

# Practical Applications for Exercising at home

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What we will cover:

- What are the different types of exercise
- How to exercise safely
- Where to get started?
- Equipment needed
- Exercise Terms
- Resistance Program
- Endurance Program
- Balance Exercises
- Breathing Exercises
- Tips for Staying on Track



# Practical Application for Exercising at Home

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- Why Exercise?
- Strengthen our bodies, increase stamina
- Reduce fall risk
- Increase energy
- Improve your mental state
- Maintain independence and activities of daily living
- Maintain a healthy body weight

# Types of Exercise – Why are both important?

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- Resistance exercise – exercise that improves muscular strength and endurance, can also be called strength training or weight lifting.
- Endurance exercise – exercise that improves heart and lung health and improves endurance, can also be called cardio or aerobic exercise



# Exercising Safely with Mitochondrial Disease

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- Proper nutrition before exercise, do not exercise on an empty stomach (wait 30 minutes until after you eat).
- Do not exercise if you have a fever or flu
- If your muscles are still sore from your previous exercise bout, wait another day
- Staying hydrated before, during and after exercise
- Monitoring yourself during exercise – heart rate monitors (listening to your body)



# Exercise Safety Continued

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- Noting your personal signs of fatigue
- Stopping before complete exhaustion
- Avoid exercising outside in extreme heat and cold
- Having an exercise buddy if exercising alone is unsafe for you
- Wear proper footwear
- What time of day might be optimal for you?



# Where to get started?

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- Check with your doctor
- Make yourself an exercise plan
- Set a time of day
- Write down your goals!
- Start by focusing on the areas of your greatest strengths
- Gather the equipment you need

# Resistance Exercise Equipment

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- Resistance Exercise Equipment
  - Free weights
  - Therabands
  - Your own bodies resistance
  - Ankle or Wrist weights
  - A water bottle!

Where can you purchase? Amazon, Walmart,  
Dollarama, Canadian Tire

Cost? Free - \$60

# Endurance Exercise Equipment

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- Treadmills
- Recumbant Bike
- Upright Bike
- Portable pedal ergometer
- Walking outside (factor external temperatures)
- Swimming (keep in mind water temperature)



Where to buy? Kijiji, Canadian Tire, Fitness Stores

Cost – Free - \$thousands...

# Exercise Terms Explained!

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- Repetitions – this means the number of times you do one exercise, for example doing 15 biceps curls
- Sets – this is the number of times you repeat your group of repetitions – the goal is to get to 3



# Endurance Exercises

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- We recommend doing a full body exercise 3x a week. This takes about 20-30 minutes
- Start with a light warm-up, i.e. walking on the spot, or cycling for about 5 minutes – no to light resistance.
- Focusing on major muscle groups in the upper and lower body
- Start with 1 set and gradually add on

# Endurance Exercise Continued

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- How do you know how much weight to use?
- We recommend getting to fatigue after 10-15 efforts – so if you can only do 5, it's too heavy and if you get to 20 without being tired – it's too light!

Should I do my exercises sitting or standing?

- Whatever is safest!
- Consider assistive devices in your decision - do you use a walker or wheelchair?
- Start with sitting and work your way up if you are unsure

# CHAIR EXERCISES



## Knee Extension



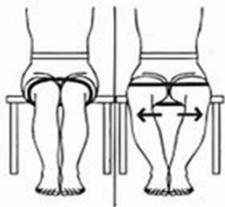
Start with knees bent and feet planted on the floor. With ankle weights or theraband, extend knee and point foot towards the ceiling. Hold, then slowly return to starting position. Repeat with other leg.

## Hip Adduction (Ball Squeezes)



While seated with good posture, place a ball between your knees. Squeeze the ball between your knees. Hold the squeezing position for 5 seconds and relax thighs returning to the start position.

## Hip Abduction



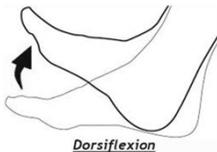
Start with feet planted on the floor. Tie theraband around your thighs in a firm knot. Pull legs apart while keeping your feet planted on the floor. Hold for 3 seconds and then slowly return to starting position.

## Hip Flexion (Slow March in Place)



Start with feet shoulder-width apart. Slowly bend one knee towards your chest. Hold for 3 seconds and then slowly lower your foot to the floor. Pause, then repeat with the other leg.

## Toe Raises



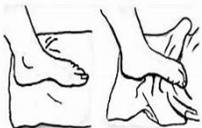
With heels down, lift the tops of your feet toward the ceiling, hold for 5 seconds and slowly return to starting position.

## Calf Raises



With toes on the ground, raise heels to the ceiling, hold for 5 seconds and slowly return to starting position

## Towel Scrunches



With bare feet, use your toes to scrunch up a towel, or facecloth. Hold for 5 seconds and relax. Repeat with both feet.

## Pedalling (Legs and Arms)



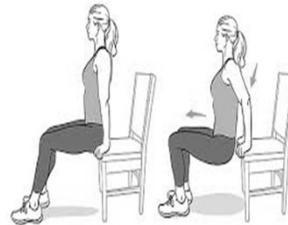
Portable Pedal Exercisers can be used for the arms (on table top) or the legs (on the floor). Cycle both upper and lower body starting at 5 minutes and gradually increase time weekly.

### Bicep Curl



Sitting with your back straight and elbows tucked into your sides, curl your hands towards your shoulders. This exercise can be done with hand weights or a theraband

### Tricep Dips



Sitting upright, lean slightly off your chair, if it is safe. Start with your arms straight and carefully dip down and up.

### Shoulder Circles



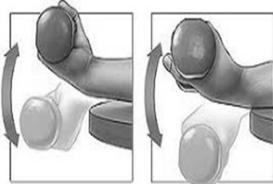
Sitting upright, bring both arms parallel to the floor and circle forward 10 times, then backwards 10 times. To increase difficulty, add a light weight.

### Chest Press



Holding a medicine ball, theraband placed behind your chair, or light weight, bring your arms into your chest and then reach out, parallel to the floor. Return to starting position.

### Wrist Flexion/Extension



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With arm on a table, or armrest, facing down, slowly bend wrist upward and return to start. Then turn your arm over, and curl your hand up towards your shoulder, leaving your arm resting.

### Hand Grip



Using soft foam ball, squeeze your hand for 5 seconds and release. Continue for 1 minute and switch hands

**Complete all exercises 15 times (unless otherwise indicated), rest and then repeat for a total of 3 sets. You can start out with only 1 set, and gradually increase.**

# Endurance Exercise

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- Start slow and work your way up.
- Exercise by a mirror to make sure you have proper form to reduce injury
- Ensure you have proper footwear on.
- If possible, station your cardio equipment by a tv and watch something to pass the time quicker!
- Do your best to stick to your schedule, even if it's for a few minutes.
- Watch for danger signs, lightheadedness, extreme shortness of breath, chest pain

# Balance Exercises

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- Balance exercises can be performed to decrease fall risk and increase stabilizing muscle strength in individuals with ataxia or at increase fall risk.
  - Always do balance exercises where you can safely hold on to something if need be.
- If exercises are unsafe to perform, work on ones that you are confident with
  - Enlist a buddy to help you out if you can.



# BALANCE EXERCISES

## Feet Together



- Stand with a chair in front of you and a wall behind you for support if needed.
- Put your feet together with your arms at your side and head in neutral looking forward
- Try to maintain balance for 10 seconds and gradually increase to 30 seconds.
- Repeat 3 times.

## Weight Shifts: Front to Back



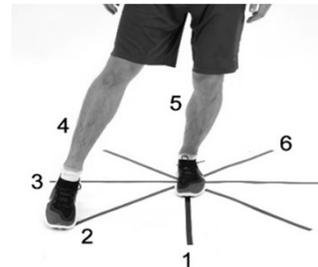
- Stand with a chair in front of you and a wall behind you for support if needed.
- Start with your feet shoulder-width apart and your arms at your side.
- Gently lean forward and backward shifting your weight to your toes and back to your heels.
- Slowly increase how far you can sway forward and backward without taking a step.
- Note: Do not lift your toes or heels. Be sure that your shoulders and hips remain in alignment.
- Repeat toe-to-heel sway 10 – 15 times.

## Weight Shifts: Side to Side



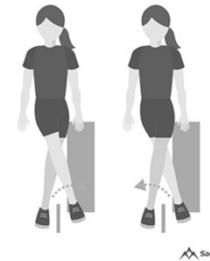
- Stand with a chair in front of you and a wall behind you for support if needed.
- Start with your feet shoulder-width apart and your arms at your side.
- Gently lean to the right and left so that your weight shifts from your right foot to your left foot.
- Slowly increase how far you can sway from side to side without taking a step.
- Note: Do not lift your toes or heels. Be sure that your shoulders and hips remain in alignment.
- Repeat right-to-left sway 10 – 15 times.

## Single Leg Stance - Clock



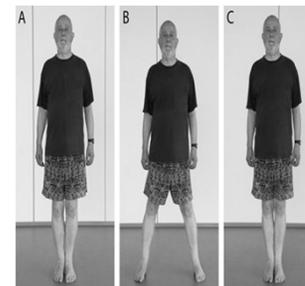
- Start by standing on one leg and maintain your balance. Imagine a clock on the floor where your stance leg is in the center.
- Then, lightly touch position 1 as illustrated with your non-stance foot. Then return that leg to the starting position.
- Next, touch position 2 and return. Continue this all the way to position 6.
- Maintain a slightly bent knee on the stance side.

## Side Step Overs



- Stand near a counter or ledge for support if needed.
- Place tape on the floor in a straight line.
- Lift your right foot and step sideways to cross the line by crossing the right leg over the left leg.
- Hold 3 – 5 seconds.
- Return to the starting point.
- Try to perform 10 – 15 step overs per side.

## Sideways Walking



- Stand with your feet together, knees slightly bent, and looking straight ahead.
- Step sideways in a controlled manner, moving your left foot away from your right.
- Maintain balance and then move your right foot towards your left so they rejoin.
- Perform 10 – 15 steps per side.

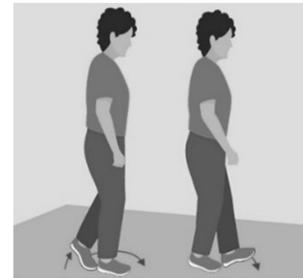
# BALANCE EXERCISES

## Side Leg Raises



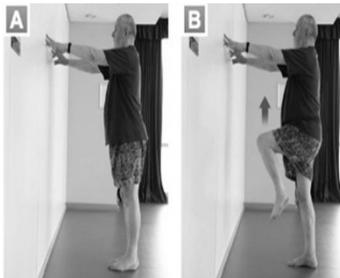
- Stand behind the chair with your feet slightly apart.
- Slowly lift your right leg to the side.
- Keep your back and legs straight, your toe facing forward, and look straight ahead.
- Hold for 1 second and then slowly lower your foot to the floor.
- Repeat this exercise 10 – 15 times per leg.

## Tandem Stance



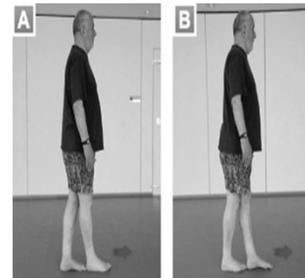
- Place your right foot in front of your left foot.
- The heel of your right foot should touch the top of the toes from your left foot.
- Try to maintain balance for 10 second.
- Gradually increase to 30 seconds as you become more comfortable.
- Perform 3 times with right and left in front.
- Note: Perform exercise in a door frame for safety purposes

## Single Leg Stance



- Stand with your feet shoulder width apart in front of a wall and place your fingertips against the wall for stability if necessary.
- Slowly lift your leg towards the ceiling with the knee in a bent position keeping your hips level.
- Hold the lift for 5 – 10 seconds and gently lower your foot to the floor.
- Gradually increase to 30 seconds as become more stable and comfortable.
- Perform 3 times per each side.

## Tandem Walk



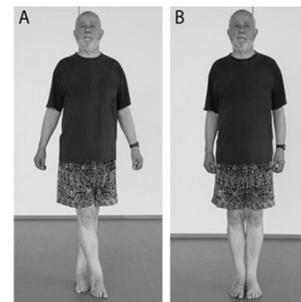
- Standing upright, place your right heel on the floor directly in front of your left toe.
- Then do the same with your left heel.
- Make sure you keep looking forwards at all times.
- Try to perform 10 steps.
- Note: You can walk along side a wall and slide the tips of your fingers along the wall for stability. As you progress, move away from the wall.

## Heel Raises



- Start with your feet shoulder-width apart.
- Make sure to hang onto chair for support if necessary.
- Raise heels straight up, elevating yourself up on your toes as high as you can go.
- Hold for 1 second and then slowly lower heels to the floor.
- Lift and lower yourself 10 – 15 times.

## Grapevine Walk



- Stand with your feet together, knees slightly bent.
- Step sideways in a controlled manner, moving one foot to the side first.
- Move the other to join it.
- Perform 10 steps each way.

# Exercises for Better Breathing

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- Consult your doctor or respirologist for what is appropriate and safe for you
- Incentive Spirometers
- Cough Assist Machines
- Breath Stacking



# Tips for Staying on Track

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- Write down your goals, make them small and achievable – tell someone!
- Set yourself a reward if possible
- Use the buddy system
- Schedule your fitness (day of the weeks, time of day), be consistent
- Don't beat yourself up if you miss a day, just start again.
- It takes 3 weeks to form a habit!
- Have your equipment readily accessible
- Find activities you enjoy and look forward to
- Find what motivates you



# Encouraging exercise in children

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- ❑ Make it fun/play.
- ❑ Start slowly and gradually increase intensity.
- ❑ Listen to body.
- ❑ Mix up different types of exercise (ENDUREX).
- ❑ Warm-up/stretch.
- ❑ Avoid: fasted, concurrent illness, myalgia.



ENDURANCE



RESISTANCE