

P.I.R.P.A.G

Gym Ball Exercises for Amputee Rehabilitation

Set Up

- Gym Ball always to be placed on a non-slip mat
- Choose correct size of Gym Ball - ensure hips and knees at 90 ° angles
- Consider where to use the Gym Ball - parallel bars, between 2 x plinths, open space

Performing Exercises

- Perform with feet hip width apart (unless otherwise stated or ↑ ↓ BOS)
- Maintain a neutral spine (unless otherwise stated)
- Contract Pelvic Floor Muscles and Transverse Abdominus during exercises
- No breath holding

Variations to Exercises

+ / - Wobble Cushion under lower limbs - single leg or bilateral

↑ ↓ BOS

+ / - Eyes closed

+ / - Ankle weights / hand weights

+ / - Resistance to ball movement (by Physiotherapist)

Progression of Thera-Band resistance and weight of Medicine Ball

PROSTHESIS CAN BE ON / OFF

For the purpose of this booklet and to show the limitations of a prosthetic knee through exercises, the prosthesis has been kept in situ and a trans-femoral example used.

Level 1 Exercises

Including:

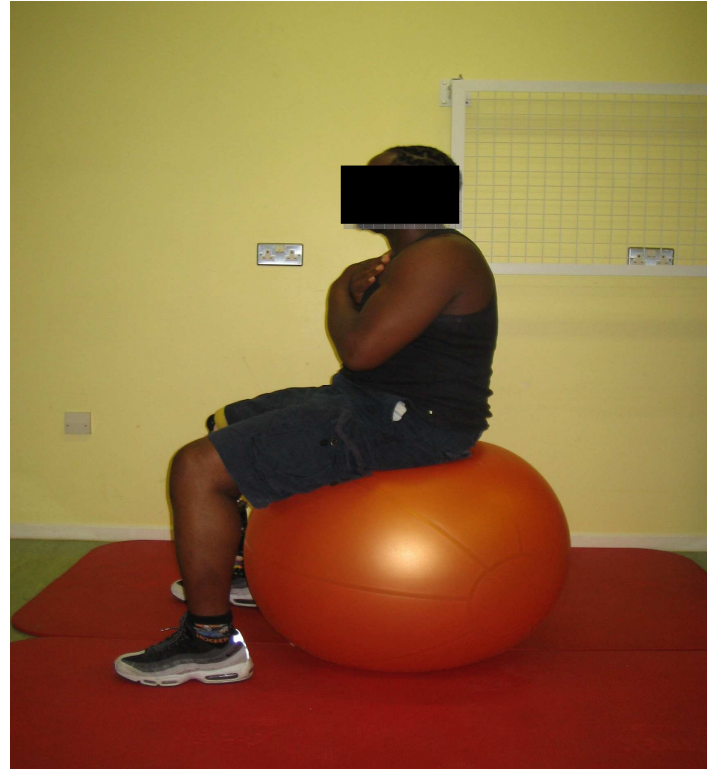
- Hula-Hula, Forward/Backward
- Hula-Hula, Side to Side
- Trunk Rotation
- The Cowboy
- Scale
- Single Leg Hip Flexion

❖ Start all exercises with Upper Limb support and progress as able.

Other Exercise Ideas:

- Bilateral shoulder flexion / extension

Hula-Hula, Forward/Backward



1st Action:

Cross arms over chest

Push the ball backwards away from heels - keeping upper body as still as possible

2nd Action:

Gently pull the ball forwards towards heels - keeping upper body as still as possible

❖ Continue to repeat above actions

To progress:

- Physiotherapist resists the movement of the ball

Hula-Hula, Side to Side



1st Action:

Cross arms over chest

Roll ball slowly towards right side - keeping upper body as still as possible

2nd Action:

Roll ball slowly towards left side - keeping upper body as still as possible

❖ Continue to repeat above actions

To progress:

- Physiotherapist resists the movement of the ball

Trunk Rotation



1st Action:

Cross arms over chest

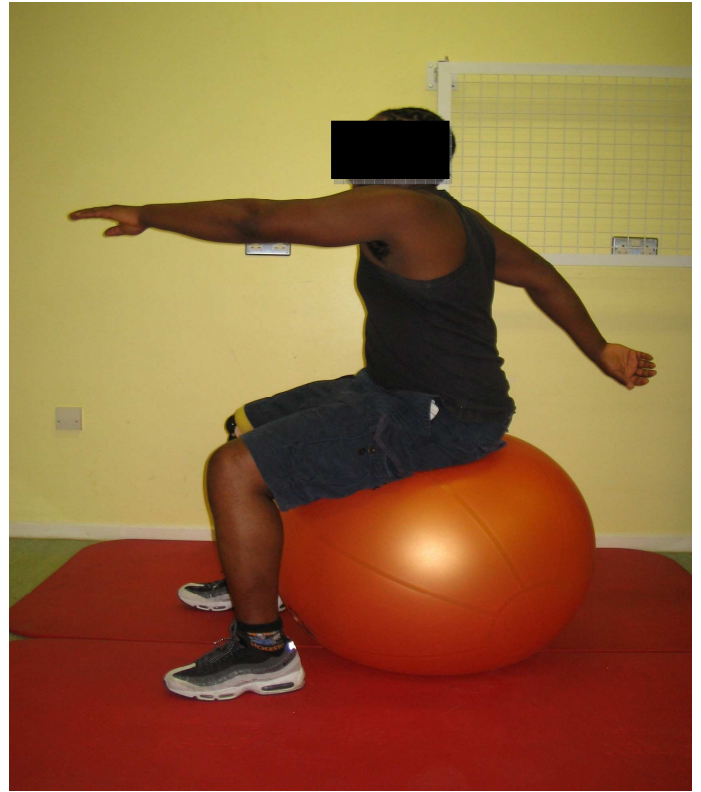
Slowly rotate upper body to right – keeping hips as still as possible

2nd Action

Slowly rotate upper body to left – keeping hips as still as possible

❖ Continue to repeat above actions

The Cowboy



1st Action:

Push off of the floor with right foot

2nd Action:

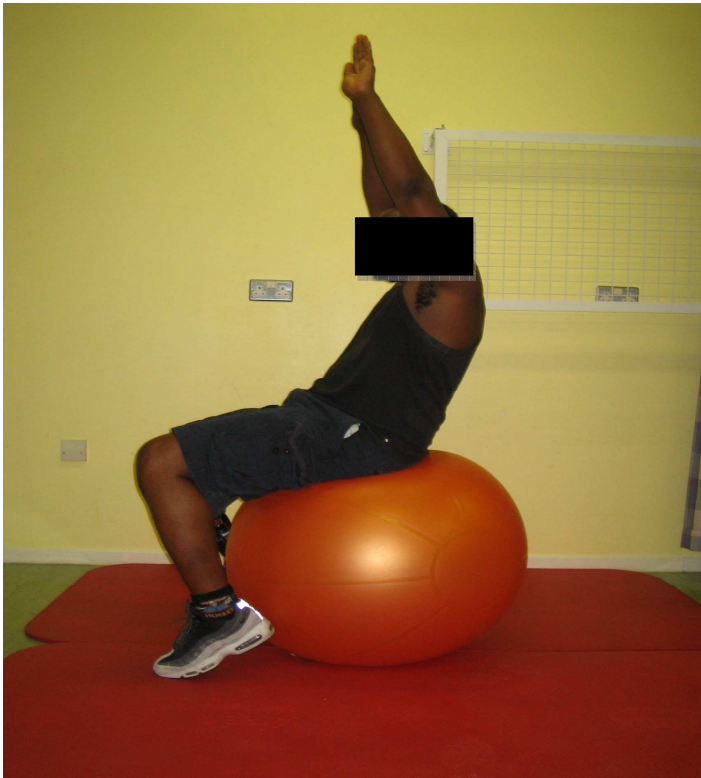
Push off of the floor with left foot

❖ A gentle bouncing motion should be performed

To progress:

- Raise heels when pushing off of floor
- Add arm swing – opposite arm to leg

Scale



1st Action:

Raise arms above head

Gently pull ball forwards towards heels – raising heels & leaning backwards

2nd Action:

Push ball backwards away from heels – lifting forefeet off of floor & lowering arms

❖ Continue to repeat above actions

To progress:

- Add hand weights of medicine ball
 - Less BOS on gym ball and roll off ball further

Single Leg Hip Flexion



1st Action:

Cross arms over chest

Firmly push right foot into the floor – to help stabilise body

Slowly lift left knee towards ceiling - keeping upper body as still as possible

2nd Action:

Slowly lower left foot back to the floor

❖ Repeat above sequence with opposite legs

To progress:

- Add ankle weights

Level 2 Exercises

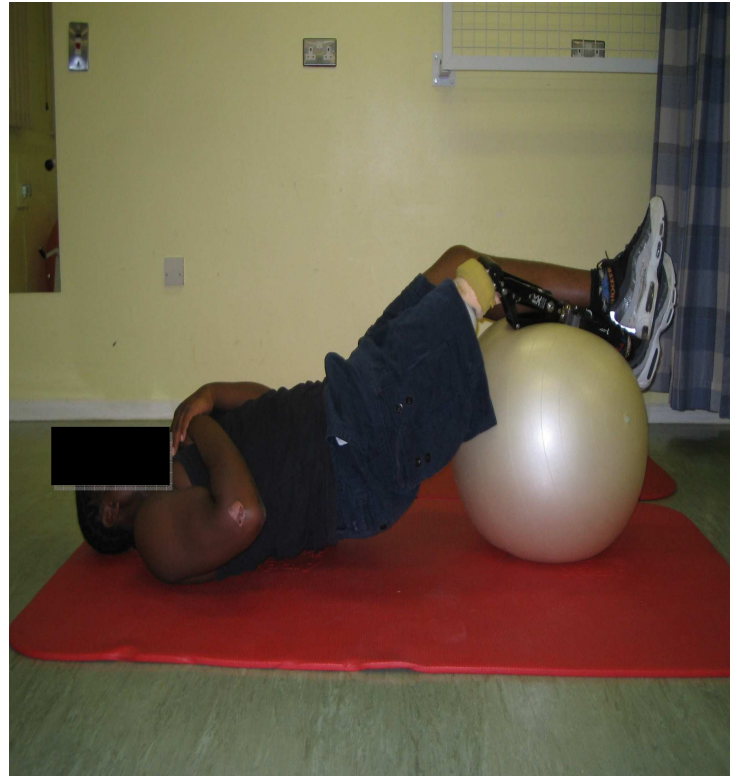
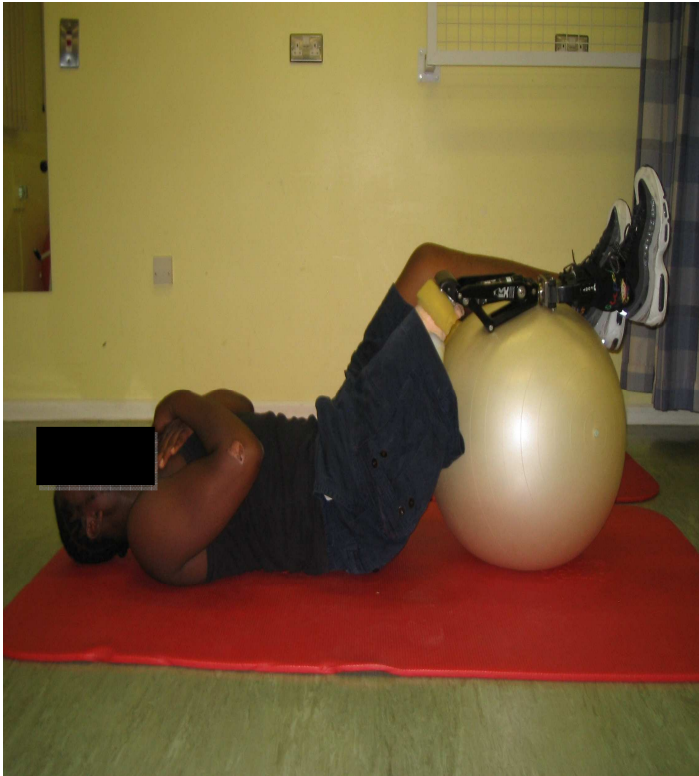
Including:

- Bridging
- Roll Out
- Single Leg Knee Extension
- Trunk Rotation with shoulder flexion/lateral rotation – with Thera-Band
- Pelvic tilts with bilateral shoulder flexion/lateral rotation – with Thera-Band (around thighs)
- Throwing and catching
- Reaching out of BOS
- The Unrest

Other Exercise Ideas:

- Trunk Rotation with Horizontal Abduction – with Thera-Band
- Pelvic tilts with bilateral shoulder flexion/lateral rotation – with Thera-Band (under feet)

Bridging



1st Action:

Cross arms over chest

Squeeze bottom muscles & slowly lift bottom off of the floor

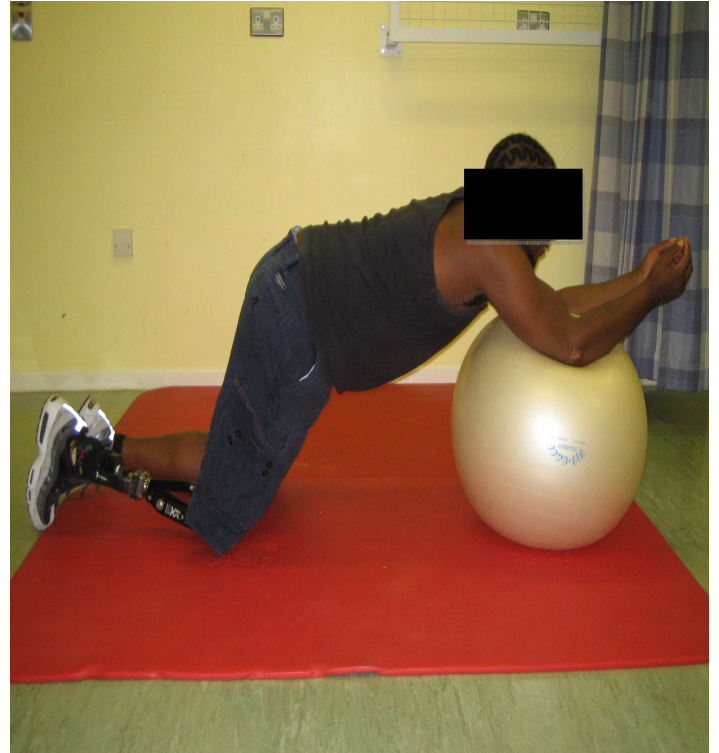
2nd Action:

Hold position for 3-5 seconds

Slowly lower bottom back to the floor

- Remaining limb can be crossed over prosthetic limb to hold prosthetic limb in place (as demonstrated above – photo 2)

Roll Out



1st Action:

Place wrists on the ball with hands together

Slowly lean forwards – letting arms roll up the ball

2nd Action:

Stop when you can go no further – hold position for 1 sec

Slowly return to the starting position

Single Leg Knee Extension



1st Action:

Cross arms over chest

Push foot into the floor – to help stabilise body

Slowly straighten opposite knee - keeping upper body as still as possible

2nd Action:

Slowly return to the starting position

- Repeat above sequence with opposite legs

To progress:

- Add ankle weights
- Wobble cushion under stabilising limb

Trunk Rotation with Shoulder Flexion/Lateral Rotation – with Thera-Band



1st Action:

Push down on right heel to hold Thera-Band in place

Pull Thera-band above head – rotating upper body to the left

2nd Action:

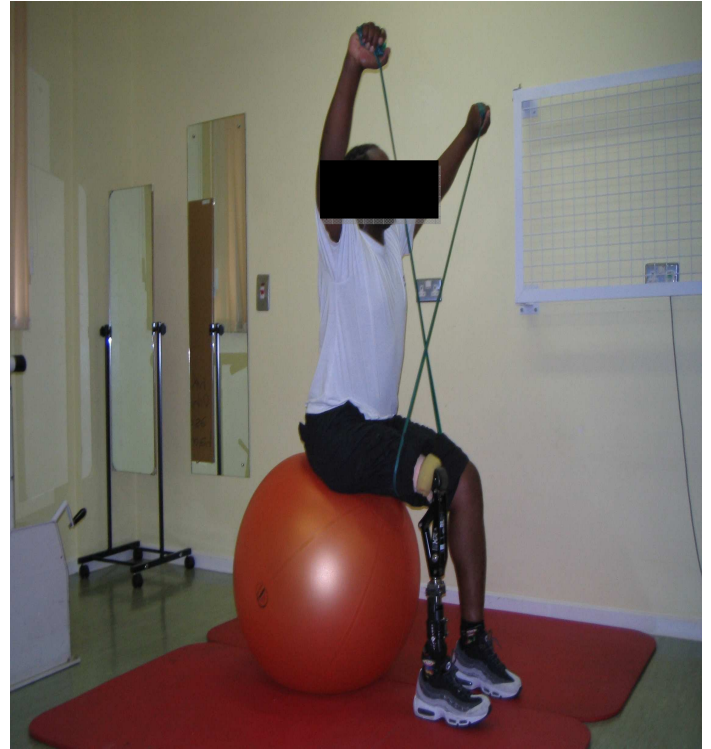
Slowly return to the starting position

- Repeat above sequence rotating to the right

To progress:

- Progress Thera-Band resistance

Pelvic Tilts with Bilateral Shoulder Flexion/Lateral Rotation – with Thera-Band



1st Action:

Cross Thera-Band under thighs

Gently pull the ball forwards towards heels - keeping upper body as still as possible

2nd Action:

Pull Thera-band above head – pulling outwards with thighs against the Thera-Band

Push the ball backwards away from heels - keeping upper body as still as possible

❖ Continue to repeat above actions

To progress:

- Progress Thera-Band resistance

Throwing and Catching



1st Action:

Insure good midline position

2nd Action:

Therapist to throw ball, challenging BOS

- Trunk Rotation with Horizontal Abduction – with Thera-Band

To progress:

- Increase weight of medicine ball
- Wobble cushion under residual/sound limb or both

Reaching out of base of support



1st Action:

Insure good midline position

2nd Action:

Therapist to encourage patient to reach out of base of support, encourage weight transference to residual limb. Encourage pelvic movement, discourage trunk side flexion.

To progress:

- Place wobble cushion under residual/sound limb or both

The Unrest



1st Action:

Lie supine, residual limb on gym ball, sound limb on floor to the side

Action 2:

Keeping residual limb steady on gym ball, move sound limb- can alter movement to increase difficulty ie: knee flexion to extension, abduction

- Ensure residual limb remains stable throughout

To progress:

- Complete more difficult sound limb movement, ie: raised hip abduction/ straight leg raise

Level 3 Exercises

Including:

- Scissors
- Lower Limb / Upper Limb Pass
- Twist Crunch
- Lateral Crunch
- Lower Body Rotation
- Press Up

Other Exercise Ideas:

- Bridging with Hamstring Curl
- Abdominal Crunch

Scissors



1st Action:

Place arms out to the side with palms facing down (or arms across chest)

Squeeze ball between your thighs & raise hips to 90°

Twist lower body to the right - pausing when you can go no further

2nd Action:

Control movement back to the centre

- Repeat to left side

To progress:

- Cross arms over chest (as demonstrated above)

Lower Limb / Upper Limb Pass



1st Action:

Squeeze ball between thighs

Raise arms above head

Lift knees to chest & lift shoulders off of the floor

2nd Action:

Transfer ball to hands

Slowly lower legs and arms towards the floor

- Repeat above sequence – passing ball from hands to thighs

Twist Crunch



1st Action:

Place fingers on temples

Firmly push feet into floor

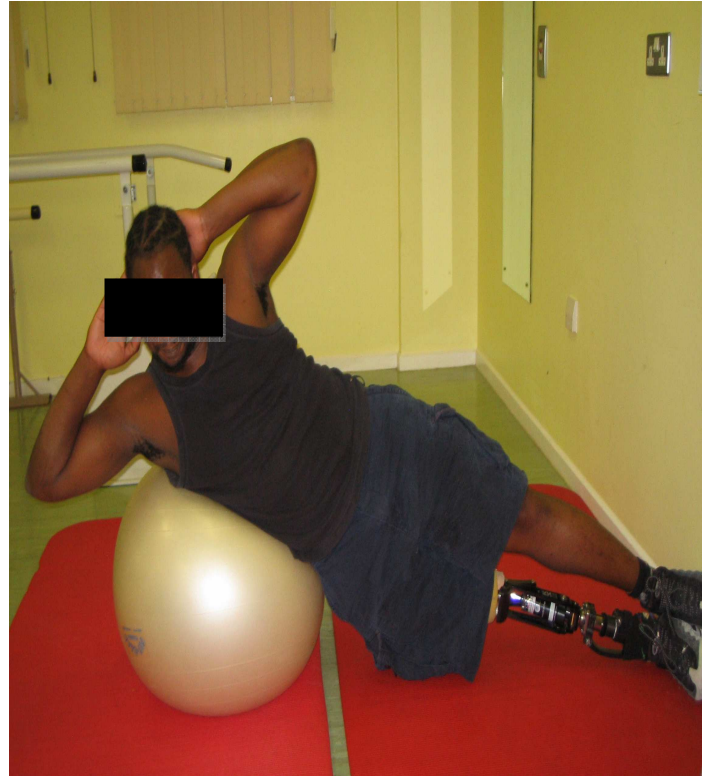
Lift shoulders up & rotate to the left - pausing when you can go no further

2nd Action:

Control movement back to the centre

- Repeat to the right side

Lateral Crunch



1st Action:

Brace feet against a wall

Hands on head

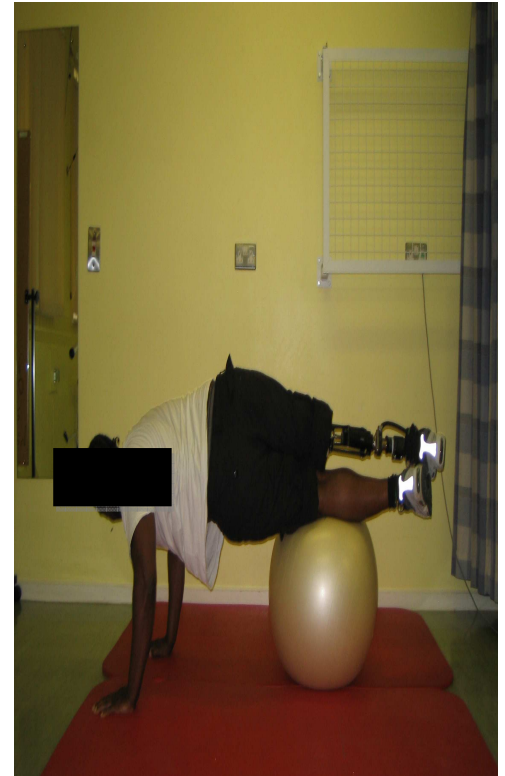
Lie with ball beneath hip & side of trunk

Lift shoulders & trunk upwards - pausing when you can go no further

2nd Action:

Slowly return to starting position

Lower Body Rotation



1st Action:

In prone position rest thighs on ball

Hands shoulder width apart

Twist lower body to the left – until knees are facing left

2nd Action:

Control movement back to the centre

- Repeat to right side

Press up position, hand walk forward and backwards



1st Action:

In prone position rest thighs on gym ball

Hands shoulder width apart

2nd Action:

Walk hands forward slowly and hold position. Return to start position

To progress:

- Add press up at appropriate range for the patient