

Instructions for POTS Exercise Program—Children’s Hospital of Philadelphia

We have discussed that you may benefit from a unique exercise training program. This program was designed, researched, and prescribed by a team in Texas for patients suffering from Postural Orthostatic Tachycardia Syndrome (POTS). We have modified it to make it easier to follow. Trying this program is a decision that you need to be 100% committed to for yourself and your health. This letter outlines all of the details of this program. You and your family should thoroughly read this letter as well as the *Monthly Training Calendars* and *Training Guidelines Heart Rate Zones* that we have calculated for you.

You will need access to a variety of gym equipment and therefore it is recommended that you join an exercise facility. Many patients follow this program without help, or you may want to have a friend, family member, personal trainer or physical therapist oversee your progress. We believe it is critical for patients with POTS to begin cardio and strength training exercises in a horizontal or seated position (“recumbent”) and progress over many weeks to upright activity (each patient does this at their own rate, but we give a specific outline in the Monthly Training Calendars).

The Structure of the Training Calendars

There is a series of 8 training calendars that are provided for you later in this packet. Where you begin will depend on your current condition.

- Months 1-4 you should only exercise in a horizontal position, here are examples:
 - o Recumbent biking
 - o Rowing Ergometer
 - o Swimming laps or kicking laps with a kickboard
- Month 4 you can begin to use the upright bike if it is available
- Month 5 is when you can begin further upright training (elliptical or treadmill)

Use the calendars as a week by week guide. We understand that you may need to move training sessions around, but please complete all of the recommended training sessions within that 7 day period. You will need to do this in order to move forward to the next week.

One requirement is that after Maximal Steady State’ workouts you must always complete a ‘Recovery’ workout the next day. A ‘Recovery’ workout is when you do anything active, but keep your heart rate below the zone prescribed. Examples of recovery workouts include:

- Slow cycling at a low level on the recumbent bike
- Using a kickboard to leisurely kick laps in the pool
- Taking a walk outdoors
- Playing in the yard
- Anything active that gets you moving continuously for the prescribed amount of time

If for some reason you miss a period of workouts (illness, injury, etc.) then you should go back in the calendar and repeat the workouts. For example:

- If you miss more than 2 cardio workouts then repeat the full week
- If you miss a week, back up and repeat 1 week
- If you miss more than 2 weeks, you should restart from the beginning of the month that you are currently in. If this is too hard then you may need to back up further.
 - o The program gets progressively more difficult. When you take time off, you lose some of your hard-earned conditioning so it is important to repeat workouts. You may also need to return to horizontal modes of training (i.e. recumbent bike, swimming, rowing) before moving forward in the program again.

TIPS:

- Use the equipment you have access to and can tolerate training on, but starting with one horizontal mode of training is key.
- Rowing with the rowing ergometer is preferred because it mimics open water rowing. People who row in the open water tend to have the largest, strongest hearts out of all competitive athletes. Rowing is great to strengthen your heart muscle! If you are unsure how to use it ask someone to show you.
- Keep the workouts spread out throughout the week. This is more beneficial than bunching them up and then taking several days off from exercising.
- Try not to take more than 2 days off from exercising. This is KEY!!
- If you cannot complete all the sessions for that week, you need to repeat that entire week again before moving forward.

The Basics of the Strength Training

The strength training sessions prescribed should take you 20-30 minutes to complete. All weight training should be done using body resistance or on seated equipment. If you are unfamiliar with strength training then you should consult with a trainer to help you use proper form and technique on each machine. It is recommended that you keep a log of your exercise. The strengthening exercises are mainly for the lower body and core, and this is intentional. Lower body muscles act as pumps when they contract (as you are walking about in daily life) to return blood to your heart. Increased muscle mass in your legs means more blood returned with each step you take.

TIPS:

- Strength training can make you sore in the beginning (especially 1-2 days after the workout).
- Some people find that they can only get to the gym 3-4 days a week. It is fine to do your strength training at the end of your cardio workouts instead of on separate days, if you prefer. If this causes you to become symptomatic then you should try to perform on separate days.
- Take at least a day off between strength training workouts. You need to allow your muscles at least that day to recover and to build muscle.
- We do not recommend the use of free weights until you have been able to build your strength and are able to perform with good form.
- If you have joint hypermobility then you should consult with a physical therapist prior to beginning your exercise program. The therapist can teach you how to protect your joints when you exercise.

Recommended Strength Training Exercises

If you are able to access a gym or fitness center then we give the general recommendation to perform 3 sets of 8-10 repetitions of the following:

- **Seated leg press**
- **Leg curl**
- **Leg extension**
- **Calf raise**
- **Chest press**
- **Seated row**

You should do as many repetitions as you can on the third set. When you can do more than 10 on the third set, then you need to increase the weight you are lifting for your next session.

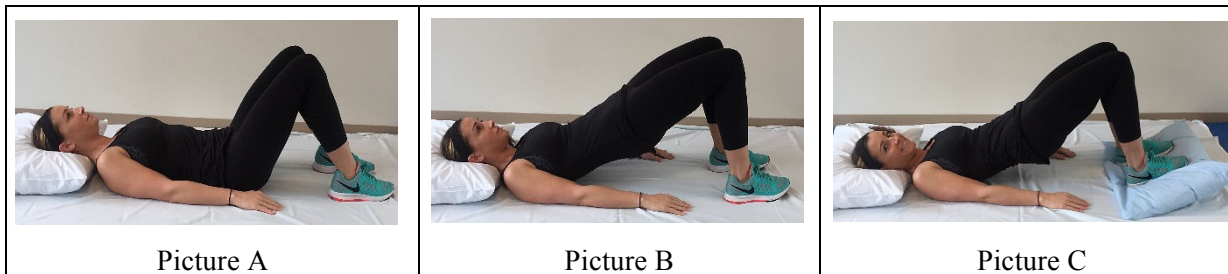
We also ask that you perform exercises for your belly muscles such as:

- **Abdominal crunches**
- **Back extensions**
- **Anything Pilates-based that you can do on the floor**

If you are unable to access gym equipment then you can perform exercises using body resistance or exercise bands such as:

BRIDGES

- **Perform 3 sets of 8-10 repetitions and hold each one for 10 full seconds**
- Lay with knees bent up and hip distance apart, feet flat on the floor and hands down at your sides (Picture A). Try to keep your shoulders relaxed and away from your ears.
- Squeeze together gluteal (buttock) muscles and slowly lift your buttocks off the surface (Picture B)
 - Do NOT arch your back! Shoulder blade area should stay on the floor and belly muscles squeezing tight (to protect your low back)
- Try to count out loud to 10 to make sure you are breathing
- *To make this harder:* Place a pillow/cushion under your feet (Picture C)



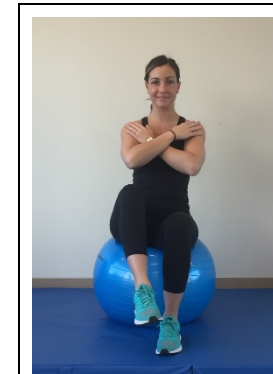
Picture A

Picture B

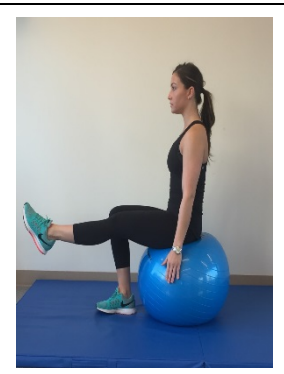
Picture C

SEATED BALL EXERCISES

- Begin seated on an exercise ball in a safe area. Your hips and knees should be at a 90 degree angle or making an “L-shape”. Make sure you sit up tall keeping your belly muscles engaged and your shoulders relaxed with your arms down at your sides.
- Perform 15 alternating marches while keeping your posture throughout (Picture D). **Repeat this for 3 sets of 15 alternating marches.**
- Then slowly kick one leg out to straighten your knee, hold 3 seconds and then begin back to starting position (Picture E). **Repeat this for 3 sets of 15 alternating kicks.**
- Begin both exercises with arms down at your sides and then progress to performing with arms crossed over your chest to make it more challenging.



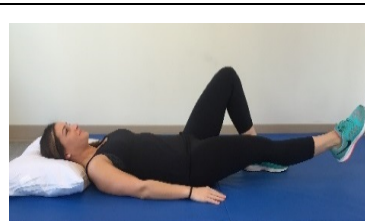
Picture D



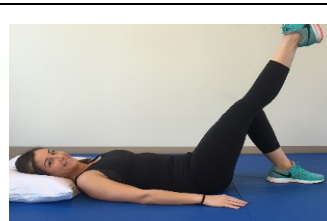
Picture E

STRAIGHT LEG RAISES

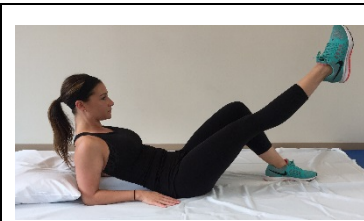
- **Perform 3 sets of 8-10 on each leg**
- Lay on your back with 1 knee bent and the other one straight (Picture F)
- On the straight leg: Squeeze the thigh muscle to make the knee straight. Then lift the leg up slowly until it gets near the height of the other knee. (Picture G) Hold it 1 second and then slowly lower it back down
- The goal is to keep the hips on the floor and the knee you are lifting straight
- *To make this harder:* Try it propped on your arms (Picture H) or try it with a weight strapped around your ankle



Picture F



Picture G



Picture H

SIDE LYING STRAIGHT LEG RAISES

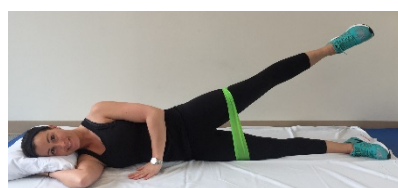
- **Perform 3 sets of 8-10 repetitions**
- Lay on your side with bottom knee slightly bent and the top leg straight. The top leg should be in line with the body and not coming in front of the body (Picture I)
- Slowly lift the top leg up 8-12”, hold for 1 second and then slowly lower down without turning or twisting your body (Picture J)
- *To make this harder:* Perform with an elastic band around your thighs (Picture K)



Picture I



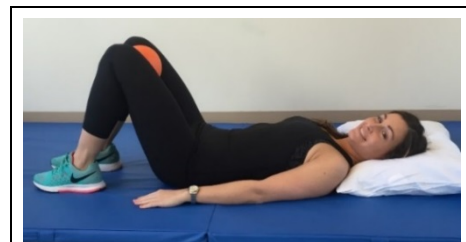
Picture J



Picture K

LEG PRESSES INWARD

- **Perform 3 sets of 8-10 repetitions and hold for 5 seconds**
- Lay with knees flexed up and hip distance apart, feet flat on the floor and hands down at your sides. Place a pillow or soft ball between your thighs (Picture L)
- Squeeze your legs together into the pillow or ball- **hold for 5 seconds** counting out loud and then release the legs
- *To make this harder:* hold each one for 10 seconds



Picture L

CLAMSHELLS

- **Perform 3 sets of 8-10 repetitions on each side**
- Begin lying on either side with knees and hips bent just a little (Picture M)
- Lift the top knee off of the bottom knee, but keep your ankles together (Picture N)
- Make sure your hips and body do not twist
- *To make this harder:* try with a resistance band around your thighs



Picture M



Picture N

PLANK HOLD

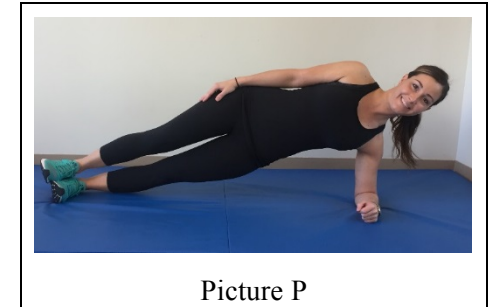
- **Perform 3 repetitions, holding for 15-30 seconds each time**
- Line up elbows under shoulders to start and lift your body off of the surface to make one long line (Picture O)
- Make sure you breathe while keeping your bellybutton lifted up to the ceiling and your eyes looking a few inches past your fingers to keep your head in line with your body
- *To make this harder:* Hold it longer, try 30-60 seconds



Picture O

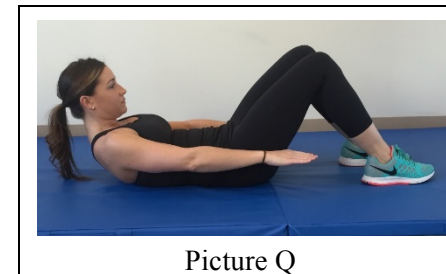
SIDE PLANK HOLD

- **Perform 3 repetitions on each side, holding for 15-30 seconds each time**
- Begin lying on your side in a long line. Feet can be stacked on top of each other or one in front of the other.
- Then line up elbow under shoulder and lift your body off of the surface to make one long line (Picture O)
- Make sure you breathe while keeping your bottom hip lifting up towards the ceiling and your head in line with your body.
- *To make this harder:* Hold it longer, try 30-60 seconds

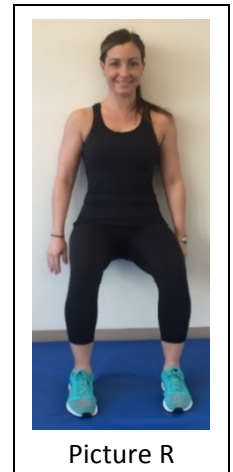


PILATES HOLD

- **Perform 8-10 repetitions on each side, holding for 10 seconds each time**
- Begin on your back with knees bent and feet on floor and arms down at your sides.
- Gently reach your hands toward your feet and bring your shoulder blades off of the floor (Picture Q)
 - Maintain slight bend in your elbows
- Try to think about keeping an apple sized object between your chin and your chest to make sure that you are not straining your neck
- Remember to breathe throughout, counting to 10



toes



WALL SIT

- **Perform 3 repetitions, holding for 15-30 seconds each time**
- Lower your buttocks to knee height and then hold (Picture R)
- Make sure that feet come far enough away from wall to prevent knees crossing over
- Knees and feet should be hip distance apart and pointing straight forward
- *To make this harder:* Hold it longer, try 30-60 seconds

TIPS

- It is okay to add new strength training exercises to your routine. You should do so slowly and know that working new muscle groups might make you sore again. If you are unsure what exercises to add you should consult with a trainer or physical therapist.
- You do not need to be able to perform all sets and reps in the first few weeks. Try to slowly build repetitions and resistance used in strengthening program over time.
- It is important to perform strength training slowly to maintain good form and prevent injuring yourself.
- If you are unsure how to perform strengthening exercises then you should consult with your physician, a trainer or a physical therapist.

The Basics of the Horizontal to Upright Cardio Training

Months 1-3= Horizontal or Seated training

- When beginning this exercise program you need to use equipment where you are seated or horizontal in position because upright positions will likely make your symptoms worse. Examples include:
 - o Recumbent bike
 - o Rowing ergometer
 - o Swimming (or kicking with a kickboard)
 - o Seated stepper machine

Month 4= Upright bike

Month 5= Upright exercise

- Elliptical (begin without arm motion and then add after a few weeks)
- Treadmill walking (no incline at first)

Month 6-8 =Upright Training

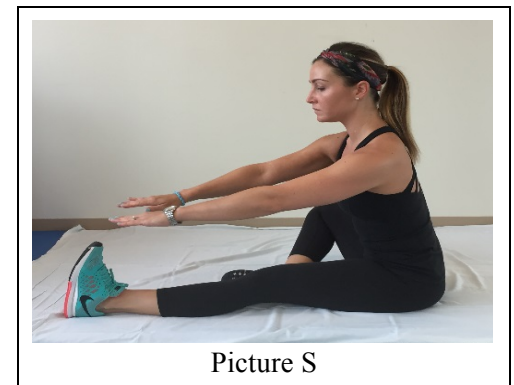
- Add in use of arm motion on the elliptical and incline on the treadmill
- Make more challenging during this time as tolerated
 - o Jogging and stair stepping can be tried only after you have performed either elliptical with use of arms or treadmill walking on an incline and did not have an increase in symptoms. You do not ever have to jog if you do not want to.

Warm Up and Cool Down:

- Can be done on any piece of equipment and should NEVER be skipped.
- At the end of your warm up you should have your heart rate approaching the target heart rate range for your workout.
- For the cool down, simply remove all resistance from the piece of equipment you are using and slow down.
 - o In the beginning, your heart rate will take a long time to recover, but as you train more it will lower more quickly
- Try performing stretching during or after your 10 minute cool down is complete. You should hold each stretch for 30 seconds and repeat 3-4 times on each side. Only stretch to the point where you begin to feel resistance. It should feel a little uncomfortable, but it should not hurt. Here are some examples:

HAMSTRING STRETCH

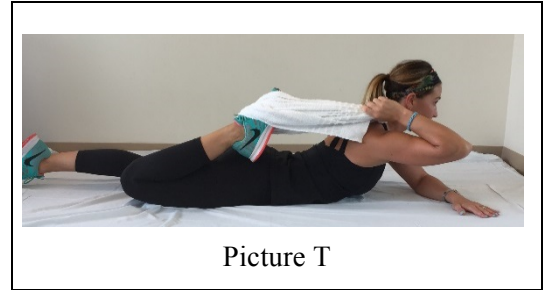
- **Perform 3 sets on each leg, holding each stretch for 30 seconds**
- Sit upright with one leg long (knee straight) and the other bent in (make sure your foot does not cross underneath your leg) (Picture S). Try to keep your shoulders relaxed and away from your ears.
- Slowly and gently bend forward from the waist until you feel tension in the back of your leg or thigh. Once you feel this tension stop and hold this position for 30 seconds and repeat 3 times on each leg.
 - Do NOT round your back



Picture S

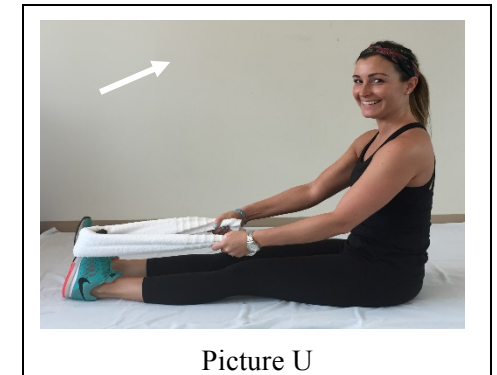
QUADRICEPS STRETCH

- **Perform 3 sets on each leg, holding each stretch for 30 seconds**
- Begin laying comfortably on your stomach. Use a long towel, sheet or dog leash to loop around your foot and gently pull until you feel tension in the front of your thigh and then hold for 30 seconds. (Picture T)
- Keep the rest of your body relaxed and do NOT let your leg rotate out to the side. Your heel should be coming straight toward your buttocks and not to the outside of it.
- You can rest your head on a pillow if you would like to decrease tension on your low back.



CALF STRETCH

- **Perform 3 sets on each leg, holding each stretch for 30 seconds**
- Begin sitting upright with your legs stretched out long and your knee straight.
- Place a towel or sheet around the bottom of your foot and use this to gently pull your toes and foot toward you. (Picture U)
- You should feel a gentle stretch behind your lower leg and ankle. Hold this position for 30 seconds. Then repeat 3 times on each leg.



TIPS:

- This site can help you learn the rowing technique. It can be used for ANY rowing ergometer:
 - <http://www.concept2.com/indoor-rowers/training/technique-videos>
- If you have unbearable symptoms when first trying a more upright mode, then simply return to the horizontal or seated mode. You should then try upright exercise again a few weeks later
- If you want to use two different pieces of equipment (for example, 15 minutes on the upright bike and then 15 minutes on the rower) that is fine. Just be sure you complete the prescribed time on the training calendar with your heart rate in the appropriate training zone before cooling down.

Monitoring your Heart Rate

We recommend you purchase a heart rate monitor set (a watch with a chest strap) to monitor your heart rate during cardio exercise training so you can exercise in the proper heart rate zones. These can be found online or at a large sporting goods store. You do not need to purchase an expensive model. Each cardio workout is prescribed to be within a specific heart rate range (see Training Guidelines sheet from your healthcare provider), and it is important that you complete the workout in that heart rate range. You may notice that your resting heart rate decreases with training. Or, it could be unchanged, but your heart rate response to upright posture is lower.

TIPS:

- Some monitors work even while swimming in the pool.

- If you ever question what the monitor is reading (equipment can go bad or need new batteries), simply feel your pulse at your neck or wrist and count the beats for 15 seconds and multiply by 4 (heart beats per minute).
 - If you are unsure how to take your heart rate this guide can help you:
 - http://www.move.va.gov/download/NewHandouts/PhysicalActivity/P09_HowToTakeYourHeartRate.pdf

Long Term Maintenance Cardio Training

Months 6-8 of training is different for each person. Some people choose to maintain the level of training laid out in Month 5 forever, but we recommend trying to push forward. After you have completed the program you should continue to exercise to maintain what you have worked for. During this time you can use whatever modes you enjoy most.

High intensity interval training, is a fancy name for the training that begins in calendar Month 6. It has been shown to provide great benefits to the heart and lung's response to exercise for healthy individuals and several patient populations. We have found it to be beneficial to patients with POTS when it is introduced at a time when they are ready for it and responding well to their training. Here is an example of this training

- Step 1: 10 minute- warm up to get your HR up to Base Pace zone
- Step 2: 1 minute- go “all out”, hard and fast, increasing the resistance and speed on the mode you are using, and trying to get your HR up to your race pace zone
- Step 3: 1 minute- remove all resistance, slow down, and actively recover.
 - Take this time to get a drink, but keep moving on the piece of equipment. It doesn't matter what your HR gets down to.
- Step 4: Repeat steps 2 and 3 for two to three more trials
- Step 5: 10 minute cool down
- Step 6: 20 minute Recovery workout.

TIPS:

- Begin with the upright bike, rower, or elliptical as these are safer than the treadmill for interval training. Try to treadmill only when you are ready.
- You can add any strength training you want, and try other things like yoga, aerobics classes, returning to competitive sports as you feel able (we do not recommend any exercise in the heat).
- Consider yourself on a path to wellness and do what you feel you can do! We often hear that symptoms continue to decrease with long term training.
- Remember each patient progresses through the program to upright exercise at a different pace and that is okay!

What to Expect Getting Started

This program is not an easy fix to having POTS, and if exercise made everyone feel better in a matter of weeks, everyone would be doing it. The real results will be seen after several committed months of training. The first month may be very difficult, and you may feel increased fatigue during this month. This is not surprising, so **do not give up!** You are challenging your system to do things it CAN do, but is not USED TO doing. The second month may still be tough. The hope is that you'll feel less fatigue, begin to sleep better, and suffer from fewer POTS symptoms in your daily life than you did before beginning the training. This is the goal!!!

TIPS:

- Your commitment and mental toughness are key.
- When you begin with a new mode of training, it is not uncommon to feel increased fatigue. Listen to your body. Push forward when you can, or repeat a week if you feel you need to.
- If you are anything like the individuals we've met with POTS, you probably do not feel good most of the time, and have tried several other things to make your condition better. Here is the question we are proposing to you: Why not give this program your utmost effort for 3-5 full months before deciding if it helps you or not? Remember the benefits of training occur after months of training and not just days or weeks.
- Write down a list of things you want to resume in your life, tape it to your bathroom mirror, and read it every day. Read it especially on the days you do not feel like going to the gym—allow it to help motivate you to get your quality of life back.
- Get a workout buddy if you need one! They can't follow your heart rate zones, but they can work out with you!
- Ensure your family is on board with supporting you in this journey. Help them understand you may feel more tired in the beginning, but the hope will be to feel better in the long run.
- Family support is important, but YOU need to be the one to take the responsibility to make this change happen.

Exercise as Your Lifelong Therapy

If you feel that exercise is helpful for you in any way, maintaining exercise will then be important for you to keep the benefits and continue to see further improvements in your health and quality of life. Furthermore, you will experience the benefits of regular exercise in many other areas of your life and health, as well. Many patients successfully resume caring for their children, full-time work, full-time school, or enter college when previously they thought that these things might be impossible. We sincerely hope that this is the case for you as well. Keep in mind that according to the American College of Sports Medicine (ACSM) every healthy adult should perform 30-60 minutes of exercise more days than not. Most of our patients adopt exercise as part of their daily personal hygiene program. Some patients feel that daily exercise is needed to avoid developing symptoms again.

If you have an illness, setback, or quit exercise, and realize that you felt better while training, this is actually a good sign! Do not be discouraged. You have a good response to exercise and you know that it makes you feel better! Just start again. You likely need to begin with horizontal modes of training, but you will know how to progress yourself through the program again.

YOU CAN DO IT!!

Please remember!!!

We are available for questions or concerns; however we ask that should there be a sudden change in your symptoms or sudden beginning of a new symptom that you contact your primary care provider first. We want them to be able to help you assess whether there is an emergency problem and you should go the Emergency Department, be seen in the office, or if the issue can be handled through a call made to us by you or your primary care provider. Like you, they will have a copy of the letter from our visit together.

POTS Global Training Guidelines for Cardio

- 1) We have calculated your heart rate training zones specific FOR YOU, and entered them below. Use these zones as indicated with the POTS Monthly Workout Calendars and the Instructions for POTS Training that we have provided.
- 2) The specific heart rate zones have been individually prescribed for you based on your age. The workout zones are defined below. The Heart Rate Zones below are for OFF beta blockers ONLY.

Training Zone	Heart Rate (BPM) Beats Per Minute	Expected (RPE) Rating of Perceived Exertion
Base Pace (BP)	125-145	2-4
Maximal Steady State (MSS)	165-175	5-8
Race Pace (RP)	170-185	7-9
Recovery	<125	0-2

- 3) If these heart rate zones feel too easy or difficult, please let us know. Please keep in mind that in the beginning most of the workouts may feel tough. Medications may affect your ability to achieve these zones. As you become trained we will need to adjust your zones.
- 4) **Rating of Perceived Exertion (RPE)** is a subjective rating of the entire cardio workout on a scale of 0-10

Rate of Perceived Exertion (RPE)	
0-2	Very Easy
3-4	Easy
5-6	A little Hard
7-8	Very Hard
9-10	Hardest Imaginable

TIPS

- Please note exercise in the heat is not recommended for patients with POTS
- If you are taking beta blockers (Examples: metropolol, nebivolol, etc.) use the RPE scale and not the heart rate scale for your training zone

Month 1

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Training Mode 1 5-10 min Warm Up 3 min Base Pace 2 min recovery 3 min Base Pace 5-10 min Cool down	Strength Training	Training Mode 1 5-10 min Warm Up 3 min Base Pace 2 min recovery 3 min Base Pace 5-10 min Cool down	Strength Training	Training Mode 1 5-10 min Warm Up 3 min Base Pace 2 min recovery 3 min Base Pace 5-10 min Cool down	
	Training Mode 1 5-10 min Warm Up 4 min Base Pace 3 min recovery 4 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 4 min Base Pace 3 min recovery 4 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 4 min Base Pace 3 min recovery 4 min Base Pace 5-10 min Cool Down	
	Training Mode 1 5-10 min Warm Up 5 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 5 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 5 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	
	Training Mode 1 5-10 min warm Up 6 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 7 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	Strength Training	Training Mode 1 5-10 min Warm Up 7 min Base Pace 3 min recovery 5 min Base Pace 5-10 min Cool Down	

Training Mode 1 = any of supine cycling, recumbent bike, swimming laps with a kick board, rowing, seated stepper

Recovery = slow down, reduce resistance, get a drink, but don't stop moving.

Warm ups and cool downs are done starting very slowly with little or no resistance and leading up to and out of your Base Pace HR zone

Physical therapist can begin with supine cycling only if a patient is beginning program as wheel-chair bound/bedridden.

Weight training can be done on the same days as cardio workouts if necessary.

Month 2

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Training Mode 1 10 min Warm Up 6 min Base Pace 2 min recovery 6 min Base Pace 2 min recovery 6 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 7 min Base Pace 2 min recovery 7 min Base Pace 2 min recovery 7 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 8 min Base Pace 2 min recovery 8 min Base Pace 2 min recovery 8 min Base Pace 10 min Cool down	
	Training Mode 1 10 min Warm Up 6 min Base Pace 2 min recovery 6 min Base Pace 2 min recovery 6 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 5 min Base Pace 2 min recovery 5 min Base Pace 2 min recovery 5 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 5 min Base Pace 2 min recovery 5 min Base Pace 2 min recovery 5 min Base Pace 10 min Cool down	
	Training mode 1 10 min Warm Up 10 min Base Pace 3 min recovery 10 min Base Pace 10 min cool down	Strength Training	Training mode 1 10 min Warm Up 11 min Base Pace 3 min recovery 11 min Base Pace 10 min cool down	Strength Training	Training mode 1 10 min Warm Up 12 min Base Pace 3 min recovery 12 min Base Pace 10 min cool down	
	Training mode 1 10 min Warm Up 13 min Base Pace 3 min recovery 13 min Base Pace 10 min cool down	Strength Training	Training mode 1 10 min Warm Up 14 min Base Pace 3 min recovery 14 min Base Pace 10 min cool down	Strength Training	Training mode 1 10 min Warm Up 15 min Base Pace 3 min recovery 15 min Base Pace 10 min cool down	
	Training mode 1 10 min warm Up 20 min Base Pace 10 min Cool down	Strength Training	Training mode 1 10 min warm Up 24 min Base Pace 10 min Cool down	Strength Training	Training mode 1 10 min warm Up 28 min Base Pace 10 min Cool down	

Training Mode 1 = any of supine cycling, recumbent bike, swimming laps with a kick board, rowing, seated stepper

Recovery = slow down, reduce resistance, get a drink, but don't stop moving.

Warm ups and cool downs are done starting very slowly with little or no resistance and leading up to and out of your Base Pace HR zone

Weight training can be done on the same days as cardio workouts if necessary.

Month 3

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	
	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 20 min MSS 10 min Cool down	Training Mode 40 min recovery
	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	
	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down	Strength Training	Training Mode 1 10 min Warm Up 25 min MSS 10 min Cool down	Training Mode 1 40 min recovery	Strength Training	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool down

Training Mode 1 = any of Recumbent Biking, Swimming, Rowing, seated stepper

Training Mode 2 = upright bike

Weight Training can be done on the same days as Cardio workouts if necessary

Month 4

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Training Mode 1 10 min Warm Up 30 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 10 min Warm Up 20 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 10 min Warm Up 20 min Base Pace 10 min Cool Down	
Training Mode 1 or 2 10 min Warm Up 30 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 10 min Warm Up 30 min Base Pace 10 min Cool Down	Strength Training	Training Mode 1 or 2 10 min Warm Up 25 min MSS 10 min Cool Down	Training Mode 1 40 min recovery	
Training Mode 1 or 2 10 min Warm Up 40 min Base Pace 10 min Cool Down	Strength Training		Training Mode 1 or 2 10 min Warm Up 30 min MSS 10 min Cool Down	Training Mode 1 40 min recovery	Strength Training	Training Mode 1 or 2 10 min Warm Up 35 min Base Pace 10 min Cool Down
	Strength Training	Training Mode 1 or 2 10 min Warm Up 35 min MSS 10 min Cool Down	Training Mode 1 40 min recovery	Training Mode 2 or 3 10 min Warm Up 30 min Base Pace 10 min Cool Down	Strength Training	Training Mode 1-2 10 min Warm Up 40 min Base Pace 10 min Cool Down

Training Mode 1 = any of Recumbent Biking, Swimming, Rowing

Training Mode 2 = upright bike

Training Mode 3 = Treadmill walking (flat grade), Elliptical (stationary arms)

Training mode 4 = Treadmill walking (incline), Elliptical (with use of arms). Can progress to jogging if able.

Weight Training can be done on same days as Cardio workouts if necessary.

Month 5

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Training Mode 2 or 3 10 min Warm Up 35 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 or 3 10 min Warm Up 35 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 or 3 10 min Warm Up 35 min Base Pace 10 min Cool Down	
	Training Mode 2 or 3 10 min Warm Up 40 min Base Pace 10 min Cool Down	Strength Training	Training Mode 3 10 min Warm Up 3 min MSS 10 min Cool Down	Training Mode 2 or 3 40 min recovery Strength Training	Training Mode 2 or 3 10 min Warm Up 35 min Base Pace 10 min Cool Down	
	Training Mode 2-3 10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 or 3 10 min Warm Up 3 min Base Pace 10 min Cool Down	Training Mode 3 10 min Warm Up 35 min MSS 10 min Cool Down	Training Mode 2 or 3 25 min recovery Strength Training	Training Mode 2 or 3 10 min Warm Up 50 min Base Pace 10 min Cool Down
	Training Mode 3 10 min Warm Up 35 min Base Pace 10 min Cool Down	Strength Training	Training Mode 2 or 3 10 min Warm Up 45 min Base Pace 10 min Cool Down	Training Mode 3 10 min Warm Up 40 min MSS 10 min Cool Down	Training Mode 2 or 3 25 min recovery Strength Training	

Training Mode 2 = upright bike

Training Mode 3 = Treadmill walking (flat grade), Elliptical (stationary arms)

Training mode 4 = Treadmill walking (incline), Elliptical (with use of arms).

Weight Training can be done on same days as Cardio workouts if necessary.

Weight training can be done on same days as Cardio workouts if necessary

Month 6

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 40 min Base Pace 10 min Cool Down	10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 45 min Base Pace 10 min Cool Down	
Strength Training	10 min Warm Up 30 min Base Pace 10 min Cool Down	10 min Warm Up 3x1 min Intervals 10 min Cool Down 20 min recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 30 min MSS 10 min Cool Down	
Strength Training	10 min Warm Up 35 min Base Pace 10 min Cool Down	10 min warm Up 35 min MSS 10 min Cool Down	Strength Training	10 min Warm Up 4x1 min Intervals 10 min Cool Down 20 min recovery	10 min Warm Up 40 min Base Pace 10 min Cool Down	25 min recovery
10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 5x1 min Intervals 10 min Cool Down 20 min Recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 30 min Base Pace 10 min Cool Down	10 min Warm Up 30 min MSS 10 min Cool Down

Training modes are not listed because individuals should continue to progress to upright modes as they can tolerate
 We recommend beginning Interval training on the rower, upright bike or elliptical. Can progress to jogging as able.
 Weight Training can be done on same day as Cardio if necessary

Month 7

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 45 min base Pace 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 60 min Base Pace 10 min Cool Down
Strength Training	10 min Warm Up 5x2 min Intervals 10 min Cool Down 20 min Recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 40 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 40 min MSS 10 min Cool Down	
10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 5x2 min Intervals 10 min Cool Down 20 min Recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 5x2 min Intervals 10 min Cool Down 20 min Recovery	Strength Training	10 min Warm Up 40 min MSS 10 min Cool Down
10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 40 min MSS 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 5x2 min Intervals 10 min Cool Down 20 min Recovery	Strength Training	10 min Warm Up 60 min Base Pace 10 min Cool Down

Training modes are not listed because individuals should continue to progress to upright modes as they can tolerate
 We recommend beginning Interval training on the rower, upright bike or elliptical. Can progress to jogging if able.
 Weight Training can be done on same day as Cardio if necessary

Month 8

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Strength Training	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 40 min MSS 10 min cool Down	
10 min Warm Up 60 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 45 min MSS 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 7x2 min Intervals 10 min Cool Down 20 min Recovery
Strength Training	10 min Warm Up 5x3 min Intervals 10 min Cool Down 20 min Recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 45 min MSS 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 5x3 min Intervals 10 min Cool Down 20 min Recovery	Strength Training
10 min Warm Up 60 min Base Pace 10 min Cool Down	Weight Training	10 min Warm Up 10x2 min Intervals 10 min Cool Down 20 min recovery	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min warm Up 45 min MSS 10 min Cool Down	Strength Training	10 min Warm Up 60 min Base Pace 10 min Cool Down
Strength Training	10 min warm Up 45 min MSS 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	Strength Training	10 min Warm Up 45 min Base Pace 10 min Cool Down	10 min Warm Up 45 min Base Pace 10 min Cool Down	

Training modes are not listed because individuals should continue to progress to upright modes as they can tolerate
 We recommend beginning Interval training on the rower, upright bike or elliptical. Can progress to jogging if able.
 Weight Training can be done on same day as Cardio if necessary