

THE 7

Rules of Highly Effective Lower Backs

The low back has been a topic of much confusion in regards to stretching and exercise prescription. To keep things as simple as possible (and no simpler!), here are the 7 rules for training clients with a history of low back pain.

1 Get enemies on the radar screen

Identify and avoid all potentially aggravating factors that may contribute to back pain:

- High impact activity, such as running & jumping.
- Carrying uneven load (purse, suitcase, etc)
- Asymmetric rotation (golf, tennis, or hockey)
- Poor (or no) exercise habits
- Disproportionate amount of time sitting.
- Posture: Swayback or upper crossed syndrome.

2 Do no more harm

Back pain has 4 primary causes as it relates to lifting technique (Acronym: FACT)

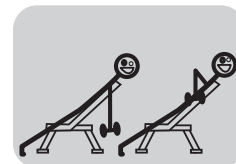
Flexion: Professor Stuart McGill the University of Waterloo uses repeated flexion and/or flexion with combined lateral bending in a lab setting as his preferred method for creating low back damage (this is how effective it is!). Examples of flexion exercises include crunches and situps. Better solutions include anti-extension core exercises, such as planks.

Abnormal spine mechanics: Energy leaks refer to arm and leg movements that cause movement

through the core and spine. Solutions include dissociating core and limb movements and normalizing core mechanics by bracing the core.

Compression: A number of people are compression intolerant, and should avoid exercises that place a significant load on the spine, such as back barbell squats, overhead military press, and jump squats. These exercises are not bad, they are still beneficial for promoting bone density. However, safer low back alternatives could include dumbbell squats and dumbbell side raises.

Torque: Examples of exercises that may aggravate low back symptoms with torque (forward lean) include deadlifts and bentover dumbbell rows. It's not that these are bad exercises, it's more that they are being done incorrectly. A strong capacity for creating neutral spine must be created first. Before that is achieved, alternative exercise solutions include lying hamstring curls, & dumbbell rows lying face down over an incline bench.



3 Normalize Spine Mechanics

Lack of mobility in the ankles, hips, and shoulders will increase mobility demands on the spine (referred to as "energy leaks"). In society, we suffer from side to side imbalances: We create uneven tightness from carrying things on one side of our body, like briefcases and purses. We also create uneven tightness through the torso from repeatedly twisting in only one direction, like when we play

golf, hockey, or baseball. When the muscles on one side of the body are tighter than the muscles on the other side, it creates strain and counter-strain similar to a game of tug o war, with our low back caught in the middle. Studies reinforce that low back pain patients have an asymmetry in core strength endurance and/or deficit in core (extensor) strength endurance. We need to optimize symmetrical mobility in the ankles, hips, and thoracic region to normalize core mechanics and reduce unnatural strain on the spine.

4 Don't Be a Dumb Ass



Activate the glutes to reduce compensatory low back tension. In many cases, people with bad backs tend to have a substitution pattern whereby they use the low back muscles (lumbar erectors) for hip extension as opposed to their traditional role of combating anterior shear force.

Like a group project in school, when one of the muscles are being lazy, the rest of the group has to work harder to get the work done.

Often the low back muscles over work because the glutes are lazy due to tight hip flexors resulting in reciprocal inhibition (when a tight muscle causes weakening of the opposite muscle group).

5 Like Switzerland, keep the spine neutral



Train the spine to prevent unwanted movement. Limit all flexion, extension, and rotation through the core. Keep the spine in neutral. If a client has a history of low back pain, we should be cautious or completely avoid the following:

1. Rounding of the low back
2. Extension of the low back
3. High impact exercise.
4. Racking a barbell across the back.
5. Overhead Pressing
6. Seated Exercise

6 Brace and Breathe

The old school approach to low back pain is to wear a weight lifting belt. This can still be a valuable tool when doing maximum lift testing, but if worn during regular exercise, it can enable the core to remain fragile. The new school approach is to train the entire abdominal wall to promote neutral spine stability with co-contraction of all the muscles.

Build your own back belt: Bracing involves stiffening the entire core region, to give 360 degrees of spinal stability. Bracing is not maximal contraction, it's 10-20% of maximum. A crude way to cue this is to tell the clients to stiffen their midsection as though they're preparing to be tickled. A more comprehensive way to teach this is to place a pressure cuff under the low back, have the client stiffen their abs, and have them maintain constant pressure on the cuff, while lowering one arm behind at a time, or lowering one heel to the floor at a time. This is the essence of learning to "Brace and Breathe"

7 Isolate before you integrate

Strengthen weak links before progressing into larger movements. Stabilization training should progress in the following order:

- Local segmental control
- Neutral spine control
- Closed chain control
- Open chain control

And don't forget to brace and breathe prior to initiating exercise movement.