

Rehabilitation, Core Stability & Personal Training using the Swiss Ball

with

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IMPORTANT NOTE

The aim of this Swiss Ball presentation is to increase the knowledge of physiotherapists, patients, fitness leaders, personal trainers and instructors in the area of injury prevention and safe exercise prescription on the ball. An awareness of common injuries and their physiotherapy and medical rehabilitation programs will assist the fitness leader in providing correct supervision of their clients whilst in the fitness centre or personal training studio.

At no stage should fitness leaders assume the role of diagnostic practitioners or primary rehabilitation consultants without direction and assistance from the treating medical professional or physiotherapist. To do so will place the fitness leaders in danger of litigation and intense scrutiny by their peers as well as by the legal and medical community.

The information presented in this workshop is to be used as a guide only and should never be used as a replacement for medical or physiotherapy intervention.

We hope you enjoy the workshop.

Paul G. Wright

INTRODUCTION

The Swiss Ball has been used by physiotherapists for several decades in the rehabilitation of various neurological disorders. More recently the ball has become part of the general fitness industry and has been used widely to promote core stability and general health.

The ball presents us with an unstable environment that challenges our deep stabilizing muscles and improves their activation, strength and endurance. The ball can assist in injury prevention and rehabilitation as well as providing a fun addition to any health and fitness program.

CORE STABILITY BASICS

Muscles Involved in the CORE

a) Transverse Abdominis (TrA)

This muscle lies under the muscles people usually think of as abdominals. Unlike the Rectus Abdominis (or six pack muscles), which run vertically up and down the front of the trunk, or the Obliques, which run diagonally down your sides, the Transverse Abdominals run around your trunk horizontally. The TrA act like a natural girdle or lifting belt. Unlike the other abdominal muscles, which move the skeleton in different directions, the action of the TrA is to compress the abdominal contents and stabilize the midsection. To contract these muscles, simply draw your navel in towards the spine a few centimetres whilst continuing to breathe normally (do not over contract as this will engage the larger external muscles).

b) Pelvic Floor

While the TrA pull inwards the pelvic floor muscles pull upwards and stabilize the midsection from the bottom.

To contract the pelvic floor muscles imagine trying to stop the flow when you are urinating. The contraction of the TrA in association with contraction of the pelvic floor is the basic “setting” that is the essence of CORE stability.

c) Multifidus

These muscles span across several levels of spinal segments and act to fix lumbar vertebrae together and prevent shearing forces that can contribute to pain and injury. To activate these muscles focus on the TrA and Pelvic Floor and after some practice you will be able to isolate these muscles.

CORE STABILITY INTRODUCTORY EXERCISES

It is preferable to master these exercises before commencing the more advanced ball based exercises. Instructions for these exercises are given on the video/DVD presentation – notes can be added in the space provided under each exercise.

a) One Leg Lifts



b) One Leg Outs



c) Up/Up/Down/Down



**d) 4 Point Kneeling
(with arm lift)**



**e) 4 Point Kneeling
(arm and leg lift)**



**f) 4 Point Kneeling
(alphabets)**



FUNDAMENTAL POSITIONS

a) Sitting on the Ball

Be sure to maintain your lumbar curve. Shoulders back and down



b) Supine Bridge

“Set” the CORE. Turn on Gluteals and not hamstrings



c) Prone Bridge

“Set” the CORE. Maintain the lumbar curve. Check position of scapula



STRETCHING ON THE BALL

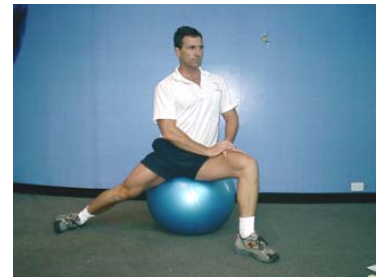
a) Hamstrings
(one leg)



b) Neural Hamstring Stretch



c) Hip Flexor



d) Sitting Adductors



e) Cat Stretch



f) Crucifix



g) Abdominals



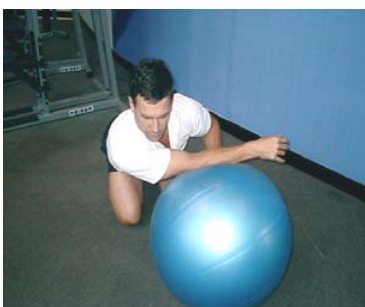
h) Pec Stretch



i) Lat Stretch



j) Posterior Capsule



k) Gluteals



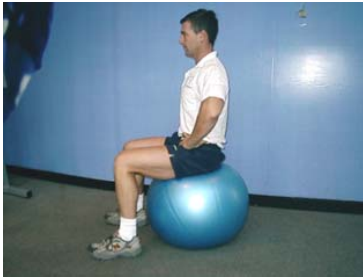
l) Adductors in Lying



SPINAL MOBILITY EXERCISES

a) Pelvic Tilts

Forward / Backwards
Side to Side
Circles / Figure 8



b) Thoracic Extensions (Pulovers)



c) Segmental Rotation (can be done on the floor as an introduction)



d) Russian Twist



e) Tired Drivers



f) Clocks



g) Ball Overhead Knee Rolls



BASIC CORE STABILITY EXERCISES

a) Fallouts

Remember to “set the CORE before performing Any of these exercises



b) Leg Drops

One leg at a time
Do not hold your breath but breath normally



c) Single Leg Lift



d) One Leg Lift with Shoulder Press



e) One Leg Lift with Chest Press



f) Bridge Squat
Attempt to recruit gluteals in preference to hamstrings



g) Single Leg Extension (in bridge)



h) Hip and Knee Extension (in bridge)



ADVANCED CORE STABILITY EXERCISES

These exercises should only be attempted following successful completion of the basic CORE exercises

a) Supine Hip Extension



b) Single Leg Supine Extension



c) Supine Hip Extension with Knee Flexion



d) Lateral Ball Roll



e) Prone Spiderman



f) Ball Wrestling



g) Ball Kneeling



ABDOMINAL TRAINING ON THE BALL

a) Ball Crunch



b) Oblique Crunch



c) Prone Ball Crunch



d) Jackknife
maintain lordosis



e) Forward Ball Roll



f) Reverse Crunch



BACK STRENGTHENING EXERCISES ON THE BALL

a) Ball Rows



b) Prone Supermans



c) Trunk Extensions



d) Pikes



e) Alternate Arm and Leg Lifts



f) Bent Knee Lifts



g) Arm Lift and Pulldown



NOTES:

GENERAL CONDITIONING EXERCISES ON THE BALL

a) Hamstring Curl



b) Ball Lunge



c) Ball Squat



d) Traveling Lunge with Twist



e) Lunge with Back Foot on Ball



f) Ball Push-up (hands on ball)



g) Ball Push-up (feet on ball)



NOTES:

GENERAL CONDITIONING EXERCISES (With Dumbbells)

a) Shoulder Presses



b) Arnold Presses



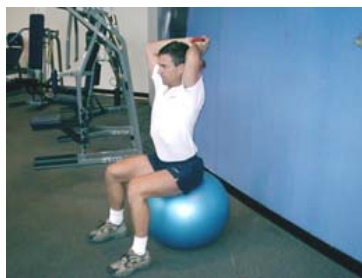
c) Lateral Raise



d) Bicep Curl



e) Tricep Extension



f) DB Bench Press



g) Dumbbell Flyes



h) DB Pullovers



i) DB Ball Rows



GENERAL CONDITIONING WITH CABLES

a) Cable Russian Twist



b) Cable Hamstring Curl



c) Cable Kneeling Woodchopper



CONCLUSION

The following points need to be considered at all times when using the Swiss Ball

- Never perform an exercise which you are not fully familiar with and feel comfortable doing.
- Always seek professional physiotherapy help before attempting the exercises demonstrated in this presentation.
- If you feel any pain or discomfort during the performance of any exercise in this series please seek assistance before continuing.