

# Understanding Neuropathy

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Nancy Herlin, MHA & Guest panel



*Living Well with Neuropathy*

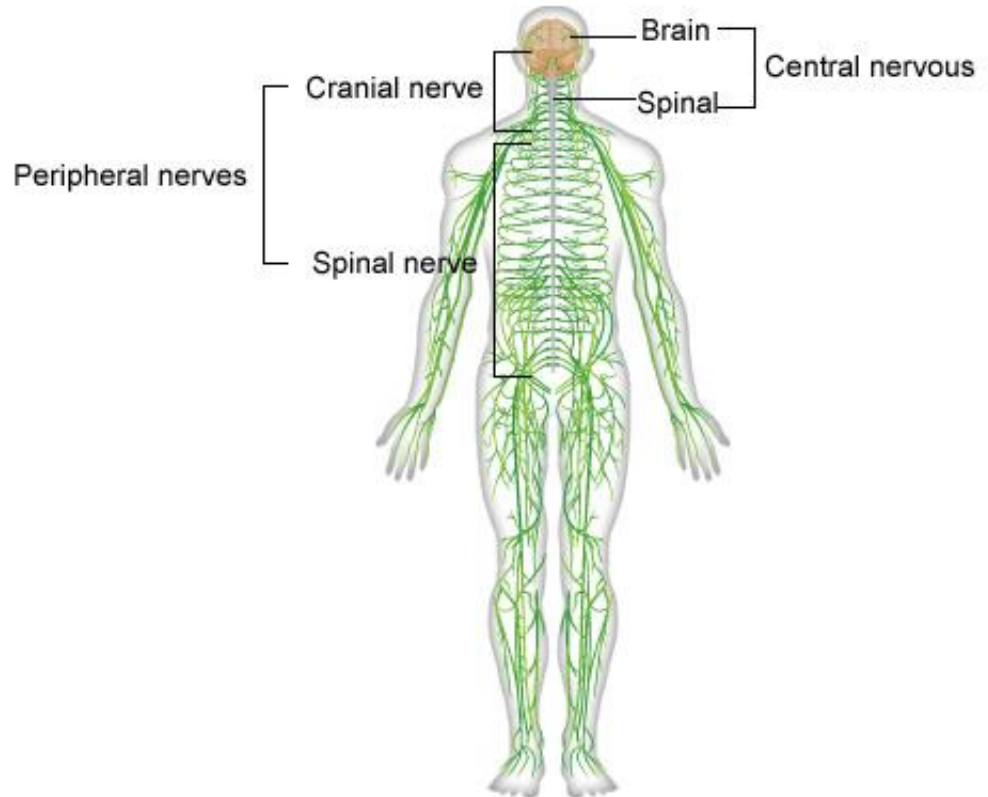
# What Will Be Covered Today?

- Review definition, symptoms, causes,
- Review diagnosis and treatment options
- Questions & answers

# Definition – what is the Nervous System?

## Nervous System

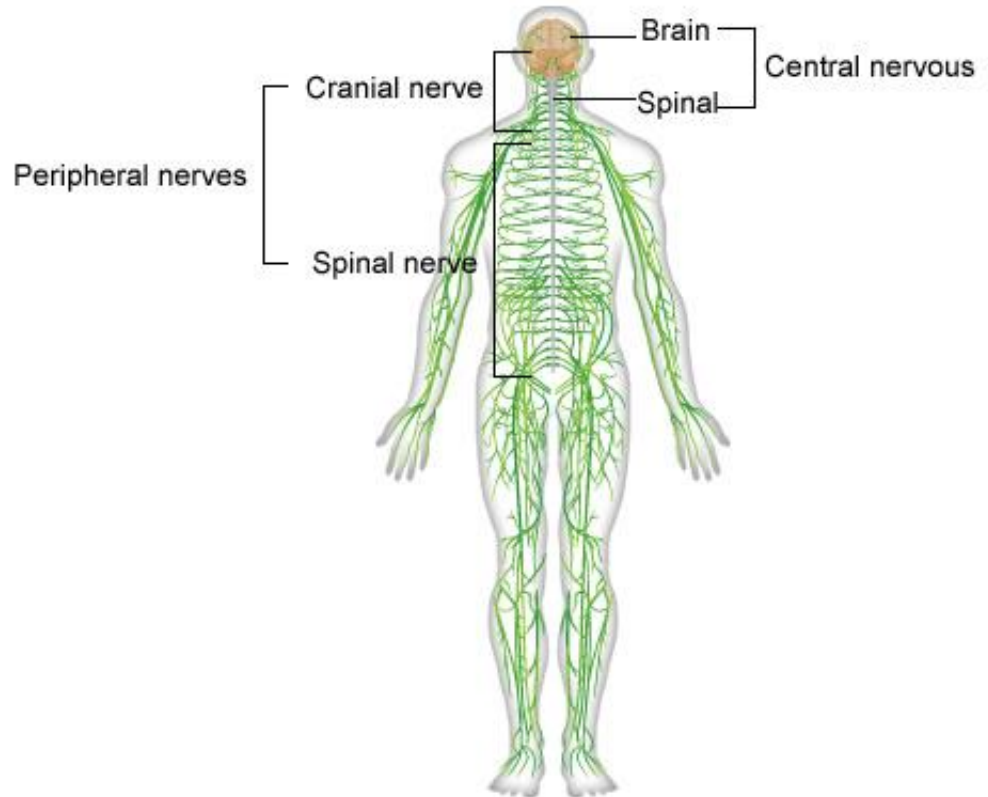
- Central
- Peripheral



# Definition – what is Peripheral Neuropathy?

**Neuro**=nerve

**“pathy”**=sickness



# Symptoms – Do I have Neuropathy?

## Where

- Feet, legs
- Hands, arms
- Internal organs



## What

- Numbness
- Weakness, imbalance or foot drop
- Pain
  - Burning or Tingling
  - Ants crawling
  - Extreme sensitivity
- Digestive or bladder problems, sweating problems



# Types of Peripheral Nerves

**Motor nerves** –from spinal cord to muscles

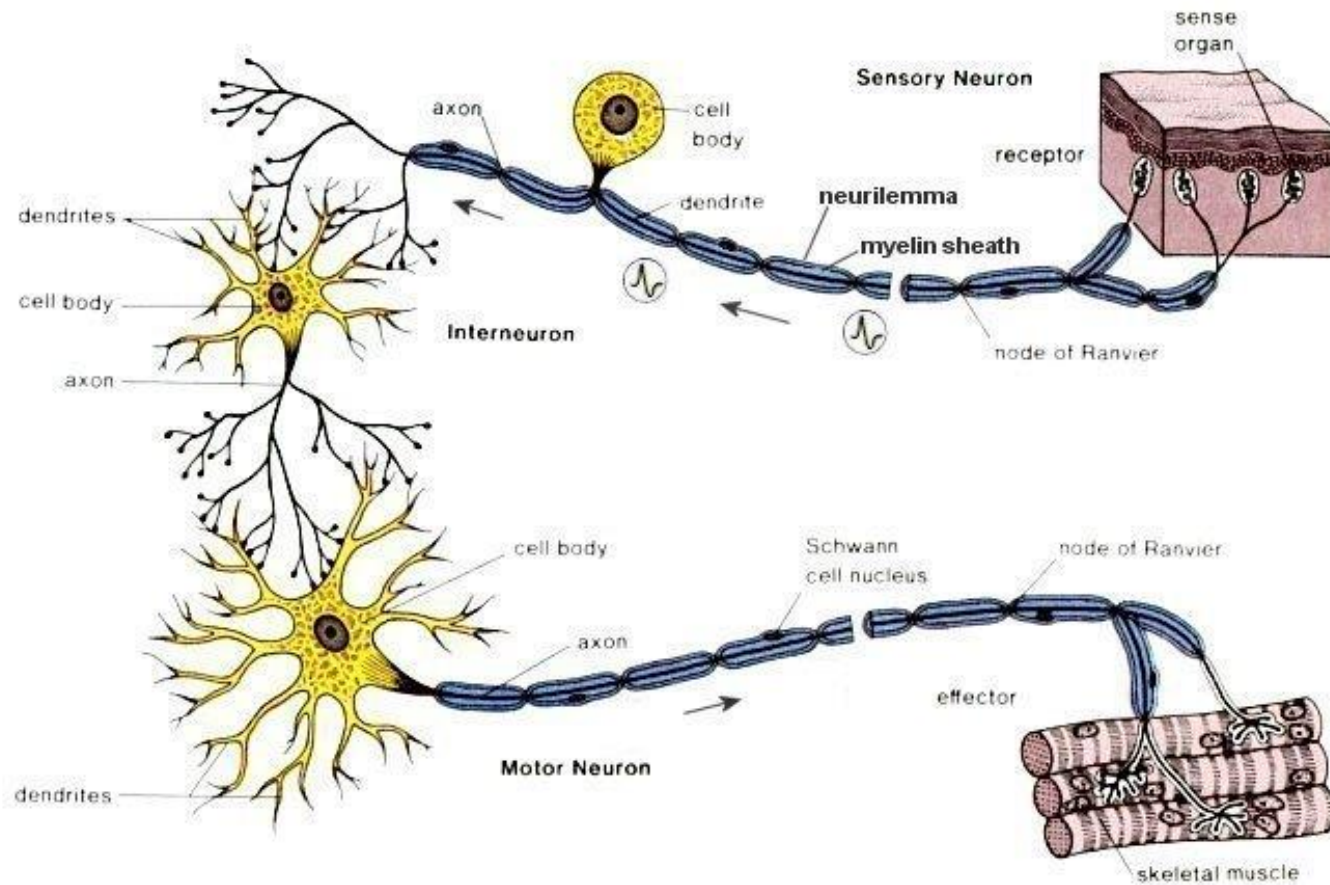
**Sensory nerves** – from sensory organelle to spinal cord

Small fiber

Large fiber

**Autonomic nerves** – control blood pressure, sweating, bladder function, heart rate, digestion, etc.

# Diagram of a nerve



# Symptoms – Why are mine different than yours?

## **SYMPTOM**

- Weakness
- Cramping and muscle twitch
- Muscle or bone loss
- Loss of ankle reflexes, foot drop
- Changes in skin, hair, and nails



## **Motor Neuropathy**



# Symptoms – Why are mine different than yours?

## SYMPTOM

- Impaired sense of:
  - Vibration
  - Light touch discrimination
  - Limb position, balance problems



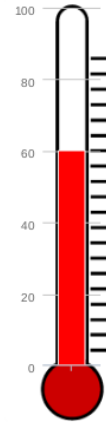
## Sensory Neuropathy:

- Damage to **large**, myelinated nerves

# Symptoms – Why are mine different than yours?

## SYMPTOM

- Impaired sense of temperature
- Pain – loss of pain or hyper sensitive



## Sensory Neuropathy:

- Damage to **small**, myelinated nerves

# Symptoms – Why are mine different than yours?

## **SYMPTOM**

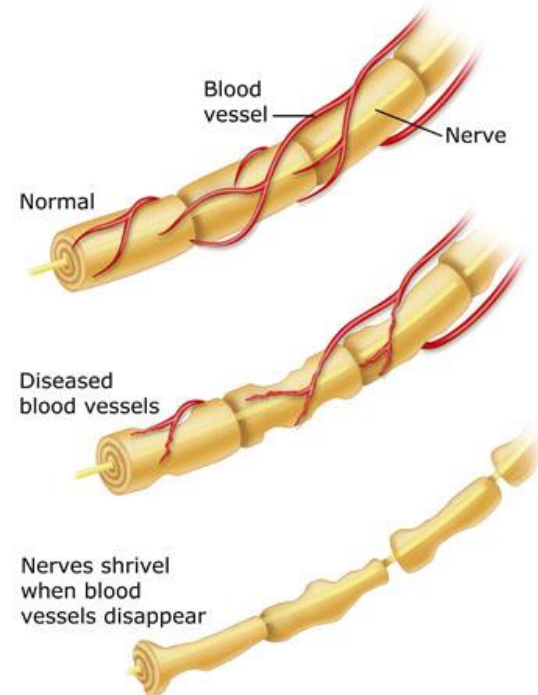
- Digestive problems –constipation, diarrhea, difficulty eating
- Dizziness, lightheadedness due to BP
- Bladder dysfunction
- Reduced or inability to sweat, heat intolerance
- Dry eyes or mouth
- Difficulty breathing or heart problems

## **Autonomic Neuropathy**

# Causes – How did I get this?

- Diabetes and Impaired Glucose Tolerance – **33%**
  - > 50% of individuals with diabetes will have mild to severe forms of neuropathy
  - Severity is related to how long nerves are exposed to hyperglycemia

Diabetes Affects the Nerves



# Causes - continued

- **Other Causes— 33%**
  - **Auto-Immune Disease/Inflammation**
  - **Inherited disorders (Charcot-Marie Tooth)**
  - **Metabolic disease (kidney or liver)**
  - **Infections - HIV, Lyme disease, shingles**
  - **Toxins – heavy metals, chemicals**

# Causes - continued

- **Other Causes (cont.) – 33%**
  - **Medications** for chemotherapy
  - **Vitamin deficiency** (B-12, D, Thiamine, E)
  - **Underactive thyroid gland**
  - **Trauma** or pressure on nerves
  - **Tumor**
- **Idiopathic – 33%**

# Is Neuropathy a Big Problem?

- 1 of every 15!!! 20 million people in U.S.

Disease	Prevalence in U.S.
Multiple Sclerosis	250,000-350,000
Parkinson's Disease	1 million
Alzheimer's Disease	5.2 million
Breast Cancer	2.5 million
Neuropathy	20 million
Diabetes	23.6 million

- 122,000 in Central Texas alone

# Is Neuropathy a Big Problem?

## Effects of Neuropathy

- Limits our ability to function
- Limits independence
- Promotes **falls** and slow wound healing
- Causes **problems with sleep**
- Can lead to **depression**



# What can I do?!?!

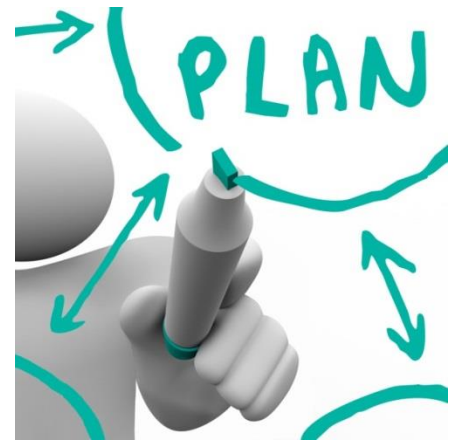


# Proper Diagnosis is Key

- History and physical exam
- EMG/Nerve Conduction Study
- Lab tests: CBC, liver, kidney, electrolytes, ESR, thyroid, inflammatory markers, protein study, Vit D, B12, 2 hr. diabetes test
- Nerve and muscle biopsy
- MRI
- Lumbar puncture (spinal tap)

# Treatments

- Try to find the **cause** of neuropathy and reverse it with treatment
- Treat **symptoms**
- Seek information & support



# Treatments to Remove Cause

## Cause

## Treatment

- Infections

- Leprosy, Syphilis, Lyme Disease
- HIV, Herpes Zoster (Shingles)

- Antibiotics
- Antivirals

- Toxins

- Alcohol
- Chemotherapy
- Arsenic & heavy metals
- B6 > 200 mg/day

- Remove exposure

# Treatments to Remove Cause

## Cause

## Treatment

- Vitamin Deficiencies

- B-12, Thiamin, Vitamin D
- Vitamin E

- Treat deficient state with oral or injectable supplements

- Metabolic dysfunctions

- Address kidney, liver or other diseases

# Treatments to Remove Cause

## Cause

- Diabetes

## Treatment

- Control glucose and improve circulation
  - Healthy Diet
  - Exercise- Swimming, Elliptical, stationary bike
- Treat other Risk Factors
  - Smoking and high lipids
  - Alcohol: eliminate
  - Get the Right shoes and supports and check your feet for injury

# Treatments for Symptom Relief

## Cause

## Treatment

- **Immune System**

- Guillain Barre, Chronic Inflammatory Demyelinating Polyneuropathy
- Sjogren's Syndrome
  
- Monoclonal Gammopathy (MGUS)

- IVIG (Immunoglobulin), Plasmapheresis
- Steroids, immunosuppressants

- **Hereditary**

- Charcot-Marie Tooth (CMT)

- Supportive Care
- Corrective Surgery

# Pain Treatments for Symptom Relief

- **Medications**

- Anti-seizure medications -  
**Gabapentin/Neurontin, Lyrica, Topamax**
- Antidepressants and SNRI's - **Nortriptyline, Amitriptyline, Cymbalta, Effexor**
- Topical agents -lidocaine patch, creams, capsaicin
- Opiates
- NSAIDs – ibuprofen, Aleve, aspirin





# Pain Treatments for Symptom Relief

- **Other Pain Treatments**

- Nerve Block
- Spinal Cord Stimulator or TENS unit
- Corrective surgery
- Neuroablation



# Other Treatments for Symptom Relief

- **Diet and Supplements**

- Healthy Diet – anti-inflammatory, food sensitivities & allergies, avoid alcohol
- Supplements
  - B-vitamins (both B-complex and B-12).
  - Alpha-Lipoic Acid
  - Metanx –a nutritional supplement FDA approved for diabetic neuropathy.
  - Neuro-V – supplement
  - Fish Oils
  - Acetyl-L-Carnitine



# Other Treatments

- **Exercise**

- Aerobic conditioning –swim, elliptical, bike
- Progressive strengthening exercises – weights
- Physical and Occupational Therapy



# Other Treatments

- **Exercise**

- Balance/coordination
- Progressive flexibility/stretching exercises –  
Tai Chi, Yoga



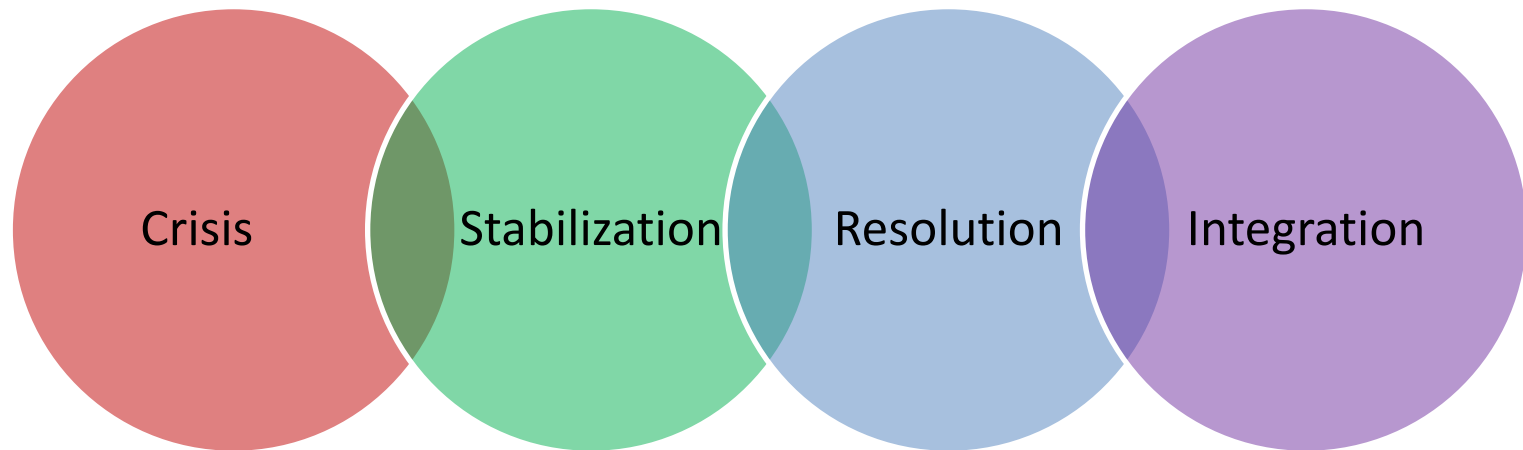
# Other Treatments

- **Complementary & Alternative Medicine**
  - Massage Therapy
  - Acupuncture
  - Meditation
- **Supportive Care**
  - Good Shoes
  - Assisted Walking Devices – orthotics, foot braces, canes, walkers

# Other Treatments

- **Understand where you are in your journey with Neuropathy**

## Four Phase Model



# Four Phase Model

- **Crisis**
  - Deal with immediate hurts & traumas of your new illness
  - Learn to allow your suffering
- **Stabilization**
  - Stabilize and restructure your life patterns and perceptions
  - Learn to regard your suffering with compassion

# Four Phase Model

- **Resolution**

- Develop meaning and a new, authentic self
- Learn to meet your suffering with respect

- **Integration**

- Continue to find ways to express your new “personal best” and reintegrate or form new supportive networks of family and friends
- Learn to integrate your suffering into a whole life.



# Seek Information & Support

## Websites:

Neuropathy Alliance of Texas [www.neuropathyalliancetx.org](http://www.neuropathyalliancetx.org)

Foundation for Peripheral Neuropathy [www.foundationforpn.org](http://www.foundationforpn.org)

## Support Groups in Central TX:

2<sup>nd</sup> Saturday 10:30-12 pm Austin-West Bee Cave Rd/Barton Creek

4<sup>th</sup> Monday 1:30-3 pm Austin Northwest Hills Hart Lane

2<sup>nd</sup> Monday 1:00-2:30 pm Georgetown Williams Dr.

## Books: You Can Cope with Peripheral Neuropathy: 365 Tips by

Mims Cushing & Norman Latov, MD

Peripheral Neuropathy: When the Numbness, Weakness and

Pain Won't Stop by Norman Latov, MD

Coping with Peripheral Neuropathy by Scott Berman, MD