

Help Your Patients Improve Sitting Balance



▶▶ No one wants their patients to be couch potatoes, but the reality is, our patients do spend much of their time sitting. Losing one's balance while sitting can be problematic and a potential cause of fall. In addition, sitting balance is predictive of functional status.¹

The previous article described an excellent tool for assessing sitting

balance and trunk control. When we lecture, we ask our classes which tools they use for assessing sitting balance. Stop and ask, what standard functional tool do I use to assess sitting balance? Unfortunately, most of our students say that they use the fair, fair+, poor, poor+ scale.

Stop using that scale! There is no reliability or validity to that scale. When we say that, some students retort that it is published in a book and they were taught it at a lecture. Just because it is in a book or mentioned at a lecture doesn't make it a reliable or valid tool. Go to the original research, not a book or lecture notes and make sure what you are using is a standardized test.

CMS is asking us to use standardized tests — not ratings that don't have reliability or validity. Once we have a baseline measure, then we can really treat this important area of rehabilitation.

Focus on Sitting

Many of the neurological gurus such as Bobath, Carr and Shepard and Brunnstrom use trunk control techniques in their milieu of treatment. Unfortunately, we couldn't find any studies that pulled out just the sitting component from their regimens; therefore, we will instead review only the techniques that show sitting balance training as a single factor.

Again, when we ask our classes what techniques they use for sitting balance training, we frequently hear "pushing the patient in different directions." We have not found any support for this treatment in the studies we reviewed, so we caution against this approach as one that is efficacious.

Below are two studies that look solely at trunk control and postural training. Both have shown significant benefit for this single intervention. The first is by de Seze and was conducted on patients who had suffered a stroke in the past six months. The program was conducted by an occupational therapist, but a physical therapist could also easily do this.

The patient was seated on a mat table with a laser device on the head. The patient tried to maintain upright balance with increasing difficulty of the tasks. With the laser light on the head, the patient was asked to point to various pictures of differing heights. Some

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were at eye level, some at floor level and some at ceiling level. The head and trunk movements were started slowly and as the patient's trunk control improved, the head and trunk motions were increased by speeding up the pointing time.

Within 30 days, the postural control device improved trunk control and neglect with the benefits lasting for three months. The program required one hour extra of rehabilitation time daily for one month.² This exercise does not require expensive laser equipment; a head flashlight can be purchased at any hardware store and patients can point to photos placed around the room.

The next study compared using an exercise ball to exercises done on a plinth. Both groups improved in trunk control but the group performing the exercises on the ball improved to a significantly greater degree.³

Below are the exercises that were performed in this study. In clinical practice, starting patients on the mat table and then progressing them to the physio ball works well. Sitting exercises done either on the mat/plinth or physio ball include:

- Flexion/Extension of the trunk;
- Lateral flexion of the trunk;
- Pelvic clocks (making circles with your hips);

- Trunk rotation (arms across chest);
- Rolling hips forward and backward on the mat or ball;
- Forward, backward and diagonal reaching;
- Supine, bridging on the mat or ball;
- Supine, trunk rotation;
- Supine, legs on ball or mat;
- Supine, trunk on ball (this one can only be done on the ball).

We hope this article spurs clinicians to stop being research "couch potatoes" and start using the latest evidence to treat all levels of care. The two studies cited in this article are great examples that provide useful clinical information to help our patients become better sitters — and not potatoes. ■

References

1. Hsieh, C.-L., Sheu, C.-F., Hsueh, I.-P., & Wang, C.-H. (2002). Trunk control as an early predictor of comprehensive activities of daily living function in stroke patients. *Stroke*, 10, 1161.
2. De Seze, M., Wiat, L., et al. (2001). Rehabilitation of postural disturbances of hemiplegic patients by using trunk control retraining during exploratory exercises. *Archives of Physical Medicine and Rehabilitation*, 82, 793-800.
3. Karthikbabu, S., Nayak, A., et al. (2011). Comparison of physio ball and plinth trunk exercise regimens on trunk control and functional balance in patients with acute stroke: A pilot randomized controlled trial. *Clinical Rehabilitation*, published online April 19, 2011.

Carole Lewis is co-owner of the Center of Evidence and consultant to Professional Sportscare and Rehab. She lectures exclusively for Great Seminars and Books and Great Seminars Online (www.greatseminarsandbooks.com and www.greatseminarsonline.com). She is also editor-in-chief of Topics in Geriatric Rehabilitation (www.topicsingeriatricrehabilitation.com) and an adjunct professor at George Washington University Department of Geriatrics, College of Medicine. Keiba L. Shaw is associate professor at Nova Southeastern University College of Health Care Sciences Physical Therapy Department Hybrid Entry-Level DPT Program, Tampa, FL.