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PREVENTION & REHABILITATION: SELF-MANAGEMENT: PATIENT SECTION

Abdominal training from a yoga perspective[☆]

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Introduction

Most abdominal exercises such as sit-ups compress the diaphragm and promote a forward drawn or slouched posture. It is important to utilize exercises that improve upright posture and breathing function. Upright posture and breathing are not only the alpha and omega of Yoga, but of any exercise promoting a functional stability foundation for long-term durability and resilience.

It is said “don’t add strength on top of dysfunction” (Cook et al., 2010). Yet, many exercises – such as sit-ups and crunches – allow injury mechanisms to be part of training (McGill, 1998, 2007; Liebenson et al., 2014). The great architect of modern rehabilitation, Czech Neurologist Pr Vladimir Janda, taught that strength training should focus on improving the QUALITY of movement patterns rather than increasing the quantity of sets/repetitions/weight (Janda et al., 2007).

Common “core” exercises often mimic folding inward and slouching. Since, the postural system functions as a whole our exercises should treat it as such. These yoga inspired exercises may offer some unique benefits by including ideal neurological patterns such as spreading of the toes; forefoot bias which is essential to propulsion during walking, running and jumping; and movement of the fingers/hand/wrist in manner consistent with catching, grasping, or feeding.

These principles show us why it is important to focus on a foundation in movement competency emphasizing high-level motor control and biomechanics which avoid injury mechanisms during training (see Fig. 1). Once a foundation

in motor control is established, then strength training is not only beneficial, but necessary in order to progress. Finally, when progressing from motor control to strength, an individual will not only enhance their durability (i.e. “anti-fragility”), but also will be ready to express speed and power in their sports.

Procedure

- Lie on your back with your feet flat on the wall and your knees/hips bent at 90°
 - If necessary put a small pillow or folded towel under your head for slight support; goal is to prevent the head from tilting backwards.
- Hold a light to moderate weight in your outstretched arms (Fig. 2a)
- Bias your pressure to the balls of your feet (forefoot), spread your toes, then lift your toes slightly off the wall (Fig. 2b)
- Next, push away from the wall with your feet (don’t actually move your body, this will be what is called an “isometric effort”) (Fig. 2c)
 - You should instantly feel your abdominals and rib cage muscles activate in the front and sides along with your back muscles so that you have 360° of support or tension
 - Notice how your mid to lower back flattens slightly and your spine automatically lengthens towards your head.
- While pushing away from the wall maintain a normal breathing pattern. Do not hold your breath in or exhale vigorously. Just continue to breath normally.

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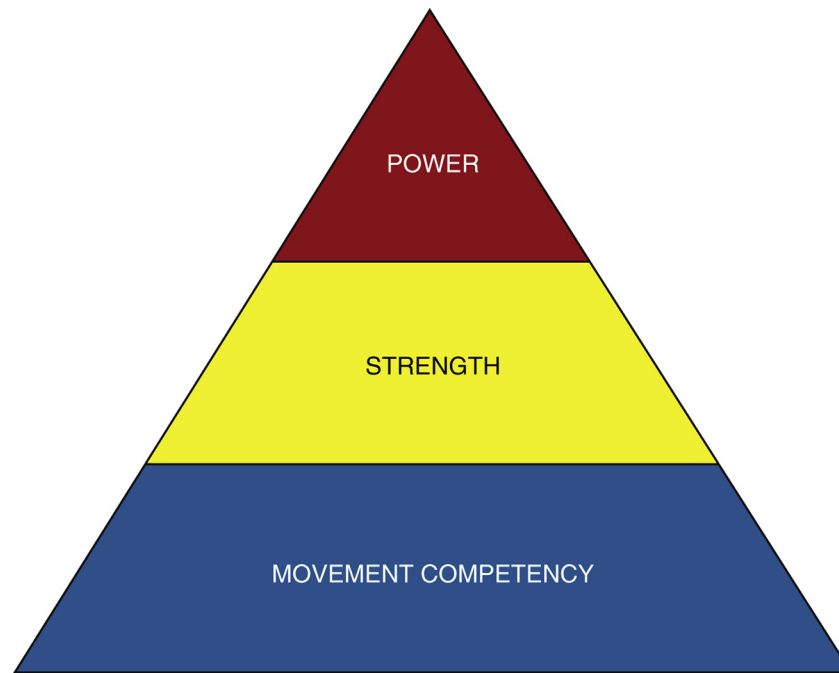


Figure 1 Training Pyramid reproduced with permission from Liebenson CS. Principles of Athletic Development in Functional Training Handbook, Liebenson C (ed). Lippincott/Williams and Wilkins, 2014.

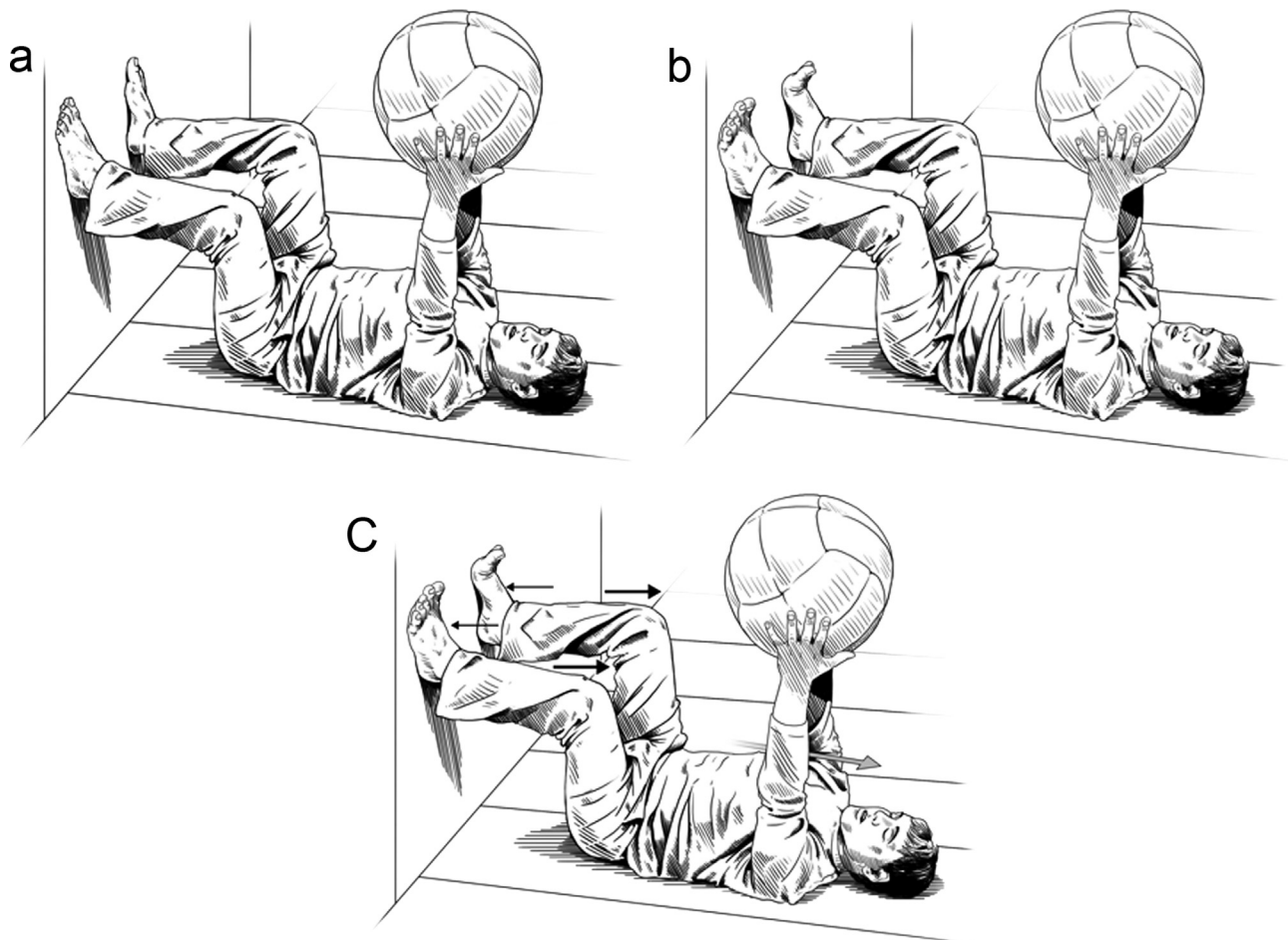


Figure 2 Yogic Abdominal Exercise a) Basic Set-up b) Forefoot bias c) Push off from wall.

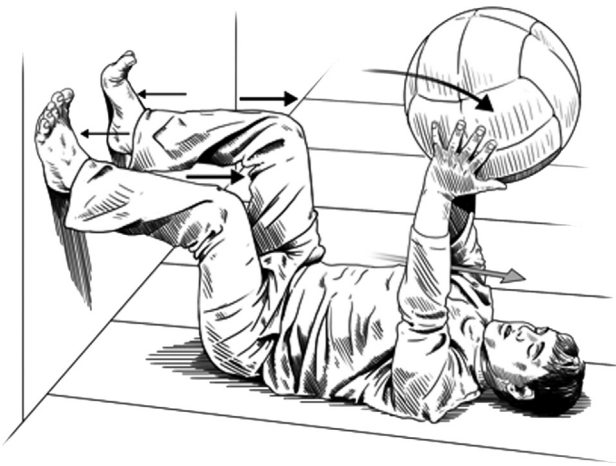


Figure 3 Progression by tipping weight.



Figure 4 Progression to single leg.

Progressions

> While continuing to push away from the wall, begin to tip the weight slightly towards your face/mouth (radial adduction of the hand/wrist). Imagine pouring from a bucket and drinking the falling water (Fig. 3)

- > Finally, you may alternate lifting one foot at a time off the wall so that you are pushing off the wall with only 1 foot (Fig. 4)
- > Try the same exercise with a Kettlebell which can allow a more narrow, controlled grip and at times a heavier weight than a medicine ball (Fig. 5a,b,c)

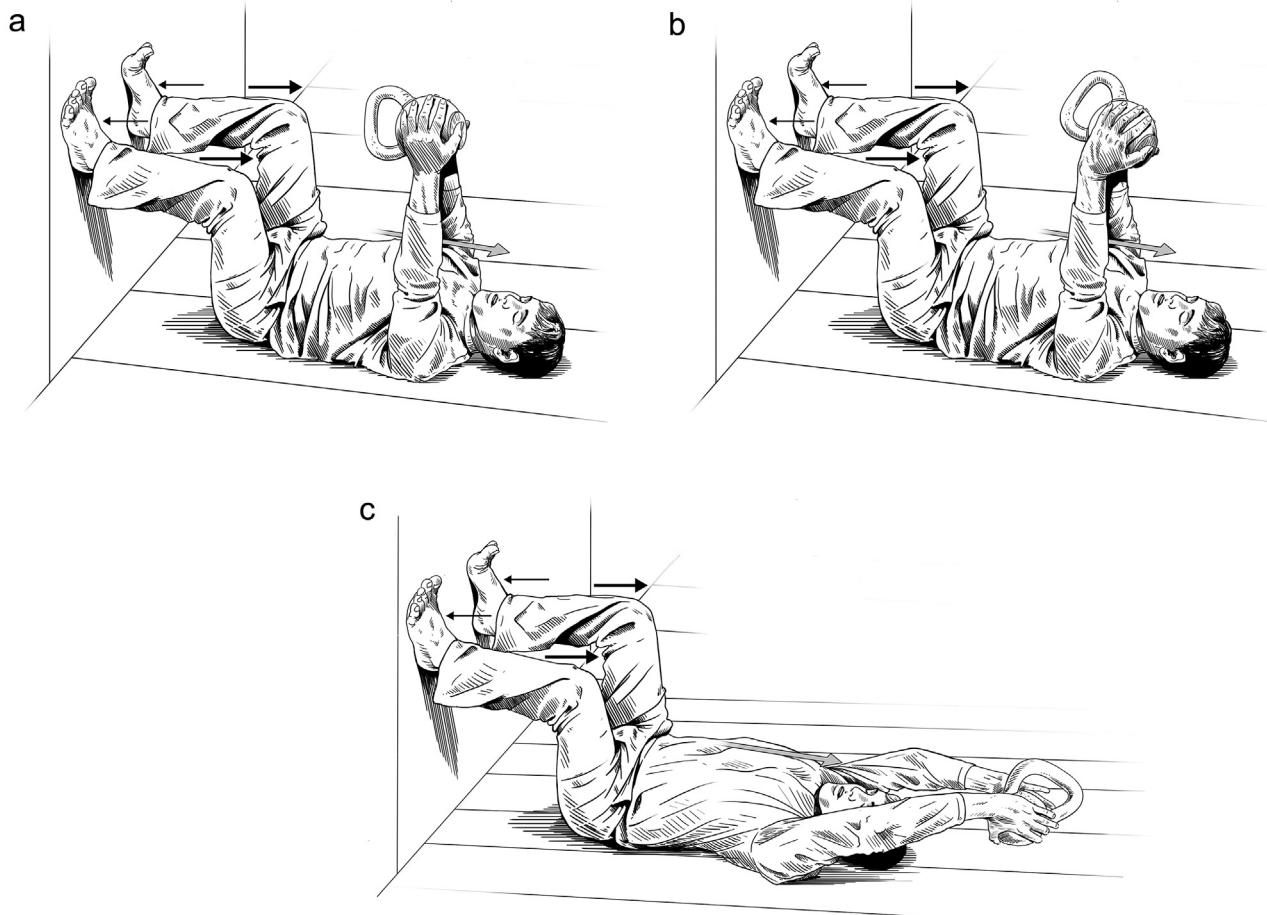


Figure 5 Kettlebell a) start position b) tip bell c) weight overhead.

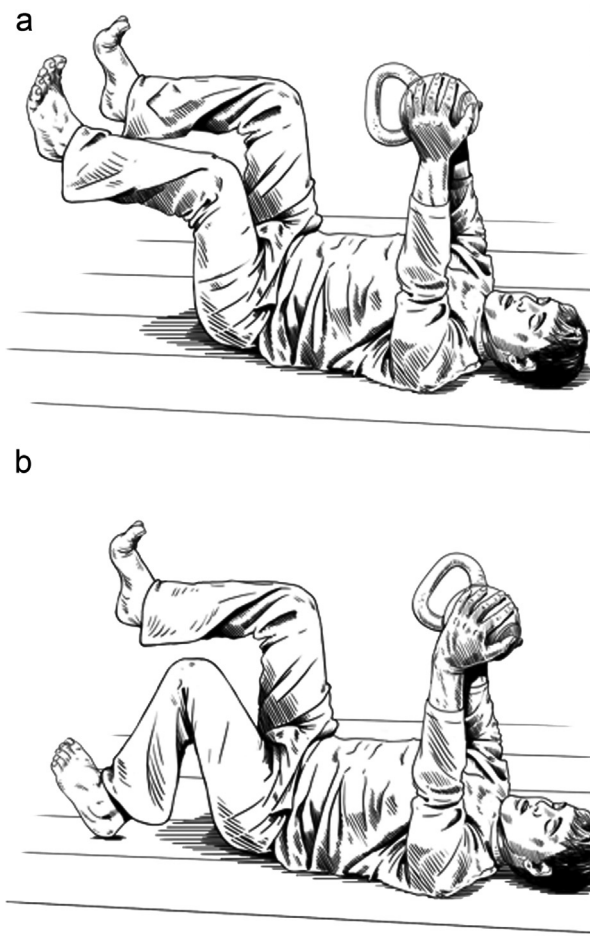


Figure 6 Yogic Abdominal Exercise without wall a) start position b) tip bell.

- Begin with the bell handle pointing away
- Then, tip the bell as if pouring water into your mouth
- Then, bring the bell (or Medicine ball overhead)

Regression

- Perform without wall (Fig. 6a,b)
 - Use kettlebell or medicine ball

Duration

Perform this for a 10–20 s interval.

Sets

Rest for a few seconds and then perform 2–3 additional sets.

Frequency

This should be performed a minimum of 1–2X/day.

Acknowledgement

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