherapy community, but the worst statistic of all is that although VFs are the most common type of fracture in osteoporotic populations, the majority (66%) are not identified and managed.⁸ Yet the sequelae of this type of fracture are mostly visible to a keen clinical eye—increased kyphosis, reduced mobility through the thoracic region, or reports of chronic or acute mid-back pain without an identifiable mechanism of injury.⁷

So why do so many of these insidious fractures go unnoticed and, more importantly, untreated? Part of the problem may lie in the silent nature of VF onset: with no pain to alert them, patients may initially be unaware of an injury, and seek medical or rehabilitation interventions only once several fractures have accumulated and are causing pain or postural changes. Similarly, therapists, in the absence of noticeable signs and symptoms, have difficulty in quantifying or screening for risk. This is not surprising, given the paucity of specific physical screening tools (apart from radiographs) for VFs and the difficulty of identifying early functional risks in a clinical setting.

Recknor and colleagues¹ raise the important point that although there are known predictors of fragility fracture and falls (e.g., strength and balance deficits) it is likely that these deficits lead to the adoption of poor body mechanics, which increase fracture risk. Validating the SFM test as a performance-based tool targeting body mechanics and functional motion is thus an important step in improving our clinical awareness of contributing factors for VF risk.

At a time when physiotherapists are being urged to adopt evidenced-based assessment and management practices, all too often measures that are appropriate in clinical trials are adopted into clinical practice but turn out to have little value in their interpretation for the client's real life. It is refreshing to see a physical performance tool such as the SFM test revealed as not

only a potential addition to medical methods of fracture risk profiling (e.g., BMD measures) but also a source of objective, relevant information to guide rehabilitation and reassessment of clients with VFs in particular.

Most importantly, this tool is one of the rare measures that simulate the very environments that may be contributing to the onset or advancement of VFs—home, work, and play. Several tests are used as surrogates for function or for estimating risk, but often these are in fact isolated clinical measures of constructs such as strength or balance. In the case of the onset of VF, there is evidence to suggest that activities of daily living (ADLs) performed with altered or poor mechanics directly contribute to abnormal vertebral forces, and ultimately to VFs,^{9–11} so there is clear clinical value in being able to directly assess common tasks, benchmark a client's performance, and then develop appropriate home programmes that address the root problems.

Research such as that conducted by Recknor and colleagues¹ leads me to reflect that in the clinical setting, we have few tools that can help us link current activity to future risk in such a clear and immediate way. This may be just the beginning of an important opportunity, particularly in osteoporosis, for physiotherapists to offer proactive exercise and movement-based interventions to those at risk of future fractures—to actually *prevent* the fracture rather than simply rehabilitating after the fact—by clearly identifying biomechanical deficits in ADLs. All it takes is continued research into functionally based measures like the SFM and a willingness within our profession to incorporate such tests, which will allow us to offer early intervention to an at-risk population.

Judi Laprade

*Division of Anatomy, University of Toronto
Consultant and Lead Trainer (Bone Fit Workshops),
Osteoporosis Canada*

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