



# Vancouver Park Board

## Workouts with Familiar Faces

Provided by Casey L., May 1, 2020

### **BALANCE EXERCISES for FALL PREVENTION**

It is estimated that between 20-30% of older adults have one or more falls per year.

The most common reasons for falls include:

- **Vision** - may decrease - falls could result from not seeing clearly and being unable to adequately prepare for obstacles in your way
- **Hearing** - may decrease - falls could result from not hearing properly and not being able to detect the position and movement of your head in space in relation to gravity
- **Muscle Strength** - muscle weakness surrounding your joints (ankles, knees and hips) may develop - falls could result because it could be harder to pick up your feet and walk
- **Posture** - poor posture could develop as a result of spinal degeneration, injury, and/or illness - falls could result because it is harder to stand erect and maintain stability
- **Reaction Time** - may decrease - falls could result because it takes longer to react when something is in your way
- **Medication** - dizziness can be caused by various drug interactions leading to increased fall risk
- **Blood Pressure** - lightheadedness can be caused by low blood pressure leading to increased fall risk

How do we decrease the risk of a fall? We have to improve our ability to balance. So how does balance work in the body? Controlling your centre of gravity is key to effective balance. There must be open lines of communication between your brain, nervous system, muscles and joints. The ability to control your centre of gravity requires sensory input from your eyes, ears and joints and must be trained alongside the musculoskeletal system for balance to be achieved.

Our ability to balance naturally declines as we age BUT it can be trained and improved with practice! A regular exercise program that incorporates balance exercises, strength training and cardiovascular endurance training will slow down the rate of decline and will improve your ability to perform activities of daily living.

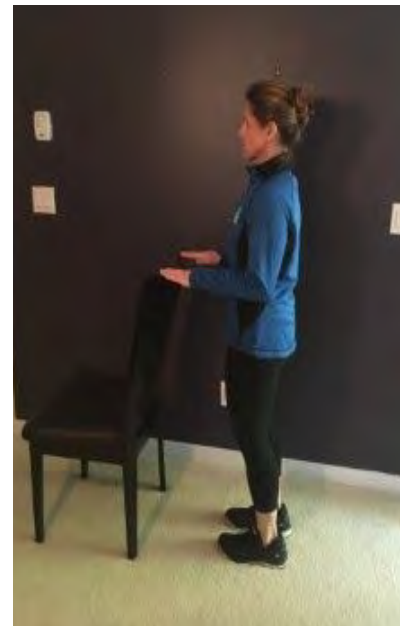
# GETTING STARTED!

## PAR-Q+

The following exercises are designed to improve normal aging imbalance and unsteadiness as a result of disuse or inactivity. Before participating in any form of exercise you are encouraged to take the online Par-Q+ Fitness Assessment at <https://eparmedx.com>. It is recommended that you complete this form at least once a year to ensure that you are prepared for physical activity. Please remember to modify the exercise to meet your own personal fitness level. If your imbalance and unsteadiness is the result of an illness or injury or is medication-related do not perform these exercises until you have consulted with your healthcare practitioner.

## Preparation:

- Wear supportive, comfortable flat-soled footwear.
- Use a balance aid such as a sturdy chair, counter top, cane or walking pole.
- Make sure the area you are exercising in is free of potential tripping hazards.
- Double check if any medications you are taking cause light headedness.
- Never do an exercise that makes you nervous, especially if you are by yourself, modify the exercise until you feel comfortable doing it.
- Focus on your posture - balance is easier to achieve if your body isn't fighting gravity. Keep your eyes up (looking forward), chest up so shoulders don't slump forward, knees slightly bent, feet hip-to-shoulder width apart and weight over your ankles.



Posture Check & Start Position

## How Much and How Often?

Balance exercises can be done every day but it's important that you start slowly. It's not a race to the finish line! Your body needs time to adapt and strengthen and this can only be done slowly over time with repeated repetitions. Use slow, controlled movements. Avoid making fast turns or quick changes of position. Do not hold your breath during exercise.

Start with 1 set of 8-10 repetitions of 1 or 2 exercises and then wait to see how your body feels the next day. Was that challenging? Were you sore or tired the next day? Only increase the intensity or challenge of an exercise when the preceding one can be done safely and easily and no longer presents a challenge. How do you increase the intensity or challenge of an exercise? Change one or more of the following exercise parameters.

***Remember:*** the stronger your muscles are the easier it will be to maintain your balance. Try the following *Balance Exercises for Strength* one day and then try the *Balance Exercises for Coordination and Reaction* the next!

# **BALANCE EXERCISES FOR STRENGTH**

## **Exercise Guidelines:**

Tempo: the speed at which the exercise is performed

- Start with a slow, controlled 2 second count, 2 seconds to move or lift the leg and then 2 seconds to return to original position; tempo can be increased or decreased slightly so long as the movement is controlled

Repetitions: the number of times you do an exercise in a row

- Start with 5-10 repetitions of each exercise, increasing to a maximum of 20 repetitions

Sets: the total number of repetitions performed at once

- Start with 1 set of each exercise, increasing to a maximum of 3 sets

Rest Breaks: the amount of rest time between sets or exercises

- Start with 30-60 seconds, decreasing to a minimum of 15 seconds

## **SIT TO STAND**

Execution:

- use a sturdy chair (no wheels) with armrests if possible
- use a cushion or book to add extra height to seat if needed
- stand in front of chair close enough that the back of legs are just touching the chair
- sit down by pushing hips back and letting upper body bend forward slightly
- bend knees and place hands on armrests
- sit down slowly (goal is to avoid 'falling' into chair)
- stand up by leaning forward and pushing through heels
- use armrests to assist with push off if needed



Progression:

- stand with feet pressed together
- use chair without armrests
- remove added height (ie. remove extra cushion)

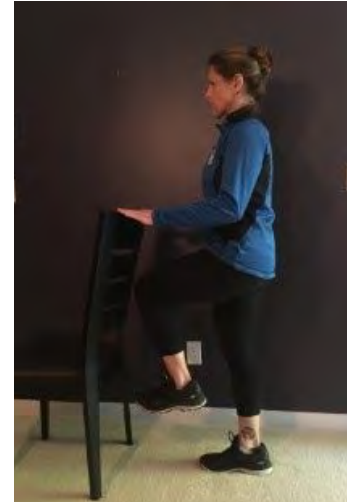
## KNEE LIFTS

### Execution:

- stand facing your balance support
- alternate bringing knee up (maximum to hip height)
- pause at the top for 2 seconds before switching sides
- don't lean forward or back

### Progression:

- complete all repetitions with one leg before switching
- reduce balance support
- lift knee then extend lower leg (ie. add a kick)
- add ankle weights



## SIDE LEG LIFTS

### Execution:

- stand facing your balance support
- keep foot flexed
- lift straight leg out to side keeping leg in line with body
- don't let leg turn out to side
- don't lean upper body in opposite direction

### Progression:

- complete all repetitions with one leg before switching
- reduce balance support
- add ankle weights



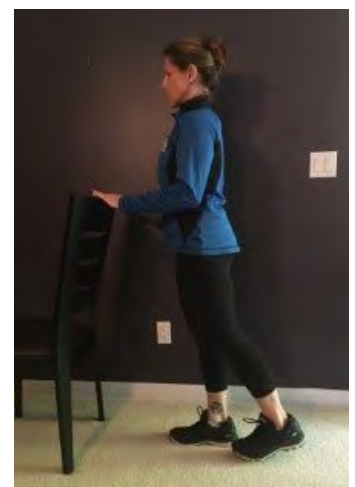
## HIP EXTENSION

### Execution:

- stand facing your balance support
- keep foot flexed
- lift straight leg out behind you keeping leg in line with glute
- keep upper body fixed and don't arch back

### Progression:

- complete all repetitions with one leg before switching
- reduce balance support
- add ankle weights



# **BALANCE EXERCISES FOR COORDINATION & REACTION**

Always start in a static (non-moving) position with a stable base of support. As your balance improves, challenge your centre of gravity by adding or changing one of the following:

- ❖ Add dynamic movement with your head, arm, leg, or torso
- ❖ Decrease your base of support (ie. the position of your feet)
- ❖ Reduce or eliminate your need for support, ie. holding onto something for support

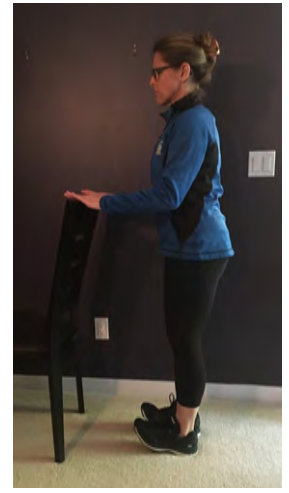
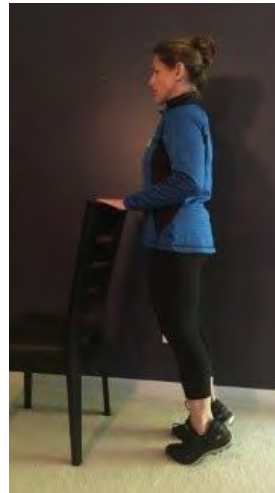
## **HEEL & TOE LIFTS**

### Execution:

- stand facing your balance support
- lift heels off floor, pause, slowly lower, repeat
- lift toes off floor, pause, slowly lower, repeat
- don't let ankles roll out to the side
- repeat 5-10 lifts of each, maximum of 20
- repeat for a maximum of 2 sets

### Progression

- alternate lifting one of each - heels then toes
- reduce balance support



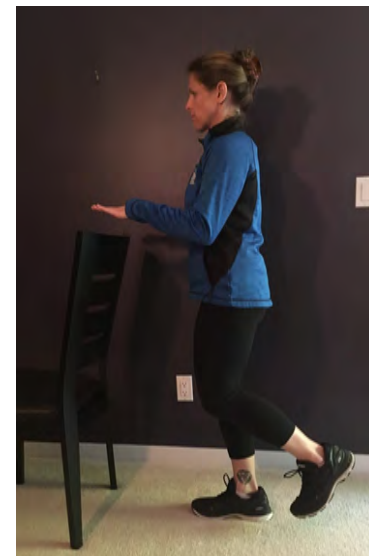
## **1 LEG STANCE**

### Execution:

- stand facing your balance support with your feet together
- bring foot up and behind body, knees in line with each other
- hold for 5-10 seconds, increasing to a maximum of 30 seconds
- repeat 2-3 times with 10-15 second rest between

### Progression: only add one progression at a time

- Knee Lifts - lift knee up to hip height, lift knee out to the side
- Arm Reach - point with one arm to the positions on a clock; use both arms to point to different positions
- Arm Swings - swing one arm in front and across body; use both arms together and in opposition
- Torso Twists - turn upper body from side to side without moving lower body
- Head Turns - turn head side to side without moving body
- Eye Tracking - turn eyes from side to side without moving head
- Decreased Support - start with holding on with both hands, then one hand, then fingertips, and finally hands free



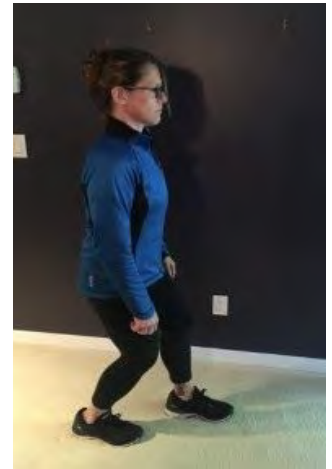
# STAGGERED STANCE

## Execution:

- stand beside your balance support (ie. wall)
- stand with feet in line with hips (~ 6" of space between feet)
- take a step forward and hold position (as if walking)
- hold for 5-10 seconds then switch the lead leg, increasing to a maximum of 30 seconds
- repeat 2-3 times with 10-15 second rest between

## Progression: only add one progression at a time

- Arm Reach - point with one arm to the positions on a clock; use both arms to point to different positions
- Arm Swings - swing one arm in front and across body; swing both arms together and in opposition
- Torso Twists - turn upper body from side to side without moving lower body
- Torso Bend - bend upper body to one side keeping it in line with legs, reach an arm out at the same time
- Head Turns - turn head side to side without moving body
- Eye Tracking - turn eyes from side to side without moving head
- Heel Lift - lift back heel off floor
- Decreased Support - start with holding on with both hands, then one hand, then fingertips, and finally hands free
- Second picture shows Side Bend and Reach



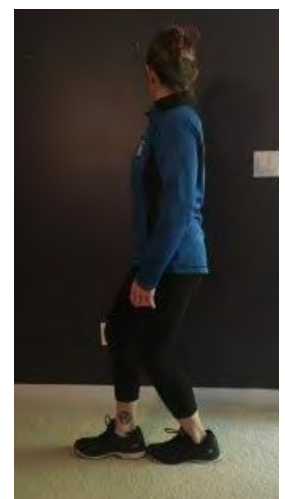
# TANDEM STAND & TIGHTROPE WALK

## Execution:

- stand beside your balance support (ie. wall)
- place the heel of the front foot directly in front of and touching the toes of the back foot
- hold for 5-10 seconds then switch the lead leg, increasing to a maximum of 30 seconds
- repeat 2-3 times with 10-15 second rest between

## Progression: same as above for Staggered Stance

- practice these progressions before trying the Tightrope Walk
- Tightrope Walk - starting in Tandem Stand position and walk forward with the heel of the front foot always touching the toes of the back foot - progress to walking backwards
- Second picture shows Head Turn



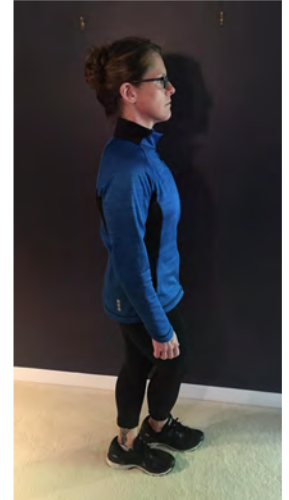
## CROSSED FEET & GRAPEVINE

### Execution:

- stand beside your balance support (ie. wall)
- cross right foot over left and hold
- repeat with left foot crossed over right and hold

### Progression: only add one progression at a time

- Arm Reach - point with one arm to the positions on a clock; use both arms to point to different positions
- Arm Swings - swing one arm in front and across body; swing both arms together and in opposition
- Torso Bend - bend upper body to one side keeping it in line with legs, reach an arm out at the same time
- Head Turns - turn head side to side without moving body
- Eye Tracking - turn eyes from side to side without moving head
- **GRAPEVINE** - move to one side continuously crossing and uncrossing feet in front - step right foot over left then bring left foot from behind to stand beside right, repeat with right foot leading 4x then go back to the left with left foot stepping in front of right
- **REVERSE GRAPEVINE** - move to the side continuously crossing and uncrossing feet by stepping with foot behind the other foot and not in front
- Grapevine repetitions - try 4 in a row in each direction to a maximum of 10



## ROCK THE BOAT

### Execution:

- stand in front of or next to your balance support
- stand with feet hip to shoulder-width apart
- slowly shift weight from side to side while keeping feet on floor (ie. rock side to side)
- keep leg in line with body the whole time
- slowly rock side to side 5 times then lift one leg up and hold for 5 seconds, repeat with other leg
- repeat 2-3 times with 10-15 second rest between

### Progression: only add one progression at a time

- Increase repetition of side to side rock to maximum of 10
- Increase the speed of your rock from side to side
- Hold side leg lift up to a maximum of 10-15 seconds
- Decreased Support - start with holding on with both hands, then one hand, then fingertips, and finally hands free

