

# **Functional Balance & Mobility**

## **Can you do two things at once?**

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# Overview

- Why Exercise?
- How to Exercise
- Action Steps YOU Can Take
- Tracking Your Progress

# Benefits of Exercise

- For every BODY
  - Strength
  - Balance
  - Agility
  - Flexibility
  - Endurance (Aerobic Capacity)
  - Mood
  - Sleep



## **Benefits of Exercise for Parkinson's**

- Improve effectiveness of medication
- Stabilize brain cells
- Improve neural connections
- Increase function of dopamine system
- Combat motor deterioration
- Increase in dopamine receptors
- Improve motor output and automatic nature of movement

## Benefits of Exercise for Parkinson's

- Resistance training results in improvements in **strength, balance, and Parkinson's related motor symptoms.**  
(Chung et al. Clin Rehabil. 2016)
- Progressive resistance training results in improved Unified Parkinson's Disease Rating Scale **motor symptom scores** at 2 year follow up.  
(Corcos et al. Mov Disord. 2013)
- Aerobic training results in improved **walking economy** at 16 month follow up. (Schenkman et al. Phys Ther. 2012)
- Various modes of exercise results in improved **cognitive function.**  
(Shih et al. Parkinsonism Relat Disord. 2019; Stuckenschneider et al. J Parkinsons Dis. 2019)

## **How to Exercise**

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful
- Specific
- **ENJOYABLE!**

# Symptom Management Through Exercise

1. Imbalance → Balance
2. Weakness → Strength
3. Single Task → Dual Task Tolerant
4. Limited Aerobic Capacity → Endurance
5. Rigidity → Flexibility
6. Stooped Posture → Strong Posture
7. Tremor → Decreased Tremor

# Balance

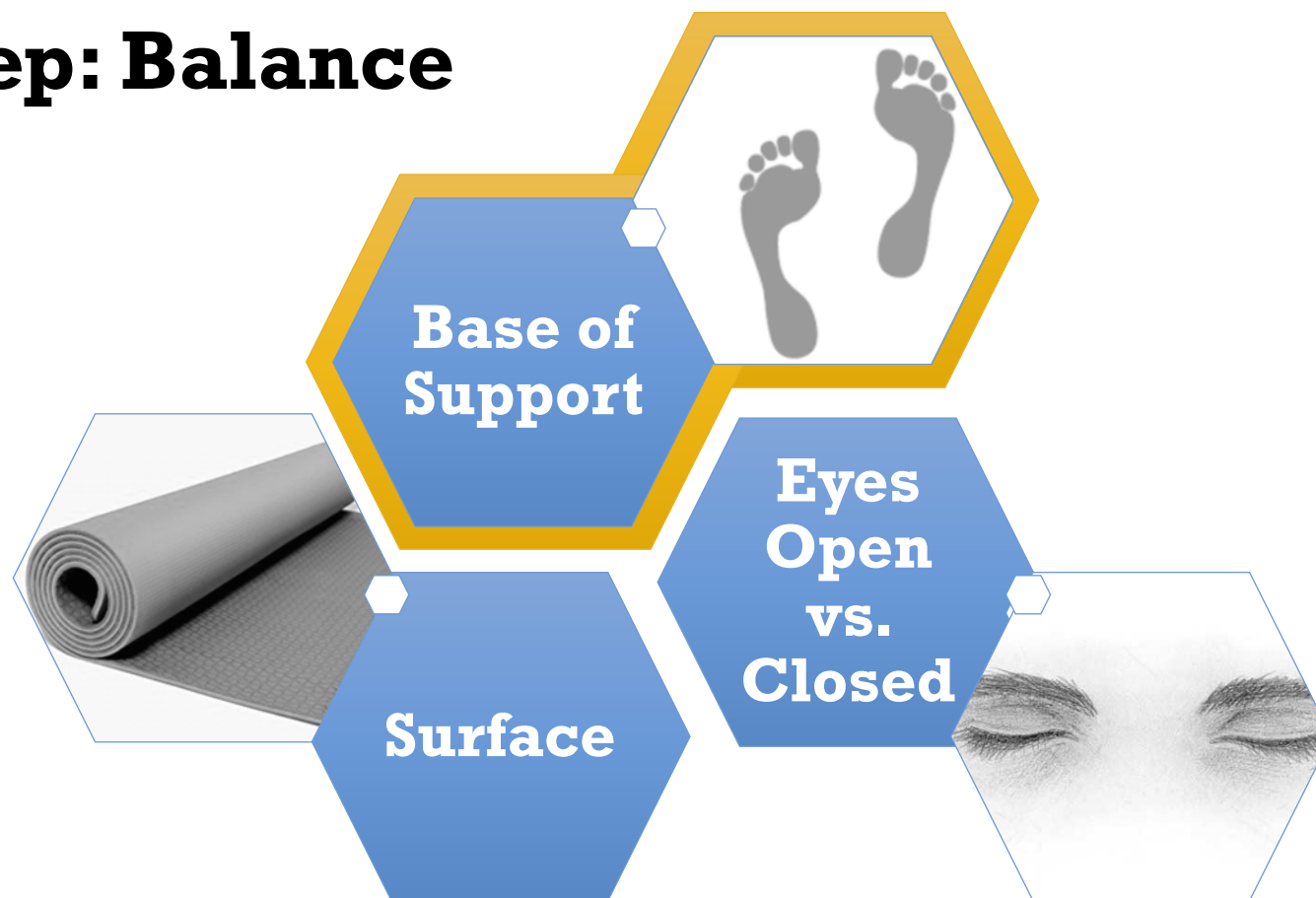


# Balance

**Goals: Improve sensory integration and decrease reliance on vision**

1. Vision
2. Proprioception
3. Vestibular

## Action Step: Balance



# Balance

## ACTION STEP!

# Let's practice!



# Let's practice!



## **Remember...**

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful
- Specific

## Remember...

- High Intensity - **is effortful and leaves you swaying or wobbling a bit.**
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful
- Specific

## Remember...

- High Intensity
- Challenging and Cognitively Engaging – requires you to focus your attention on the task.
- Repetitious
- Progressive
- Meaningful
- Specific



## Remember...

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious - **several times per set, daily or weekly**
- Progressive
- Meaningful
- Specific

## Remember...

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive – once you can consistently hold the position for 30 seconds, move on to the next stage.
- Meaningful
- Specific

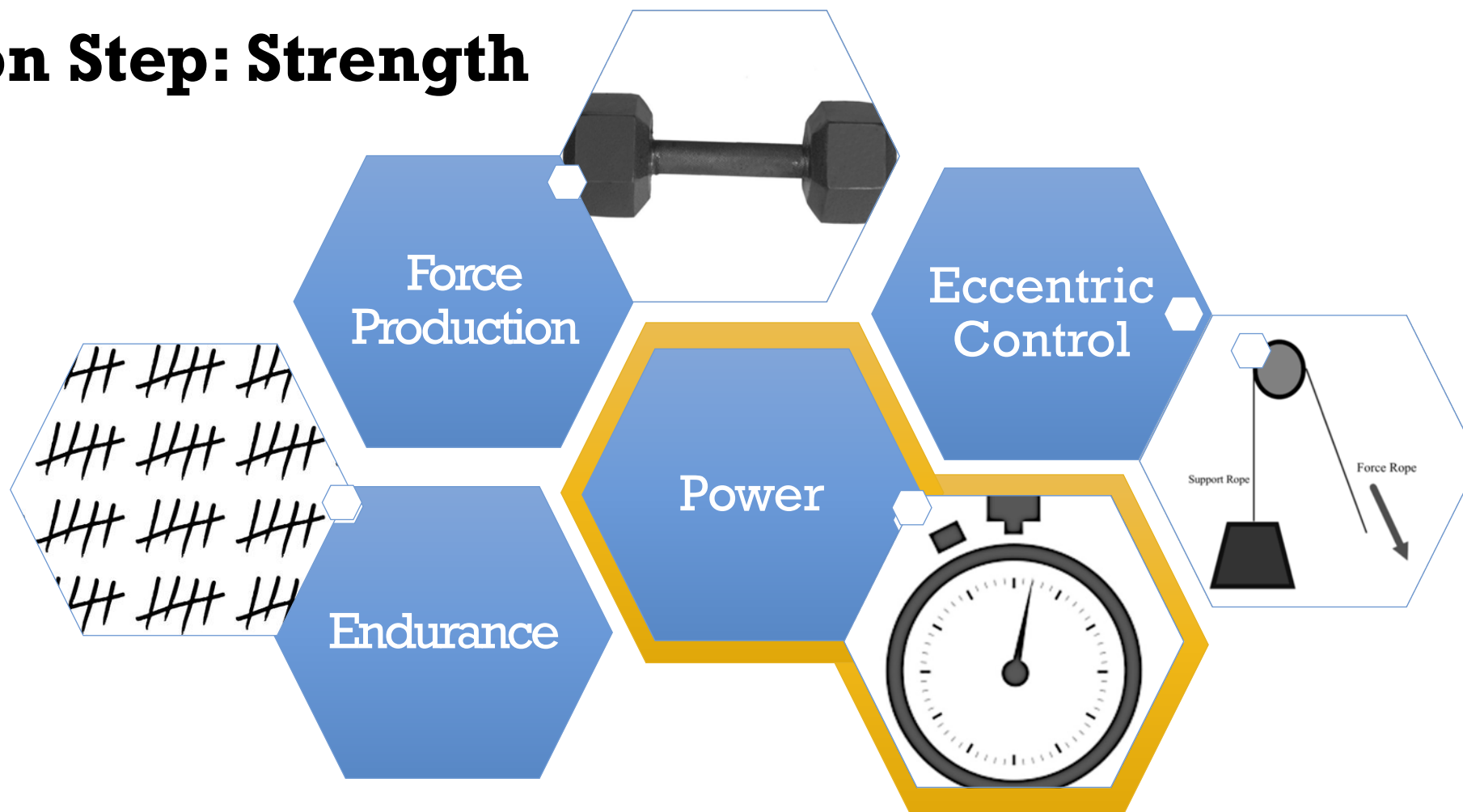
# Strength

# Strength

Goals: Improve muscle performance

1. Force production
2. Endurance
3. Power
4. Eccentric Control

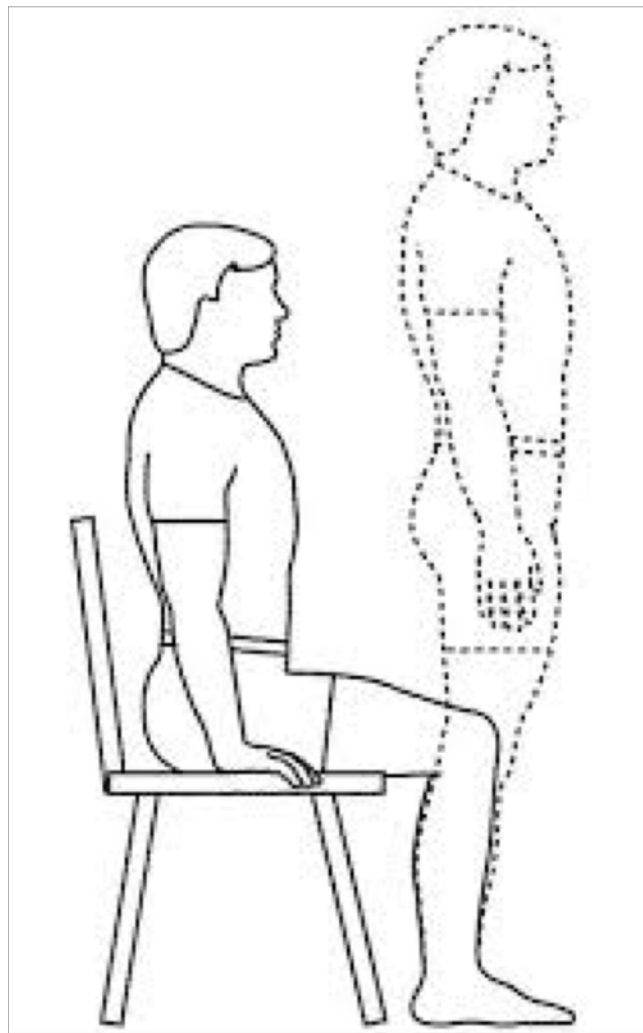
## Action Step: Strength



# Strength

## ACTION STEP!

# Let's practice!



# Let's practice!





# Dual Task

## **Dual Task**

**Goals: improve tolerance to complex environments that require you to split your attention between multiple tasks.**

- 1. Cognitive**
- 2. Motor**

# Fall Risk Predictor

## Walking While Talking Test

- Do you have to stop walking to talk?
- Could you recite the alphabet or recite alternating letters of the alphabet aloud without slowing down?





# Dual Task

## ACTION STEP!

# Let's Practice!



# Let's practice!



## **Remember...**

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful
- Specific



## Remember...

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive – **when one motor or cognitive task with movement combo becomes easy, change it up!**
- Meaningful
- Specific

## Remember...

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful – before you start consider real world scenarios you have had difficulty in and replicate these environments.
- Specific

## Remember...

- High Intensity
- Challenging and Cognitively Engaging
- Repetitious
- Progressive
- Meaningful
- Specific – use motor or cognitive task elements that are of particular challenge for YOU. Is it numbers? Word recall?

# Tracking Progress & Sticking With It!

## Most Importantly...

- Dancing
- Walking
- Tai Chi
- Cycling
- Yoga / Chair Yoga
- Aquatic
- Treadmill Intervals
- Group Classes



## **Find Your Support**

- Family
- Friend
- Caregiver
- Neurologist
- Support Group
- Physical Therapist
- Movement Specialist



# Tracking Performance

## Within a Session

- Time
- Repetitions
- Task Intensity

## Between Sessions

- Phone App
- Paper Chart
- Caregiver

## Review

- Exercise is beneficial for management of Parkinson's symptoms.
- Exercise improves the effectiveness of your medications.
- Exercise should be cognitively engaging, high intensity, repetitious, progressive, meaningful and specific.
- Set measurable goals and track your progress!