



Don't Do This!

Hypermobility 104: Exercise Selection and Progression for HSD/hEDS and POTS

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Slide handouts and recording available at: <https://webpace.clarkson.edu/~lrussek/hsd.html>



Who Am I?

- Professor Emeritus, Physical Therapy Department, Clarkson University
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 - Clinical specialties: hypermobility, fibromyalgia, headaches, temporomandibular disorders
- Frequent presenter to professional and patient groups at national conferences
- Author of multiple review and research articles on hypermobility
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**I do not have any
conflicts of interest to report**

Objectives

By the end of this presentations, participants should be able to

1. Describe several different goals for exercise in HSD
2. Identify potential risks for exercising with HSD
3. Describe how and when to progress (or regress) exercises with HSD
4. Outline an approach to exercising with POTS

Next week: Specific modifications to make exercise more accessible, addressing fatigue, joint pain, pain sensitization, orthostatic intolerance



Hypermobility Lecture Series Schedule

- HSD 101: Basics of HSD/hEDS and self-care
- HSD 102: POTS and POTS self-care, basics of MCAS
- HSD 103: Pain management in HSD/hEDS
- **HSD 104: Safe exercise selection and progression with HSD/hEDS and POTS**
- **HSD 104b: Modifying exercise for HSD & POTS**
- HSD 105: Body mechanics, posture and joint protection
- HSD 106: Gut issues in HSD/hEDS, POTS, MCAS
- HSD 107: Fatigue in HSD/hEDS and POTS
- HSD 108: Headaches, migraines, & TMJ pain in HSD, POTS and MCAS
- HSD 109: Breathing dysfunctions in HSD
- HSD 110: Lumbar instability
- HSD 111: Cervical instability
- HSD 112: The vagus nerve
- HSD 113: The importance of fascia
- HSD 114: Hospitalization and surgery with the Trifecta
- HSD 115: Functional Neurological Disorder (FND)



I will refer to these other lectures if you want more info



Relevant Handouts Available

- <https://webpace.clarkson.edu/~lrussek/research.html> or use Scan Code

I will refer to these if you want more info



• Exercise

- [Breathing](#). Breathing incorrectly can increase fatigue, exercise intolerance, and pain sensitivity.
- [Starting to Exercise Ideas](#). Ideas to overcome fatigue, pain, and fear of movement.
- [Starting to Exercise Worksheet](#). Overcoming obstacles. Written for teenagers, but ideas are good for anyone.
- [Augmented Reality Activities for Teens](#). Some augmented reality games, using free apps on your smartphone, tablet, or projected on your TV can be a healthy and fun way for kids & teens to keep moving!
- ["Exergames" for Adults](#). Ideas to make staying active fun!
- [Ways to keep younger kids active while having fun.](#) Games and make-believe to keep younger kids moving.

• Self-Care Strategies

- [Self-Care Toolbox](#). A checklist to help you optimize your self-care toolbox.
- [Checklist for POTS self-care management](#).
- [Flow charts for POTS management, including fatigue and sleep](#).
- [Joint Protection Strategies](#) Learning to protect your joints and muscles is the first step towards healthier and stronger joints.

• Pain Management

- [Pain self-care plan](#). Create a pain self-care plan so you can identify and remember what works for you.
- [Pain flare management plan](#). Create a flare management plan to help manage flares.

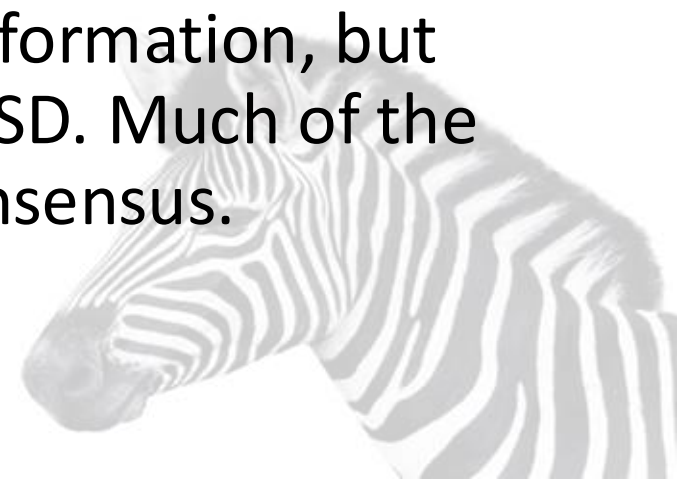


DISCLAIMER

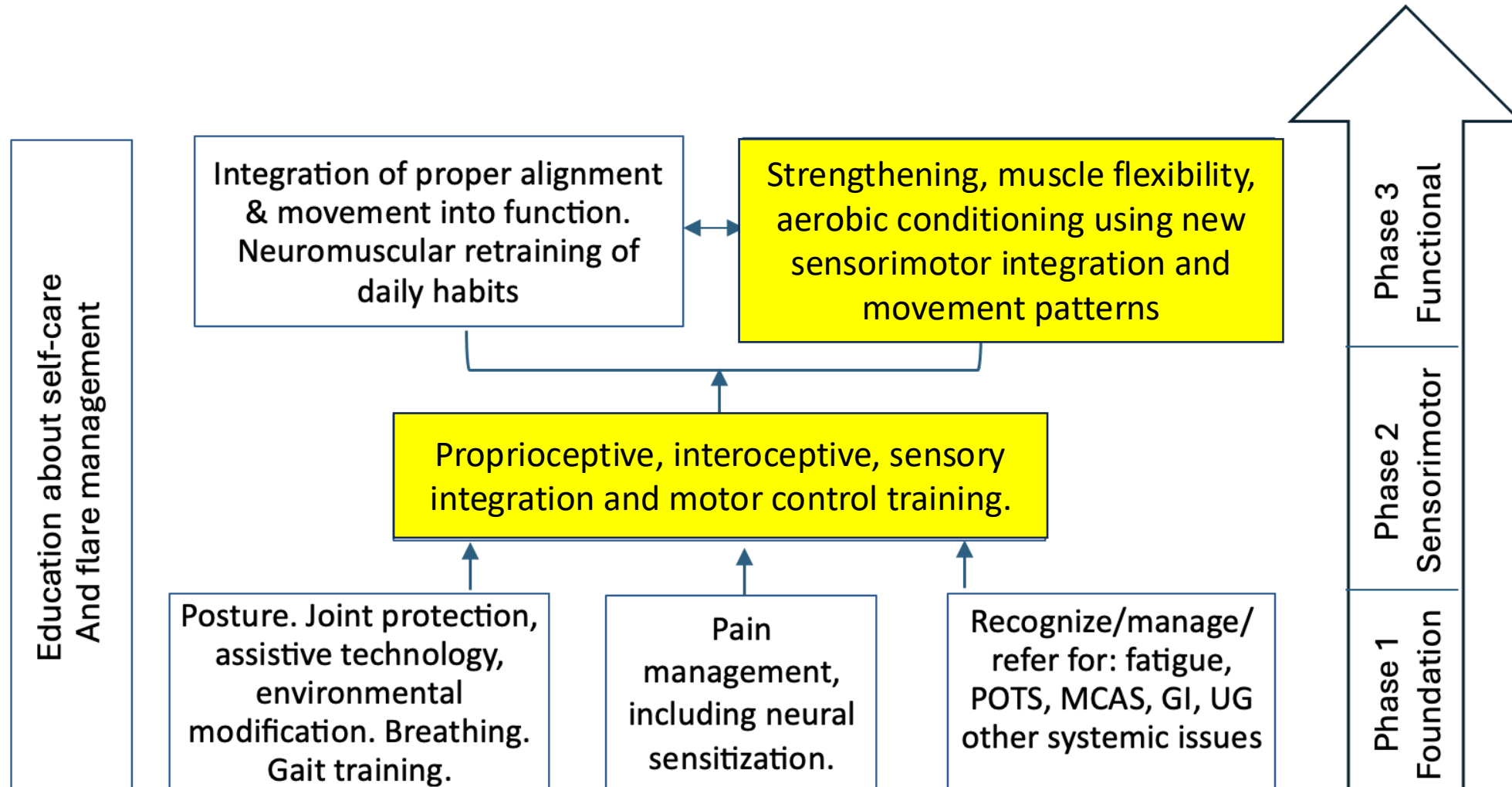
The information in this presentation is for general purposes, only, and may or may not apply to your situation.

Check with your health care provider before starting any new exercise program to ensure that it is appropriate and safe for YOU. I cannot provide individual diagnostic or treatment advice.

Also note that this lecture is based on best available information, but there is not much rigorous research about exercise in HSD. Much of the information presented is based upon expert consensus.



PT Approach to Managing HSD



Benefits of Exercise/Activity

- Regular (appropriate) exercise/activity reduces pain
 - Protects against chronic pain onset
 - Sedentary lifestyle increases risk of chronic pain
- Protects against autonomic dysfunction (POTS)
- Improves function
- Improves sleep quality, decreases fatigue
- Mind-body practice, such as Pilates, yoga, Tai Chi enhance body awareness and relaxation
- Improves mood, decreases anxiety
- Decreases systemic inflammation

Lima et al, 2017
Sabharwal, 2016
Ambrose, 2015



Goals of Exercise in HSD

Exercise in HSD may be to achieve various goals. To improve:

1. Pain management: range of motion, relaxation, trigger point, etc.
2. Body awareness, proprioception, balance
3. Motor control (accuracy of muscles)
4. Strength and stability of joints
5. Mobility: muscle stretch, nerve glide, fascial elongation
6. Cardiovascular function
7. Overall body awareness and relaxation
8. Not damaging anything along the way..

Needed for
stabilization



Body Awareness, Proprioception, & Motor Control

If you don't know where
your body is, you are more
likely to damage it



Hypermobility vs. Instability

- “**Hypermobility**” refers to having too much range of motion (movement that you can voluntarily control)
- “**Instability**” refers to the ability of your nerves and muscles to control motion at a joint
 - You need to sense joint/limb position and the forces on the joint: “proprioception”
 - You need to be able to activate the correct stabilizing muscles the correct amount at the correct time – this is “motor control”
- Appropriate exercise decreases instability by improving proprioception and motor control
 - Inactivity and being sedentary increases instability



Body Awareness and Proprioception

- We need to know where our body (joints, muscles) is to accurately control it
 - Joints, muscles, and skin all contribute to body awareness
 - Joint position sense is called 'proprioception'
- People with HSD have poor body awareness/proprioception at joints
 - This leads to more instability, stress on joints, muscle spasm, injury
- Assessing body awareness/proprioception
 - Balance testing
 - Ability to return to a predetermined joint position
 - Ability to activate the correct muscles
 - Coordination, clumsiness



Improving Body Awareness/Proprioception

- Access more sensory input:
 - Use visual input
 - Look in a mirror to see where your body is in space
 - To see if you are succeeding in achieving a goal (feedback)
 - Use skin contact to add skin sensory input:
 - Compression clothing,
 - Elastic braces, neoprene sleeves, etc.
 - Taping
 - Pressing into a ball, resistance band, floor or wall adds sensory input
- A compression shirt can improve shoulder strength and stability during exercise, but only while wearing it. (Chaléat-Valayer, 2020)
- Elbow compression sleeves improve reaching precision. (Barss, 2017)



Improving Body Awareness and Proprioception

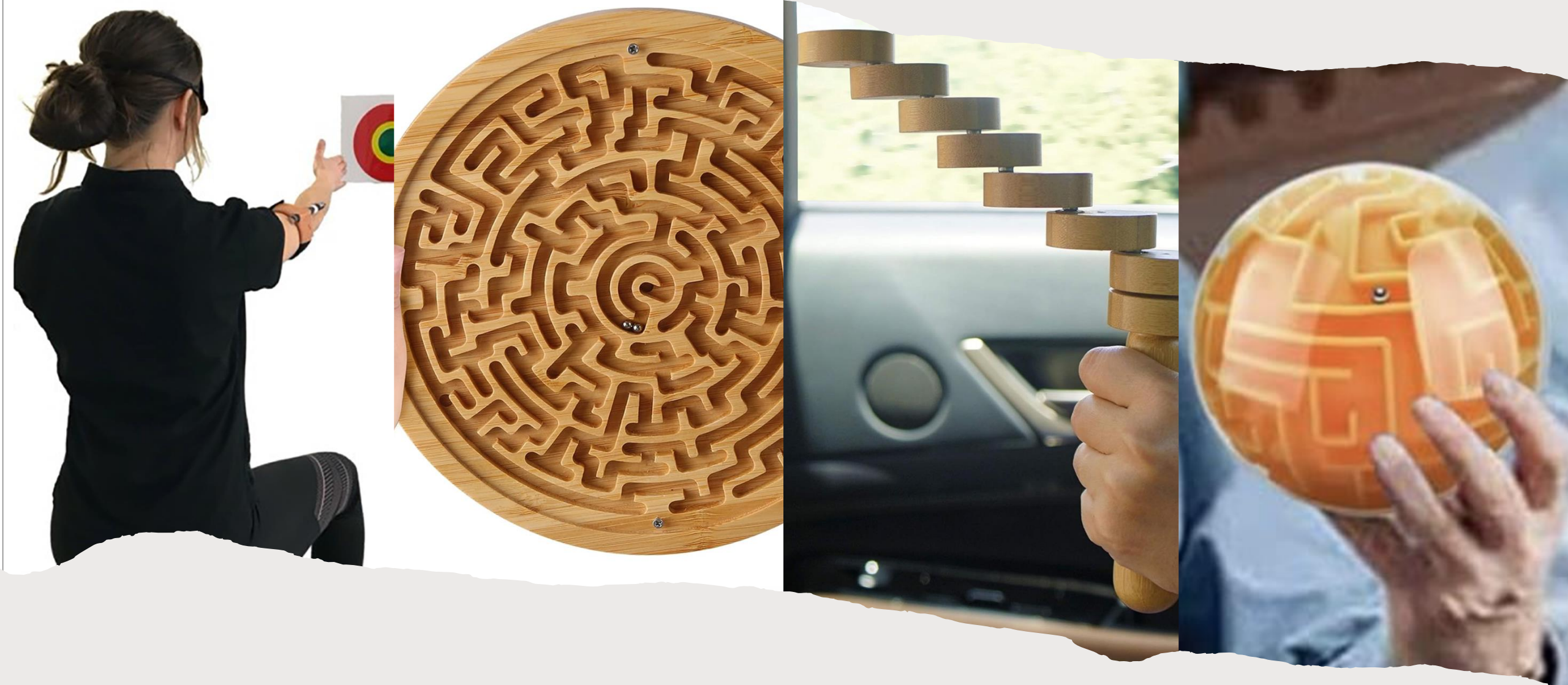
- Improve body awareness/proprioception through training
 - External feedback is more effective than internal sensing of body position (Lauber, 2014)
 - Move mindfully – that is, move slowly and pay attention to your movement
 - Do balance/proprioception exercises that are challenging, but that you can do with control
 - Do mind-body movement, such as Tai Chi, Pilates, yoga, qigong,
 - But be careful to avoid movements that place too much stress on joints..
- Treatments that address proprioception help decrease pain (Reychler, 2021)



Use External Feedback

- Other sensory input: pressure from the floor, a Pilates ball, a stick, resistance band (compression clothing)
- Look in a mirror (e.g., to make sure knees are not hyperextended, shoulder does not shift forward, etc.)
- Use a laser pointer attached to a body part
 - Motion Guidance™ (e.g.: <https://youtu.be/SggmqmZhmDU>) or SenMoCOR™
- Use biofeedback such as pressure biofeedback for the neck and low back (e.g.: <https://youtu.be/mRyev39P0ZI>)
- Wii Fit balance™ (e.g.: <https://youtu.be/PZMaadXFm7E>)
- Games that give you feedback about movement
- Virtual reality or augmented reality





Games and toys that require coordinated, small range movements can improve proprioception.



Questions?



Motor Control

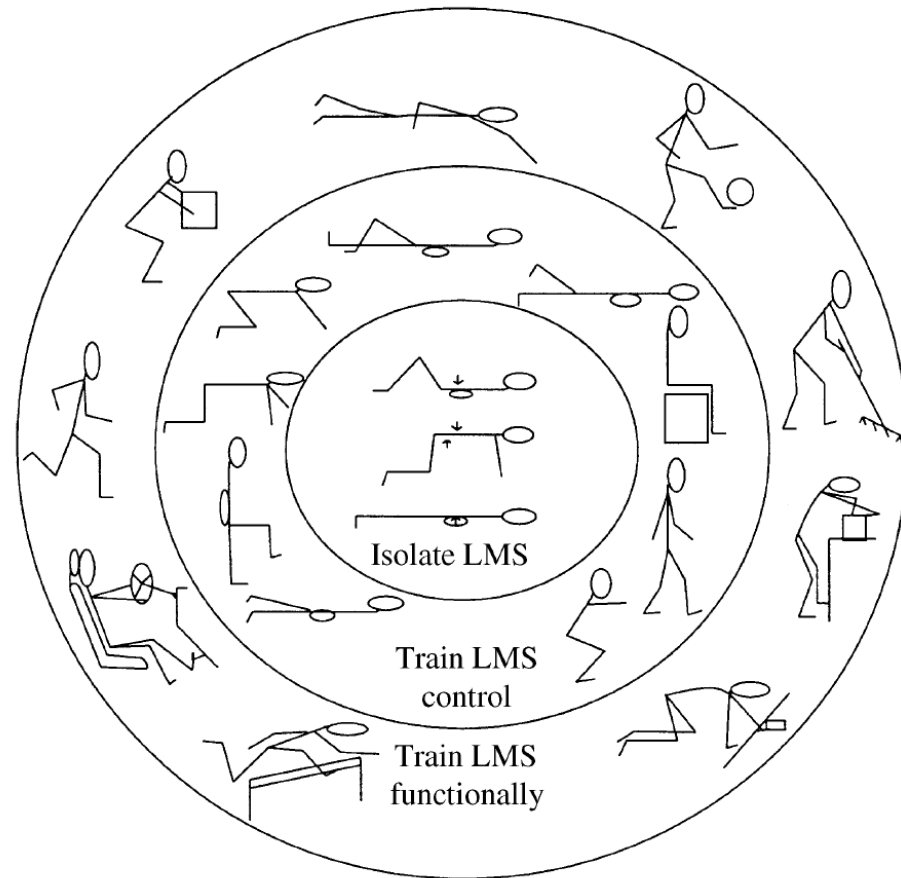


Fig. 12—Stages of rehabilitation based on a motor learning model (LMS – local muscle system). (Reproduced by kind permission of W.B. Saunders.)

- Motor control is the ability to accurately control your movement
 - You need body awareness to know where you are to begin with
 - You must be able to activate muscles selectively
 - Your muscles must have enough strength to do what they need to do
- If you don't move correctly during exercises and daily activities, you are more likely to injury yourself or overstress your tissues
- If you don't start in good alignment, you will place excessive stresses on your body/joints
- Treatments that address motor control help decrease pain.
(Reychler, 2021)

Picture: O'Sullivan PB. Lumbar segmental 'instability': clinical presentation and specific stabilizing exercise management. *Man Ther.* Feb 2000;5(1):2-12.

Mobilizer vs. Stabilizer Muscles

Function

- Local stabilizer
 - E.g., multifidi, TA, VMO
 - Increases segmental stiffness, proprioception
 - Tonic activity to provide stability
- Global stabilizer
 - E.g., IO, EO, gluteus medius
 - Controls ROM, often eccentrically
 - Phasic activity for stability with motion
- Global mobilizer
 - E.g., RA, iliocostalis, piriformis
 - Generates torque for movement
 - Phasic activity when moving

Dysfunction

- Local stabilizer
 - Inhibited by pain, subtle subluxation
 - Motor control deficit
 - Decreased stiffness, poor control
- Global stabilizer
 - Eccentric control deficit
 - Fails to stabilize with movement
 - Length-strength imbalance
- Global mobilizer
 - Responds to pain with spasm, myofascial shortening, and restricted movement
 - Generates myofascial pain
 - Activated by sympathetic state

HSD 110/111:
Lumbar/Cervical Instability



Example: Shoulder instability

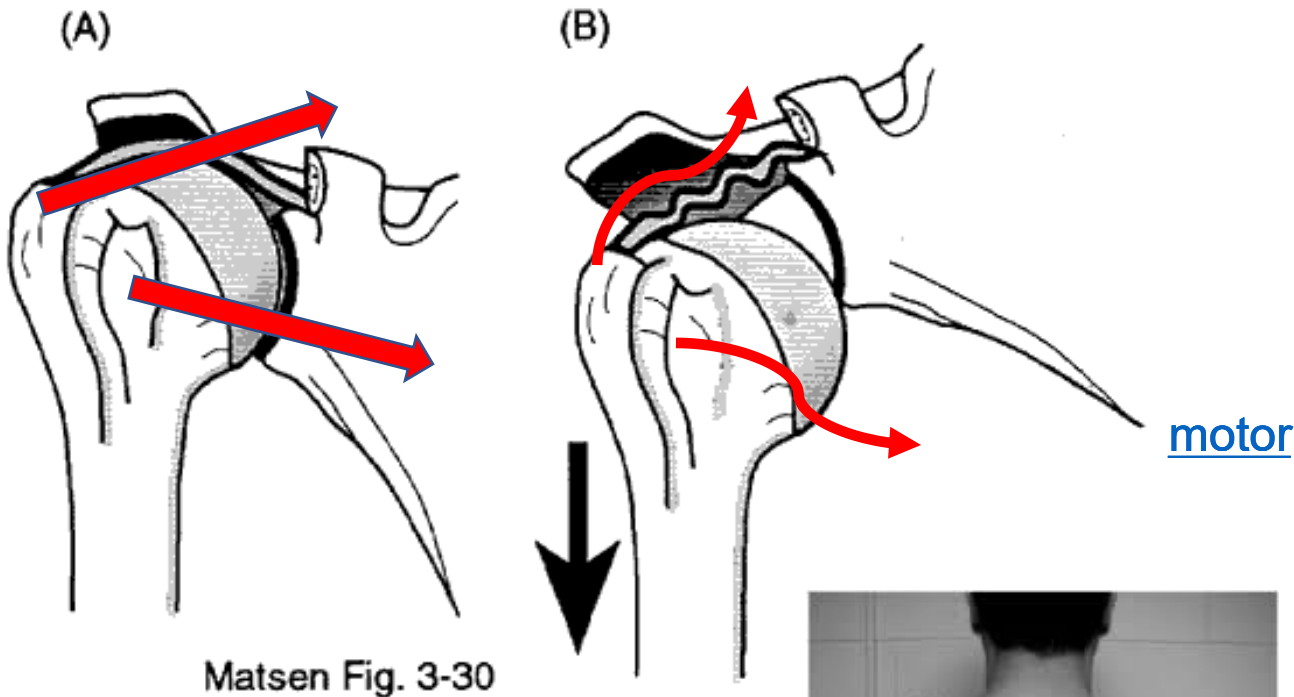
- Joints must be properly aligned before movement
- It is critical that exercises are done correctly!
- Poor motor control during exercise
 - Anterior shoulder instability during strengthening exercise (video)
 - Anterior shoulder instability during stretching exercise (video)



Russek: HSD 104: Exercise



Motor Control Example: Shoulder Girdle



- If the shoulder is subluxed before moving, it will not move properly
- If the shoulder blade is not aligned correctly and does not move properly, the arm can't move properly

Picture from: <https://orthop.washington.edu/patient-care/articles/shoulder/atraumatic-shoulder-instability.html>



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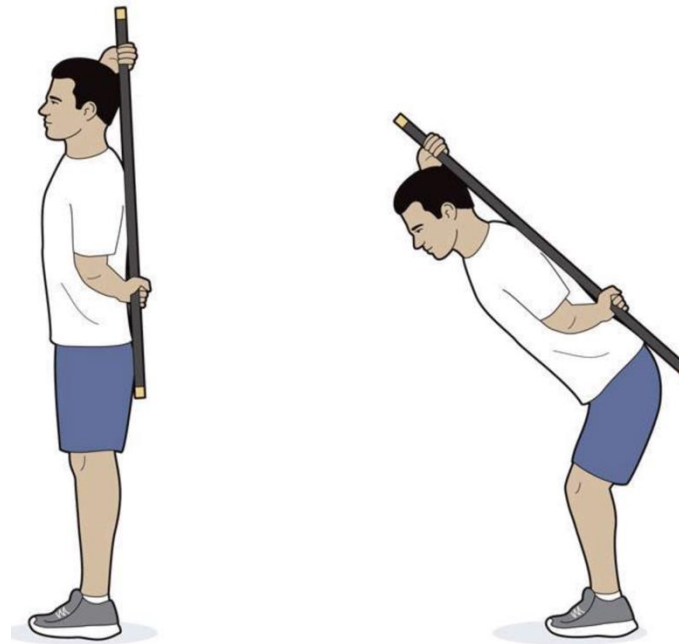
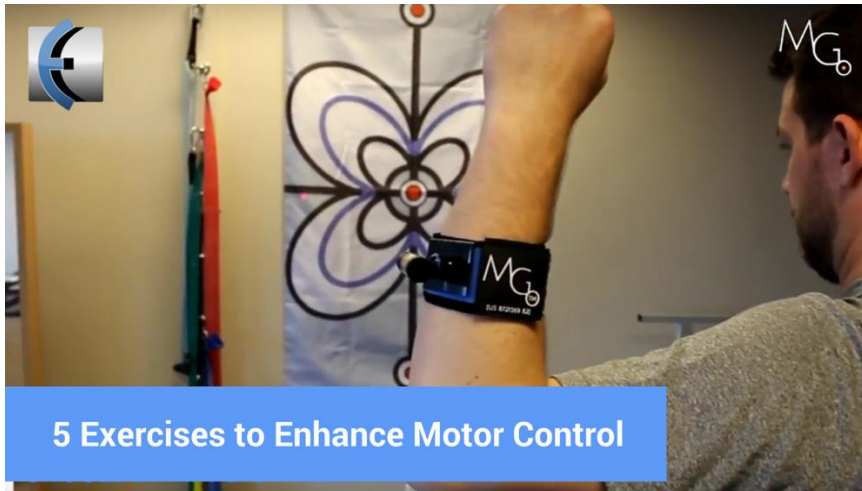
Russek: HSD 104: Exercise



Examples of Motor Control Exercises



- Pelvic “clock”
- Hip hinge
- Shoulder ‘drawing in’ maneuver
- Movements using laser feedback



Russek: HSD 104: Exercise



<https://www.themanualtherapist.com/2017/05/top-5-fridays-5-exercises-to-enhance.html>

Hinge Hip: Application to Function

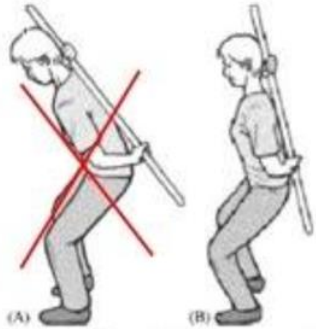


Figure 1 The hip hinge: (A) incorrect—stooping and (B) correct—squatting.



Figure 3 Brushing teeth: (A) incorrect and (B) correct.



Figure 5 Picking up a bag from the floor: (A) incorrect and (B) correct.



Figure 2 Getting out of chair: (A) correct and (B) incorrect.

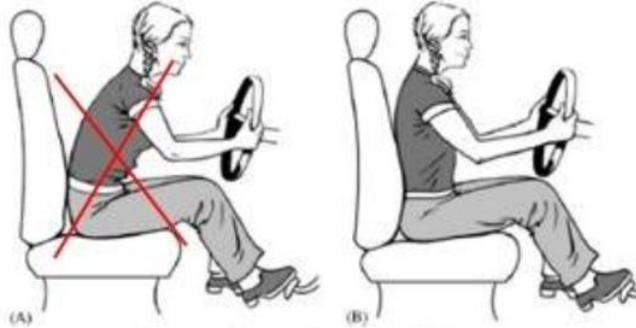


Figure 4 Driving: (A) incorrect and (B) correct.



Figure 6 Putting a baby in the car: (A) incorrect and (B) correct.



Figure 7 Changing a baby: (A) incorrect and (B) correct.



Figure 8 Lifting: (A) incorrect and (B) correct.

- Hinge hip:
 - Keep the spine in neutral when bending forward
 - Avoid flexing the low back
 - Avoid flexing or extending the neck

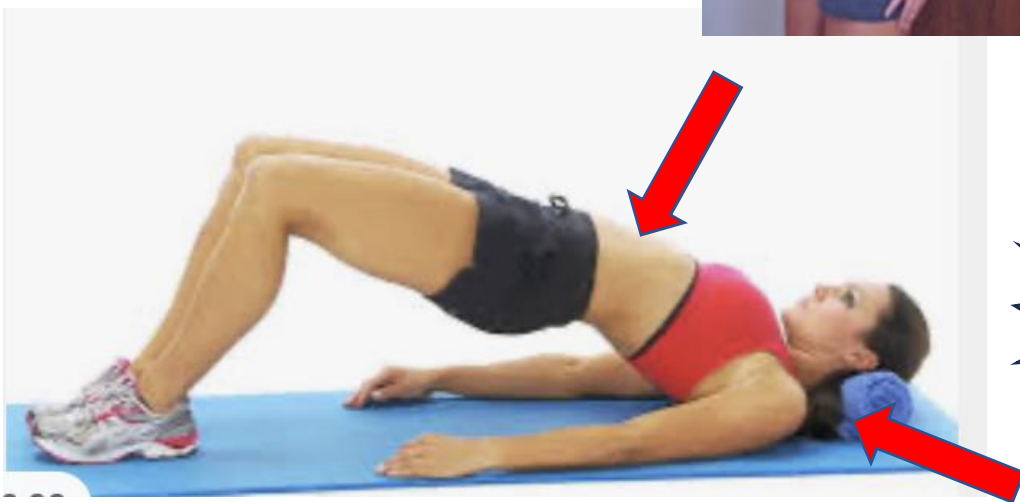
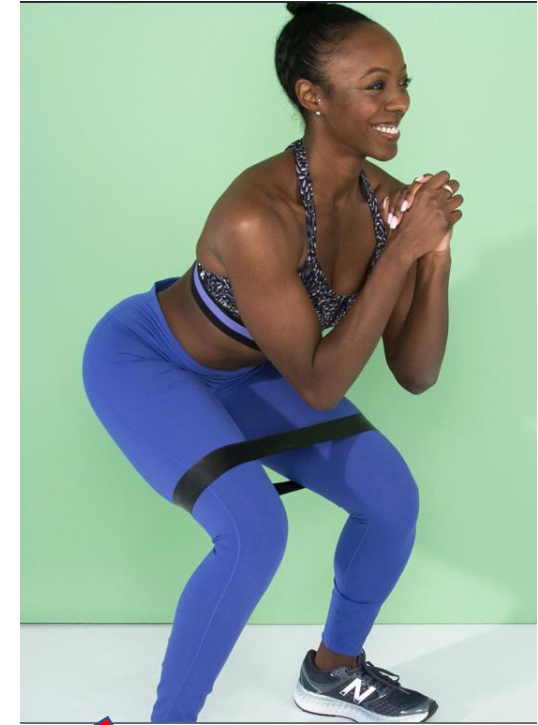
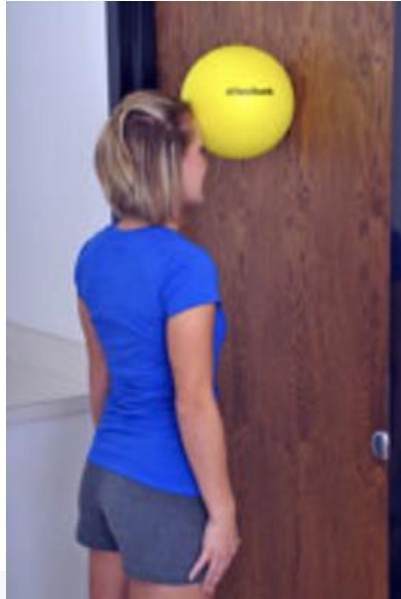


Strength and Joint Stability

- Not all strengthening exercises are good!
- Some exercises increase stability, while others increase instability
 - Exercises that encourage muscles to compress through joints increase stability
 - E.g., the shoulder wall slides described previously
 - Large, movement muscles sometimes increase instability
 - E.g., pectoral (chest) strengthening exercises can increase shoulder subluxation



Stabilization Exercise Examples



Not Perfect!



But Don't Stress Other Joints!



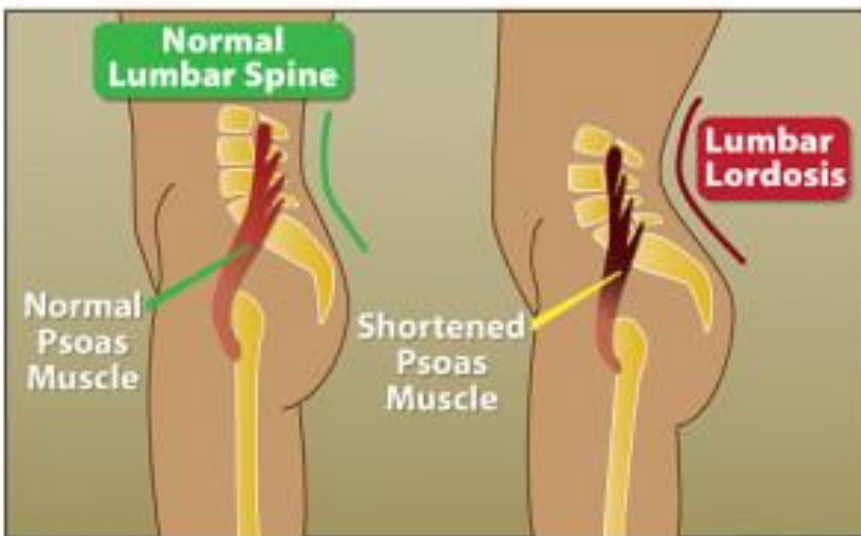
Other Types of Exercises

- Mobility
 - Range of motion: when acute, to decrease pain
 - Nerve glides
 - Fascial mobility
- Stretching
 - Muscles
 - Fascia
 - (Nerve)
- Other
 - Trigger point management
 - Relaxation, vagus nerve activation



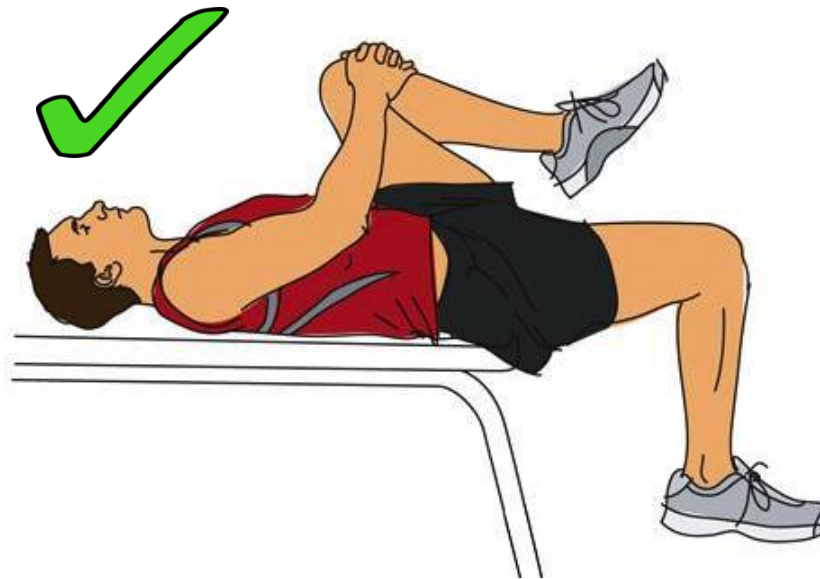
Muscle Flexibility/Elongation Exercises

- Although your joints are loose, muscles may be tight
- Tight muscles can pull loose joints out of alignment



Stretching/Elongating Muscles Carefully

- Your body will always stretch first where you are already stretchiest!
- You need to carefully stabilize hypermobile joints to protect them
 - Elongation requires/teaches motor control for stabilization
- You may need to start with 80% stretch for 5 seconds



Overall Wellness Exercise/Activity



- Try to select life-long activities to remain fit
 - Low impact is better: walking, biking, rowing, swimming/water aerobics
 - Body-awareness activities are good choices: Tai Chi, Pilates, Yoga (caution for pretzel poses), qigong, many forms of dance
 - The Zebra Club app provides a range of Pilates exercises specifically for people with HSD..



Starting to Exercise
Ideas



Making Exercise Fun

- If you really don't like to exercise, consider movement-based games
- Augmented reality uses your phone camera to interact with the game
- Benefits:
 - Visual feedback might improve body awareness and proprioception
 - Aiming for targets might improve motor control
 - Side-to-side movements may improve stability
 - Many can be done with a friend/kid
- Games with free options
 - Active Arcade™: <https://www.activearcade.ai>
 - Entirely free
 - Plaicise™: <https://plaicise.com>
 - Has free options



Exercise Progression

- People with HSD/EDS start 6 weeks more deconditioned than normal sedentary individuals.
- Tissues are weaker, and more vulnerable to overuse damage
- Muscles and connective tissue can be strengthened
- Sometimes people with HSD/EDS need more recovery time between exercise bouts
 - The “2-hour rule” – discomfort should be back to/below baseline within 2 hrs
- **“Start Low, Go Slow!”**



Making Exercises More Challenging

- More proprioceptive feedback > less feedback
- More external support (e.g., exercise machines) > less stable weights
- Standing/sitting on solid surface > soft or unstable surface
- Focus on a single joint/movement > more complex movements
- Focusing on the exercise > exercising with distraction
- Mid range > full range
- Slow > faster
- Low impact > high impact (if tolerated)



Not All Exercises Are Appropriate for HSD

- Some Zebras need to avoid:
 - Positions that overstretch joints
 - High impact sports/activities
 - Excessive weight-lifting/carrying, joint distraction
 - Poor posture or motor control
- Even good types of exercise, like Pilates or Tai Chi, need to be modified to protect unstable joints





Questions?



Dysautonomia, POTS & Fatigue



Dysautonomia (Especially POTS)

PUPILOMOTOR

impaired pupil response
(uncomfortable in bright light)
difficulty with vision



NEUROLOGICAL

migraine, cognitive deficits, brain fog & mental clouding

SECRETOMOTOR

difficulty sweating, tearing and other fluid production (dry eyes, dry mouth, difficulty swallowing, dry skin)

PULMONARY

shortness of breath
easily winded
difficulty breathing

GASTROINTESTINAL

nausea, vomiting, diarrhea, constipation, abdominal pain, reflux, heartburn, impaired motility

CARDIOVASCULAR

palpitations, chest discomfort
high heart rate (tachycardia)
low heart rate (bradycardia)
high or low blood pressure
abnormal blood vessel functioning
blood pooling

URINARY

difficulty with urine retention and/or excretion

ORTHOSTATIC INTOLERANCE

difficulty standing still, fatigue, lightheadedness, increase in symptoms with upright posture, fainting (syncope) or near-fainting, pallor

Symptoms can be **SUDDEN** and **unpredictable** in onset

HSD 102: POTS and MCAS;
HSD 107: Fatigue

POTS Checklist





Stage 1: Lying flat

(This stage is the least taxing on your heart)



Stage 2:

Recumbent

Reclined bike, rowing, or swimming



Stage 3: Seated

Upright bike (stationary bike) or spin bike



Stage 4: Standing

Treadmill or overground walking, elliptical

POTS Progression

- New POTS protocols, 2023/4:
 - Autonomic Disorder adaptive Physical Therapy (**ADaPT**)
 - Children's Hospital of Philadelphia Acquired Autonomic Dysfunction Program (**CHOP AADP**)
- Progress through 4 Stages
 - Each stage has 3 effort levels
- Monitor heart rate or Rate of Perceived Exertion to progress



STEP 1: Determine **Stage** (Body Position) ‡:

Can you complete **20 min.** of exercise at a **HR that is 15-20 bpm above your resting state** in that position (or **RPE of 3**) in any of the following **body positions (Stages)?**

No

Pre-Conditioning: consider the following under direction of a provider:

- Range of motion and mobilization
- Adaptive devices and bracing
- If symptoms are notably worse after exercise, avoid sustained aerobic activity and focus on pacing techniques

Yes

Time: Goal 20 minutes without symptom worsening.

Type of Exercise: ADaPT Stages (‡ Body positions for aerobic and strength):



Stage 1: Lying Flat
(This stage is the least taxing on your heart)



Stage 2: Recumbent
Reclined bike, rowing, or swimming



Stage 3: Seated
Upright bike (stationary bike) or spin bike



Stage 4: Standing
Treadmill or overground walking, elliptical

STEP 2: Determine **Intensity**:

What is your HR (taken after 5 min. quiet rest) in the body position identified in Step 1?

This is your "resting heart rate."

Calculate your HR target zone: 15-20 bpm above your resting HR in that body position.

Begin exercise using a mode of exercise that aligns with this Stage.

OR

Do you take medications that change your heart rate (e.g., beta blockers like propranolol)?

If so, or if you prefer to use symptom-guided intensity, consider this alternative:

***RPE target zone:**
Begin exercise at an RPE of 2 out of 10 using a mode of exercise that aligns with this Stage.

*See other handout for RPE guide.

Warm-up/cool-down: 3-5 minutes at 55-65%HR max or RPE 1

Strength Training: 1-2 times/week

STEP 3: **Progress Target Zone†** x 3 within each Stage, then ask yourself:

Do you tolerate 20 min. in your current **Stage and Intensity** for **3 or more days/wk** without symptom increase?
(HR 15-20 bpm above current position in resting state; or RPE 3)

No

Continue to build intensity by increasing HR zone by 5 bpm or 1 RPE; then reassess

Yes

IF you have increased target zone x 3 = Ready to **Transition!**

STEP 4: Decide when to **Transition** to the next Stage:

Does your HR recover by 20 bpm within 30 sec?
Can you tolerate‡ a HR exercise in your current Stage at 35 bpm above your resting HR?
‡ without symptom exacerbation

No

Transition to next, more upright body position (Stage)
Steady State 3-5 days/wk

Yes

Consider Intervals
Intervals 1-2 days/wk
Alternate with Steady State days

Interval Days

1-2 x/week, Alternate with Steady State

"Work" interval prescription:
35 bpm above resting HR (RPE 5-6)

"Recovery" interval prescription:
10-15 bpm above resting HR (RPE 2-3)

There should be a 20bpm difference between work and recovery interval; 5 minutes each set

Steady State

Mode and intensity (HR or RPE target zone) based on current Stage (body position)

†Progression of Target Zone

(within Stage) = Increase target zone for HR by 5 bpm or 1 RPE x3; then review STEP 3

POTS Exercise Intensity

Score	Effort
10	Maximal Effort
9	Very, Very Hard
8	Very Hard
7	Hard
6	Somewhat Hard
5	Moderate Activity
4	Light
3	Easy
2	Very Easy
1	Very, Very Easy
0	No Exertion

- It is important to grade the intensity of exercise in POTS, to avoid overstressing the autonomic nervous system
- Goal is to reprogram autonomic nervous system to function properly during exercise
- Exercise should increase HR 15-20 BPM or be at an effort level of 2/10 on the Rate of Perceived Exertion (RPE) scale
- Once you can do 20 minutes of continuous exercise, increase intensity

Mittal, 2021



Exercise for Very POTSIE People

- Progress exercises VERY gradually
- Start horizontal, progress to vertical
- Avoid exercising in the heat
- Stay hydrated, supplement electrolytes (e.g., Propel™ or Liquid IV™)
- Wearing compression garments may help when upright: full leggings best
- Water exercise is particularly good due to hydrostatic pressure
 - Unless the water is warm, which may cause a POTS or fatigue flare
- You might only be able to do a few minutes at first – that’s okay!
- “Recovery HR” 1 minute after exercise should be almost back to your resting HR
- You should be able to do this amount of exercise 5 days/wk without crashing
- Don’t skip more than 2 days in a row – you are trying to reprogram your nervous system



For Very POTSIE People



- Start with lying down exercises
- POTS “Pumps” are a ‘recovery’ exercise: Lie down with legs elevated: ankle pumps, quad set, hamstring set, glute set (isometric), deep belly breathing
- Gentle leg/arm strengthening using body weight or resistance bands
- Core strengthening
- Wall slides (shown here) for aerobic exercise if you cannot do aerobics upright

• Fu, 2018



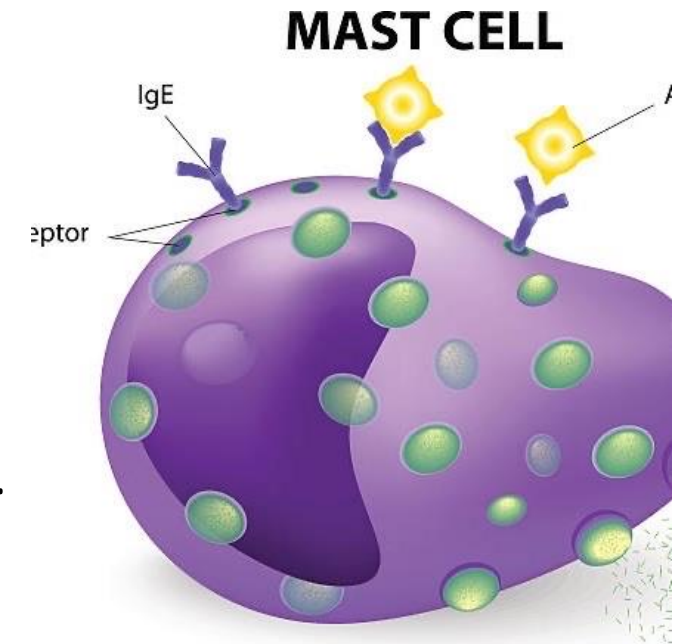
Not all Exercises are Appropriate for POTS

- Sudden head-up postural change
 - E.g., forward fold to mountain in yoga
- Exercise in hot environments or that cause significant body warming – e.g., “hot yoga”
- Some people need to limit upright cardio (e.g., elliptical or even walking) until POTS is managed



MCAS Challenges with Exercise

- Increased body temperature during exercise activates mast cells
- This is a normal process that leads to tissue strengthening
 - But, if your mast cells are overactive, they may over-react
- I don't know of evidence showing how to avoid this, but ideas...
 - Exercise in a cool environment, such as air conditioning or with a fan. Cooler temperatures result in less mast cell activation
 - Do a relaxation practice at the end to activate your parasympathetic nervous system ("rest and digest"). Diaphragmatic breathing, meditation, etc.
 - Take a cool shower after you exercise to cool your body temperature.
 - Take an antihistamine medication (if safe for you) to calm mast cells



“I Can’t Do Anything. How Can I Start?”*

Week	5 min	5 min	5 min
1	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Diaphragmatic breathing Or Singing (2-3/10 RPE)
2	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Postural/alignment correction, motor control (2/10 RPE)
3	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Motor control, Posture strengthening (2-3/10 RPE)
4	Diaphragmatic breathing Or Singing (2-3/10 RPE)	Posture strengthening (3/10 RPE) Or gentle aerobic movement	Core control/strengthening (2-4/10 RPE)
5	Aerobic exercise (2-3/10 RPE)	Posture strengthening (3-4/10 RPE)	Core or other strength (3-4/10 RPE)
6	Aerobic exercise (2-4/10 RPE)	Aerobic exercise (3-5/10 RPE)	Strengthening (3-5/10 RPE)

* This is just a SAMPLE program; it would need to be modified or customized for YOU

- Singing for Lung Health: <https://www.blf.org.uk/support-for-you/singing-for-lung-health/what-happens-in-a-singing-for-lung-health-session> (Kaasgaard, 2022)
- Any day you don’t feel well enough, return to a previous week’s schedule for that day, and gradually work back up to your schedule

Common Reasons for Exercise “Failure”

POTS checklist, MCAS self-care

1. Starting when your overall condition is unstable (POTS, MCAS, GI, fatigue, etc)
2. Pain sensitization Pain Handouts
3. Excessive sympathetic nervous system activity (“fight or flight” mode) HSD103, HSD109, HSD112 HSD102, HSD106, HSD107
4. Starting exercises in poor alignment HSD105
5. Exercises stress your joints HSD104b
6. Performing exercises incorrectly due to proprioceptive, motor control or strength deficits
7. Inappropriate exercises or intensity; trying to do too much HSD104b
8. Being overwhelmed or giving up due to repeated failure
9. Fear of damaging yourself



Summary:

- Not all exercises are appropriate for everyone
- For exercise to be helpful *and not harmful*, it must be:
 - The correct exercise (for you, now)
 - Done correctly (proper body awareness and motor control)
 - You need to start and move in good alignment
 - At the correct dose (intensity, time/reps) and progression
 - Not overstressing other joints or muscles
 - Activating, strengthening, or stretching the correct tissues
- There is no protocol appropriate for everyone with EDS/HSD
- **Start low, go slow!**
- **Next week: Specific suggestions for overcoming challenges due to fatigue, POTS, pain sensitization, & joint pain**



Resources

- For EDS in general: <https://www.ehlers-danlos.org>
- For exercise in EDS:
 - <https://www.ehlers-danlos.org/information/exercise-and-movement-for-adults-with-hypermobile-ehlers-danlos-syndrome-and-hypermobility-spectrum-disorders/>
- For POTS
 - <http://www.dysautonomiainternational.org>
 - <https://www.potsuk.org>
- The Zebra Club Pilates for people with HSD: <https://jeannedibon.com/products/>
- Augmented Reality: Active Arcade, Plaicise



**The
Zebra
Club**

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Questions?

