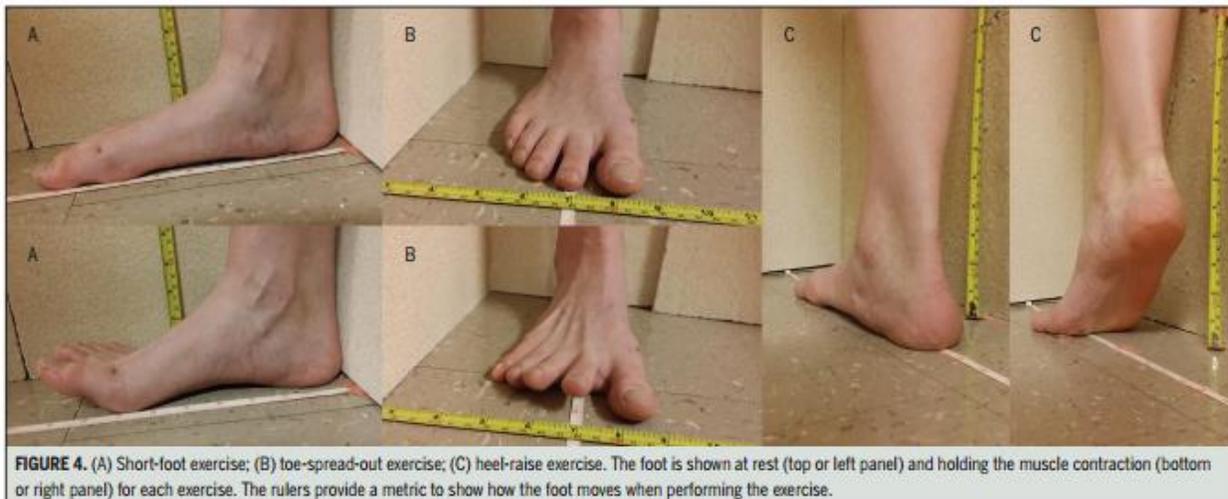


Exercises For Bunions

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Exercise Guidelines

The routine (**FIGURE 4**) is performed barefoot. To learn the exercises, begin in sitting, but quickly transition to standing on both feet and then onto 1 foot if able, as the activation of the muscles is enhanced with weight bearing. While the time spent exercising should be tailored to each individual, published guidelines call for resistive training to be performed at least once a day, repeating each exercise until fatigued. In this routine, all repetitions are held with maximal effort for 5 seconds. While holding the exercise, focus on what the activation of muscles feels like, and strive to reproduce this same feeling periodically throughout the day by contracting the muscles during normal activities. The instructions are narrated in the next 3 paragraphs, and each paragraph concludes with a synopsis on what the literature reports about the exercise. The short-foot exercise (**FIGURE 4A**) recruits the muscles inside the foot. To perform this exercise, shorten the foot, while keeping the heel and forefoot on the ground, without curling your toes into the floor. Do this by forcefully pushing the base of the toes, especially the great toe, into the ground, while simultaneously pulling the forefoot back toward the heel. When done correctly, the toes are held suspended above the ground while the activation of muscles elevates the arch. The exercise preferentially recruits the flexor hallucis brevis and adductor hallucis oblique head, with electromyography (EMG) activity recorded as highest when standing on 1 foot. Both muscles elevate the arch by plantar flexing the first ray. The toe-spread-out exercise (**FIGURE 4B**) more specifically activates the abductor hallucis along the inside of the arch. Perform the exercise by lifting and spreading your toes while keeping the forefoot and heel on the floor. Now, with your toes spread apart, push the little toe downward and outward into the floor. Next, push the great toe down towards the inside of the foot. This exercise generates higher EMG activity in the abductor hallucis compared to the short-foot exercise, though both exercises are effective in recruiting the plantar intrinsics. The heel-raise exercise (**FIGURE 4C**) recruits the muscles that support the ankle and foot. To perform the exercise, hold your knees steady in slight flexion, as bending the knee reduces contributions from the calf muscle (gastrocnemius). To initiate the exercise, stiffen and elevate your arch, while also holding the hindfoot turned inward. Next, raise your heel off the floor, concentrating pressure inside the ball of your foot. While holding the heel raise, transfer only enough weight forward onto your toes to ensure balance. You may assist balance by leaning against a wall. Holding the hindfoot in inversion recruits the tibialis posterior. To facilitate recruitment of the fibularis longus, a flat object such as a coin may be placed under the first metatarsal head as a target for loading.