

FOREWORD BY ROBERT MASSON, M.D.

INSIGHTS

INTO FUNCTIONAL TRAINING

Principles, Concepts, and Application

CHUCK WOLF, MS, FAFS



“Chuck Wolf is an honest workman with decades of experience. Here he has assembled a simple to apply, solidly built program of connected exercise for the athlete who doesn’t want hypo-movement in one part of the body to end up as hyper-movement—repetitive stress injury—in another. Train as a whole, until evenly strung like a good tennis racquet. Let this book help.” ~ Tom Myers, author of Anatomy Trains

THE FOOT ASSESSMENT

THE SUBTALAR JOINT

We do the foot assessment in an unweighted position. Have the client sit on a table with the feet hanging downward. With the leg relaxed, place the right calcaneus in the palm of your left hand. Rest the foot on your left forearm with the ankle in a neutral position.

Place your right hand at the lower tibia two or three inches above the ankle as shown in Photo 8.5.



PHOTO 8.5 SUBTALAR JOINT, NEUTRAL POSITION

Simultaneously, turn the calcaneus outward into eversion while turning the tibia inward into internal rotation to allow the subtalar joint to evert. Then reverse the motion by turning the calcaneus inward (inversion) and the tibia outward (external rotation) to allow the subtalar joint to invert as shown in Photos 8.6 and 8.7.

Under normal, healthy conditions, there should be approximately six to 12 degrees of motion. Compare one side to the opposite side.



PHOTO 8.6 SUBTALAR JOINT EVERSION—HERE THE RIGHT HAND TURNS THE CALCANEUS LATERALLY, WHILE THE LEFT HAND ROTATES MEDIALY



PHOTO 8.7 SUBTALAR JOINT INVERSION—NOW THE RIGHT HAND TURNS THE CALCANEUS MEDIALY, WHILE THE LEFT HAND ROTATES LATERALLY

THE METATARSAL JOINTS

Have the client sit on a table with the feet hanging downward. With the leg relaxed, hold the right midfoot with your left hand, while holding the metatarsal bones with your right hand.

Move the right hand upward toward the head—cephalad—and downward toward the distal spine—caudal. There should be approximately 10 degrees of motion. Please refer to Photos 8.8–8.10.

Compare one side with the other.



PHOTO 8.8 METATARSAL JOINT START POSITION

The left hand holds the foot distal to the ankle, while the right hand holds at the metatarsophalangeal joint.



PHOTO 8.9 METATARSAL JOINT DORSIFLEXED

The left hand holds the foot distal to the ankle, while the right hand mobilizes at the metatarsophalangeal joint cephalad or toward the head.



PHOTO 8.10 METATARSAL JOINT PLANTARFLEXED

The left hand holds the foot distal to the ankle, while the right hand mobilizes at the metatarsophalangeal joint caudally into plantar flexion.

THE GREAT TOE

While holding the foot with one hand, move the great toe into dorsiflexion. There should be anywhere from 35 to 45 degrees of movement. Please see Photo 8.11.



PHOTO 8.11 THE GREAT TOE, DORSIFLEXED

The left hand holds the midfoot, while the right hand dorsiflexes the great toe.

There may be a scope of practice question here for those who work in facilities that limit hands-on approaches beyond assisted stretching. These techniques do not adjust or manipulate joints, but rather assess motion. Additionally, no diagnosis is made from these techniques—just extrapolation on the limitations that may occur considering the principles of biomechanics. Check the policy and philosophy of your facility before using these foot assessment techniques.

At the completion of the foot assessment, we use a Total Gym® Functional Testing Grid for further evaluation.

THE FUNCTIONAL TESTING GRID

The Total Gym® Functional Testing Grid balance reach excursion test allows us to look at an integrated chain reaction. This shows how a client moves through certain actions in each plane of motion.

When doing these tests, assess how the client is able to maintain balance, decelerate, stabilize, and accelerate through the actions of each test. Look for compensatory patterns.

The last measurement we do is to look at how far the client reaches. We are more concerned with the quality and not the quantity of movement.

Remember to compare the clients to themselves, particularly one side to the other, and not to the normative data for their age, gender, or size.

The testing grid is divided into 12 30-degree segments from zero to 360 degrees. This can also be divided into right and left halves such as zero to 180 to the right, and zero to 180 to the left. Have the client face forward to the zero-degree aspect and test from that position.

SINGLE-LEG BALANCE ANTERIOR REACH TO ZERO DEGREES—SAGITTAL PLANE

This test measures the loading capability of the foot, ankle, and hip in an integrated manner in the sagittal plane. Have the client stand barefoot with the great toe of the left foot on the center dot where all the vectors intersect. Make sure the medial border of the foot is parallel and on the line of the north-to-south vector.

Tell the client to reach with the right foot as far as possible along the north-to-south vertical vector. Allow the ankle to dorsiflex and the knee to flex as well. View Photo 8.12 to get an idea of how to execute this test. View this from the front to see all the actions necessary for success and from the lateral side to watch ankle dorsiflexion.