


# How Neuropathy affects your Balance . . . and what you can do about it



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## Objectives

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- Review basic anatomy of the Peripheral Nervous System
- Discuss how neuropathy can affect balance
- Share ideas for improving balance and preventing falls

# Human Nervous System

- Central Nervous System
  - Brain
  - Spinal Cord
- Peripheral Nervous System

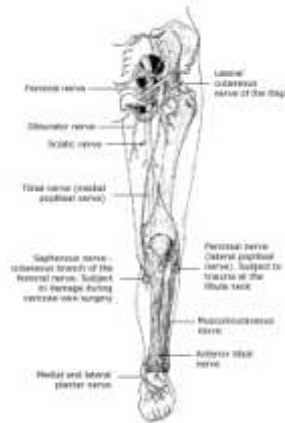


# Peripheral Neuropathy

- Peripheral = away from the central
- Neuro = nerves
- Pathy – disease, disorder

# Peripheral Nervous System

- **Sensory Nerves**
  - *How we feel and sense things*
- **Motor Nerves**
  - *Control our muscles*
- **Autonomic Nerves**
  - *Control our internal organs*



## What our Sensory Nerves provide us:

- **Sensory Nerves**
  - *Sense of touch to the skin*
  - *Changes to the joint angle*
  - *Pressure on the bottom of the foot*
  - *Temperature and changes in temperature*





## What happens when our Sensory nerves are affected by neuropathy:

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- A sensation of wearing an invisible "glove" or "sock"
- Burning sensation or freezing pain
- Sharp, jabbing or electric-like pain
- Extreme sensitivity to touch
- Difficulty sleeping because of feet and leg pain
- Loss of balance and coordination
- Difficulty walking or moving the arms
- Unusual sweating



## What happens when our Motor nerves are affected by neuropathy:

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- Muscle weakness
- Muscle atrophy
- Loss of balance and coordination
- Difficulty walking and/or holding objects in hands

# How do we balance ourselves when standing?

- Our Eyes
- Our Sensory Nerves
- Our Motor Nerves
- Our Vestibular System (inner ear)



## Important Point #1


- If one (or more) of these systems is not working properly, **balance will be impaired**
- Vision (Eyes)
- Sensation
- Muscle Control
- Vestibular System (Inner Ear)



## Important Point #2

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- If one of the systems is not working properly, **the other systems will need to make up the difference**
- Vision (Eyes)
- Sensory Nerves
- Motor Nerves
- Vestibular System (Inner Ear)



## What can I do to help my balance?

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- Stretching and Flexibility
- Gentle Strengthening exercises
- Specific Balance exercises
- Maximize use of the other body systems for safety
- Consider use of devices to help with balance
- Assess your home for safety and accessibility to prevent falls

## Stretching and Flexibility

- Daily is ideal ☺
- Move slowly and gently
- Hold each stretch for 10-20 seconds
- Think “top to bottom”



## Gentle Strengthening

- Doesn't have to be at Gym
- Doesn't have to be rigorous
- Build it into your daily routine



## Specific Balance Exercises

- Practice standing on one foot
- Practice standing on your toes, then on your heels



## Home Environment

- How safe is the home environment?
- Are there obvious safety issues?
- Would equipment or simple home modifications help?



## Home Safety

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- Remove hazards
- Add lighting at night
- Clear paths that are traveled frequently
  - Extra furniture
  - Throw rugs
- Add grab bars/equipment when needed
  - Bathroom – tub and toilet
  - Steps inside and outside of home




- 3-in-1 Commode can be used at the bedside at night, in the shower for bathing, and/or over the toilet






- Shower chairs and tub benches allow you to focus on bathing task



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- Canes can add additional support when walking



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- Grab bars in the bath tub, next to the toilet, or at the entry way into the home can prevent falls





## “Take Home” messages:

- Neuropathy can impact balance in several ways
- Keeping active is important
  - Balance exercises
  - Stretching
  - Strengthening
- Do all you can to keep your home environment safe



*Thank you!*