

DIABETES:

Foot Exam and Neuropathy

FLEX 2028

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Objectives

- Describe health disparities in diabetes complications.
- Discuss the epidemiology of foot disease in diabetes patients.
- List the physical exam and laboratory testing for a **comprehensive diabetes medical evaluation**.
- List the peripheral neuropathies and central **autonomic neuropathies** common in diabetes.
- Define **orthostatic hypotension**.
- Describe pathophysiology (**3 mechanisms**) for disturbance of structure/function in diabetic foot disease.
- List the **differential diagnosis** for peripheral neuropathy.
- List **risk factors** for diabetic peripheral neuropathy (DPN) and ulceration.
- Distinguish between **signs and symptoms of DPN**.
- Discuss the American Diabetes Association (ADA) **guidelines** for foot care.
- Describe the components of the **comprehensive annual foot exam** for diabetes patients.
- Explain how to **educate patients** about foot care.
- Discuss the negative impact of **tobacco smoking** on health and healing the diabetes patient.



Non-Traumatic Lower Extremity Amputations (NLEAs)

- Peripheral neuropathy and peripheral vascular disease, two major drivers of NTLEAs, cost the U.S. healthcare system \$10.9B and \$7.3B annually, respectively.
- Medical care costs for Medicare/Medicaid beneficiaries with dysvascular amputations were estimated to exceed \$4.3B (1996).
- Diabetic Foot Ulcers (DFUs), another precursor to NTLEAs, contribute between \$9B and \$13B annually
- Diabetes, a leading cause of NTLEAs, contributes an estimated \$327B in annual costs, including hospitalizations, complications, and lost productivity.

1. American Public Health Association. Prevention of Lower Extremity Amputations due to Nontraumatic Loss of Sensation and Circulation. Policy Statement 20212. Published October 25, 2021. Accessed August 11, 2025. <https://www.apha.org/policy-and-advocacy/public-health-policy-briefs/policy-database/2022/01/07/prevention-of-lower-extremity-amputations-due-to-nontraumatic-loss-of-sensation-and-circulation>

2. Dillingham TR, Pezzin LE, Shore AD. Reamputation, mortality, and health care costs among persons with dysvascular lower-limb amputations. Arch Phys Med Rehabil. 2005;86(3):480–486.



From **2009 to 2019**, diabetes-related hospitalizations due to amputation **doubled**.

CDC, 2023

US Department of Health and Human Services

Lower Extremity Amputation and Health Care Disparities

- ❑ Disproportionately affect minorities and those of lower socioeconomic status and are known to be a preventable complication. [1]
- ❑ Multifactorial: Systematic review show that disparities in rates of lower extremity amputation were reported according to patient race, ethnicity, sex, and age; across hospital referral regions, residential area characteristics, and income estimates; and on the basis of payer type and hospital characteristics. Several of these factors were interrelated. [2]
- ❑ Demonstrated a reduction in major lower extremity amputation rates among Black, Hispanic, and White patients with diabetes over time, suggesting narrowing disparities [2]

1. Arya S, Binney Z, Khakharia A, et al. Race and socioeconomic status independently affect risk of major amputation in peripheral artery disease. J Am Heart Assoc. 2018; 7(2):e007425.

2. Gasoyan H, Hussain SR, Wright WG, Sarwer DB. Disparities In Diabetes-Related Lower Extremity Amputations In The United States: A Systematic Review. Health Aff (Millwood). 2022 Jul;41(7):985-993. doi: 10.1377/hlthaff.2021.01827. PMID: 35787078.

Tailoring Treatment for Social Context

The causes of health disparities are complex and include **societal issues/social determinants of health** such as socioeconomic status, poor access to health care, education level, and lack of health insurance.

- 1.7 During clinical encounters, assess for social determinants of health, including food insecurity, **A** housing insecurity, financial barriers, health insurance and health care access, environmental and neighborhood factors, and social capital/social community support, **B** to inform treatment decisions, with referral to appropriate local community resources.
- 1.8 Provide people with diabetes additional self-management support from lay health coaches, navigators, or community health workers when available. **A**

People who have diabetes are at higher risk of serious health complications:



BLINDNESS



**KIDNEY
FAILURE**



**HEART
DISEASE**



STROKE



**LOSS OF TOES,
FEET, OR LEGS**



The Diabetic Foot

ADA Diabetes Standards of Care

SECONDARY PREVENTION (prevent complications)

A1C control: $<7 - <8$ so *let's be reasonable*

Blood pressure control $<140/90$ mmHg; DASH style diet.

Cholesterol control: statin therapy based on 10-Yr ASCVD risk

Diet goal: 5% weight loss + 500–750 kcal/day energy deficit

Dip urine for protein to screen for kidney disease

Exercise/ physical activity: 200–300 min/week

Eye exam screening for retinopathy (annual)

ECG – “the best ECG is an old ECG.”

Foot exam (annual) + screen every visit for ulcers/infection

Flu and pneumonia vaccine!! + health maintenance

Smoking cessation!!!

The Gap: A Gap exists between the care that is currently delivered vs. ideal care.

Agency for Healthcare Research and Quality <http://www.ahrq.gov/QUAL/diabetesgap.htm>

Table 4.1 (cont.)- Components of the comprehensive diabetes medical evaluation at initial, follow-up, and annual visits

		INITIAL VISIT	EVERY FOLLOW-UP VISIT	ANNUAL VISIT
PHYSICAL EXAMINATION	▪ Height, weight, and BMI; growth/pubertal development in children and adolescents	✓	✓	✓
	▪ Blood pressure determination	✓	✓	✓
	▪ Orthostatic blood pressure measures (when indicated)	✓		
	▪ Fundoscopic examination (refer to eye specialist)	✓		✓
	▪ Thyroid palpation	✓		✓
	▪ Skin examination (e.g., acanthosis nigricans, insulin injection or insertion sites, lipodystrophy)	✓	✓	✓
	▪ Comprehensive foot examination			
	▪ Visual inspection (e.g., skin integrity, callous formation, foot deformity or ulcer, toenails)**	✓		✓
	▪ Screen for PAD (pedal pulses—refer for ABI if diminished)	✓		✓
LABORATORY EVALUATION	▪ Determination of temperature, vibration or pinprick sensation, and 10-g monofilament exam	✓		✓
	▪ A1C, if the results are not available within the past 3 months	✓	✓	✓
	▪ If not performed/available within the past year	✓		✓
	▪ Lipid profile, including total, LDL, and HDL cholesterol and triglycerides*	✓		✓
	▪ Liver function tests*	✓		✓
	▪ Spot urinary albumin-to-creatinine ratio	✓		✓
	▪ Serum creatinine and estimated glomerular filtration rate*	✓		✓
	▪ Thyroid-stimulating hormone in patients with type 1 diabetes*	✓		✓
	▪ Vitamin B12 if on metformin (when indicated)	✓		✓
LABORATORY EVALUATION	▪ Serum potassium levels in patients on ACE inhibitors, ARBs, or diuretics*	✓		✓

The Diabetic Foot

3 Mechanisms that Disrupt Structure and Function of the Feet:

- Diabetic Peripheral Neuropathy (**DPN**)
- Osteoarthropathy
- Peripheral Vascular Disease (**PVD**)

Disturbance of Structure and Function

- Diabetic Peripheral Neuropathy (DPN)
 - ▣ Creates an **'insensate'** foot
 - without proper sensation
- Osteoarthropathy of the feet
 - ▣ Creates a **deformed** foot
- Peripheral Vascular Disease (PVD)
 - ▣ Creates a **poorly-perfused** foot



Ulceration
+
Infection
+
Amputation

Diabetic Neuropathies – 2 major forms

1. Peripheral neuropathy

- 60% of Type 1 + Type 2 diabetes patients have peripheral neuropathy
- **Most common form is Distal Symmetric Polyneuropathy known as Diabetic Peripheral Neuropathy(DPN)** which accounts for 50% of neuropathy in diabetes patients.
- Another common peripheral neuropathy in diabetes is a mononeuropathy like Carpal Tunnel Syndrome, Tarsal Tunnel Syndrome.



Diabetic Neuropathies – 2 major forms

2. Autonomic neuropathy is sympathetic denervation in various organs:

- **Cardiac** autonomic neuropathy is associated with mortality independent of other CV risk.
 - ▣ Initially decreased heart rate variability, then resting tachycardia (>100 bpm).
 - ▣ **Orthostatic hypotension** is caused by peripheral sympathetic denervation and decreased vasoconstriction;
 - **Definition:** Decrease in Systolic BP by >20 mmHg or in Diastolic BP by >10mmHg upon standing without an appropriate, compensatory increase in heart rate.



Diabetic Neuropathies – 2 major forms

2. Autonomic neuropathy is sympathetic denervation in various organs:

- **GI Neuropathies:** esophageal dysmotility, gastroparesis, constipation/diarrhea, fecal incontinence.
- Gastroparesis – delayed emptying of gastric contents results in nausea and vomiting after meals; malnutrition; the diagnostic gold standard for gastroparesis is the **gastric emptying test** with scintigraphy of digestible solids at 15-min intervals for 4 h after food intake.



Effects of Diabetic Peripheral Neuropathy



Early tissue damage



Clawing toes, callus, superficial ulceration



Plantar ulcer, callus



Calluses scraped away revealing ulcers



Risk Factors and Secondary Prevention in Diabetic Peripheral Neuropathy (DPN)

- The DCCT and EURODIAB trials established **RISK FACTORS** for DPN :
 - Hyperglycemia (poorly controlled glucose)
 - Insulin deficiency
 - Smoking
 - BMI - as a measure of “toxic adiposity”
 - Hypertension
- **Secondary Prevention in Diabetes** is a focus on preventing complications:
 - **Good glucose control**, medication management, weight loss, BP control, and smoking cessation can prevent the onset of DPN!!!

Diabetic Peripheral Neuropathy (DPN) pathophysiology

- Diabetes preferentially affects the peripheral nervous system (PNS), a likely reflection of the unique anatomy of the PNS.
 - PNS axons are frequently ≥ 3 feet long and $>20,000$ times the length of their supporting cell bodies
- DPN affects the distal portions of the longest myelinated and unmyelinated **sensory axons (i.e., feet affected first in the disease process)**.
- DPN injures nerves by causing injury to sensory axons starting with the longest axons.
 - DPN is **not** primarily a demyelination process.
 - DPN sparing the motor axons early in the process – *this is an important point.*



Diabetic Peripheral Neuropathy (DPN) pathophysiology

Pathogenesis:

1. **Excess GLUCOSE is converted by** aldose reductase to sorbitol (polyol pathway), resulting in mitochondrial damage, decreases sodium–potassium adenosine triphosphatase (ATP) activity, depletes nicotinamide adenine dinucleotide phosphate, and produces **reactive oxygen species (ROS)**, impairing nerve function.

2. **Excess GLUCOSE causes** Advanced Glycation End products (AGEs) and Receptor-bound AGEs (RAGEs), Reactive oxygen species (ROS), oxidative stress >> Decreases blood flow to nerves >> leads to **microvascular dysfunction** >> Leads to **axonal injury**.

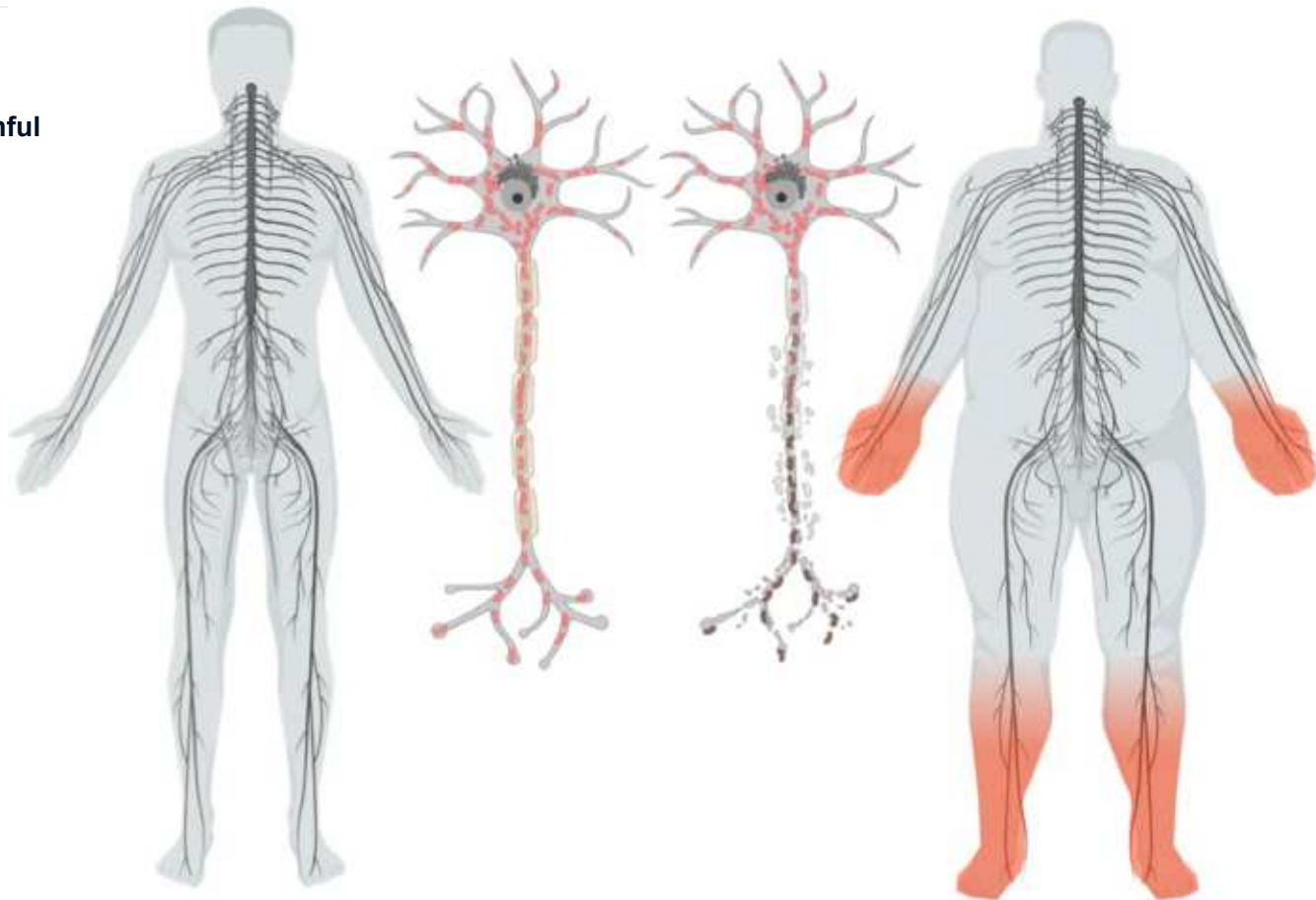
METABOLICALLY HEALTHY

PREDIABETES AND TYPE 2 DIABETES

DPN Pathophysiology

From: **Diagnosis and Treatment of Painful
Diabetic Peripheral Neuropathy**

ADA Clinical Compendia. 2022;2022(1):1-32.
doi:10.2337/db2022-01



Diabetic Peripheral Neuropathy (DPN)

□ A Distal Symmetric Peripheral Neuropathy

- Sensory loss begins in periphery and moves '**distal-to-proximal**' with feet affected before hands.
- Symmetric "**Stocking and glove**" distribution

□ Differential Diagnosis (What other conditions cause these symptoms?)

- **Vitamin B12 deficiency** affects the posterior/lateral columns of the spinal cord and causes loss of sensation, numbness and tingling in hands and feet.
- **Alcoholic neuropathy** results in a degeneration of the axons and a reduction in the myelination of neural fibers. Alcohol (ethanol) and Acetaldehyde, a metabolite of ethanol, have a direct neurotoxic effect.
- **Hypothyroidism, renal disease, malignancies, chronic inflammatory demyelinating neuropathy.**





Diabetic Peripheral Neuropathy (DPN)

Loss of protective sensation and proprioception
leads to injury:

- Trauma may go undetected because the patient does not feel pain appropriately.
- Patients develop neuropathic walking patterns that lead to further injury.





Distinguish Symptoms vs. Signs

- Two different medical terms that have different definitions.
- A **symptom** is the subjective description of the patient's disease (how the patient describes her disease)
 - “The pain is burning with sharp jabbing.”
 - “My toes are numb.”
- A **sign** is an objective physical examination finding.
 - Example: Decreased vibratory sensation with tuning fork
 - Example: Decreased sensation to monofilament

Symptoms and Signs of Diabetic Peripheral Neuropathy

Symptoms

- Numbness or loss of feeling (asleep or “bunched up sock under toes” sensation)
- Prickling/Tingling
- Aching Pain
- Burning Pain
- Lancinating Pain
- Unusual sensitivity or tenderness when feet are touched (allodynia)

Signs

- Diminished vibratory perception
- Decreased knee and ankle reflexes
- Reduced protective sensation such as pressure, hot and cold, pain
- Diminished ability to sense position of toes and feet

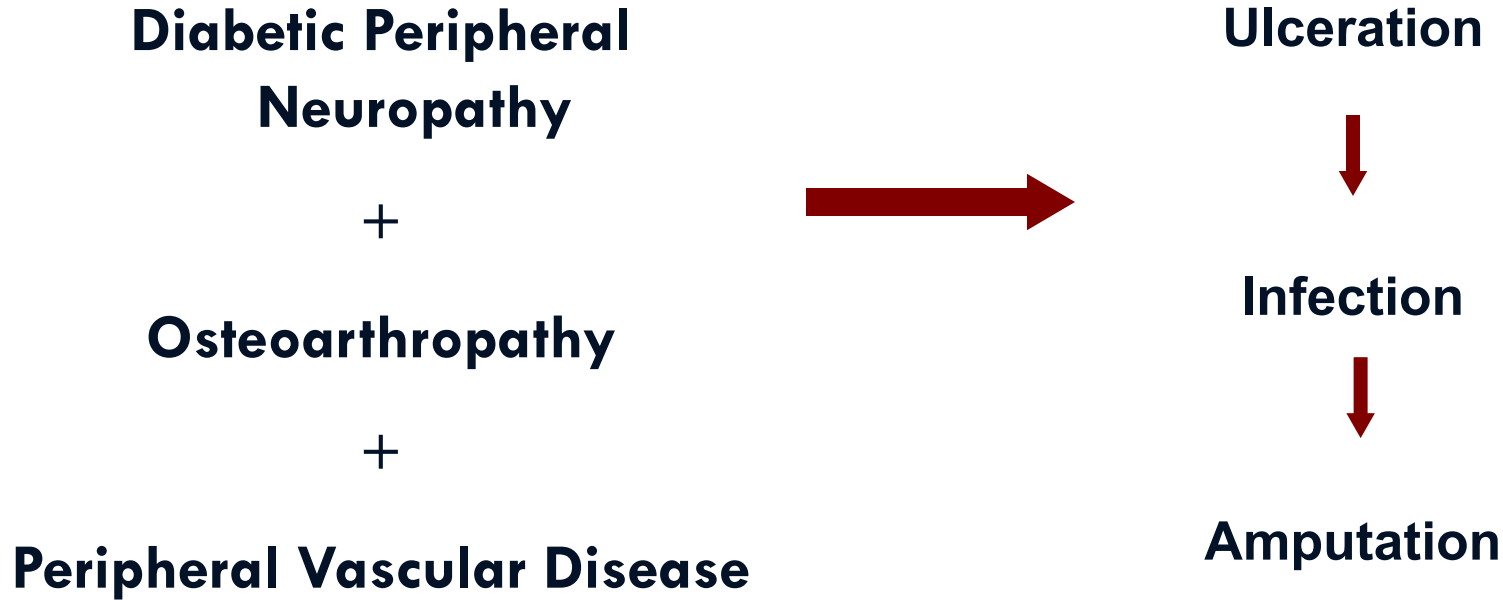


Symptoms and signs progress from distal to proximal over time

DPN Treatment

- ◉ **Good glucose control** decreases symptoms and slows progression. Presently it is **not** possible to reverse the disease.
- ◉ Medications can decrease symptoms: FDA-approved, recommended as initial pharmacologic treatments for neuropathic pain in diabetes: Pregabalin , Duloxetine
- ◉ **Smoking cessation!**

Disturbance of Structure and Function



Osteoarthropathy

Diabetes causes a neuropathic arthropathy which is disruption of bony architecture by the following mechanism:

- ❑ Changes in sensation and proprioception lead to microtrauma >>>
- ❑ Microtrauma over time leads to bone/joint destruction, subluxation (partial dislocation of joints) and remodeling of bone >>>
- ❑ Remodeling leads to foot deformity
 - Charcot foot
 - Flat foot
 - “Rocker-bottom foot”
- ❑ Deformity predisposes foot to abnormal pressure distribution which leads to ulceration.

Charcot Arthropathy



Osteoarthropathy

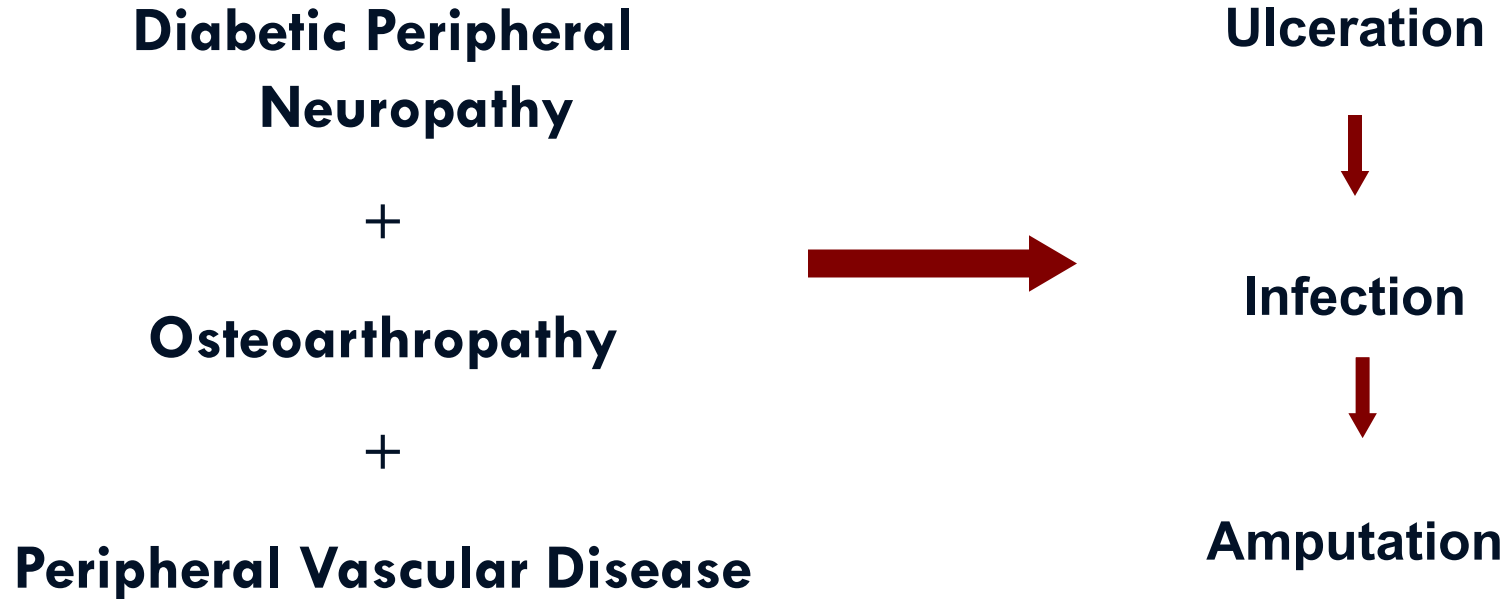
Charcot Foot



Before and after reconstructive surgery.

- Charcot feet bilaterally in a person with poorly controlled diabetes.
- Note the **pronation of the feet** with the abnormal bulging of the medial foot.
- X-rays showed abnormal tarsal bones secondary to diabetic neuropathy.

Disturbance of Structure and Function



Peripheral Vascular Disease (PVD)

- Commonly develops in diabetes
 - Deprives tissues of necessary blood: oxygen and nutrients
- Symptoms
 - **Claudication** - leg pain/cramping with activity due to poor perfusion of muscles.
- Signs
 - Cooler to touch
 - Thin, shiny hairless skin of feet and legs
 - Thick nails
 - Ulcers
 - Delayed healing



Diabetic Foot Ulcers

- Diabetic Neuropathy
- Infections



Foot Infections in Diabetes

- Diabetes patients are predisposed to infections (bacterial, fungal, etc.) because of the following:
- **Hyperglycemia**
 - ▣ Facilitates growth of bacteria and fungi
 - ▣ Impairs the white cells that fight infection
- Peripheral Vascular Disease (PVD)
 - ▣ Poor blood flow >> decreased oxygen in the tissues >> Impaired healing





Risk Factors for Ulceration

- ☐ **peripheral neuropathy**
- ☐ **foot deformity**
- ☐ **peripheral vascular disease**
- ☐ **cigarette smoking**
- ☐ **poor glycemic control**
- ☐ vision impairment
- ☐ diabetic nephropathy
- ☐ previous foot ulcer or amputation

Smoking and Diabetes



- Prevent **children and adolescents** from starting!
- Focus on cessation in patients who smoke; smoking rates are higher in diabetes patients.
- Prevent children with diabetes from exposure to second-hand smoke.
- Smoking increases renal, cardiovascular and pulmonary disease, cancer.
- Smoking increases risk for ulceration and decreases wound healing.

FOOT EXAM FOR PATIENTS WITH DIABETES

AMERICAN DIABETES ASSOCIATION STANDARDS OF CARE 2025

AMERICAN DIABETES ASSOCIATION PROFESSIONAL PRACTICE COMMITTEE; 12. RETINOPATHY, NEUROPATHY, AND FOOT CARE: STANDARDS OF CARE IN DIABETES—2025. DIABETES CARE 1 JANUARY 2025; 48 (SUPPLEMENT_1): S252–S265. [HTTPS://DOI.ORG/10.2337/DC25-S012](https://doi.org/10.2337/DC25-S012)



ADA Standards of Foot Care in Diabetes Patients

- The **goal** is early recognition and management of neuropathy!
- ADA 12.17: All people with diabetes should be assessed for diabetic peripheral neuropathy starting at [B]:
 - **Type 2 diabetes:** upon diagnosis + at least annually thereafter.
 - **Type 1 diabetes:** 5 years after diagnosis + at least annually thereafter.

American Diabetes Association Professional Practice Committee; 12. Retinopathy, Neuropathy, and Foot Care: Standards of Care in Diabetes—2025. *Diabetes Care* 1 January 2025; 48 (Supplement_1): S252–S265. <https://doi.org/10.2337/dc25-S012>



Components of Annual Comprehensive Foot Exam

1. **Inspect** skin
2. Assess foot for **Deformities and Function--**
plantarflexion and dorsiflexion of the ankle and great toe
3. Assess **Pulses** (DP + PT pulses)
4. Test **Sensation** using:
 - 10-g Monofilament test (tests **large fiber** function and **protective sensation**).
 - Vibration sensory test with 128-Hz tuning fork (tests **large fiber** function).
 - Pinprick sensory test (tests **small fiber** function).



The Annual Comprehensive Foot Exam

Inspect

- **Skin between toes and entire foot for areas of concern**
 - Bruising, calluses, blisters, fissure, ulcers
 - Changes consistent with poor blood flow such as thin, shiny, hairless skin
- **Bone structure** for bony abnormalities
- **Footwear** for torn or abrasive edges, foreign objects, breathable materials, abnormal wear patterns, and proper fit

The Annual Comprehensive Foot Exam

Assess Pulses

- **Dorsalis pedis** - lateral to the extensor hallucis longus tendon
- **Posterior tibial** - posterior and inferior to the medial malleolus





The Annual Comprehensive Foot Exam

Testing for **Loss of Protective Sensation (LOPS)** includes:

- **Monofilament** (10-g) test - identifies feet at risk for ulceration and amputation.

Plus one of the following:

- **Pinprick** sensory testing – tests the small-fiber function (Temperature sensation test is an alternative but usually **not** used.)
- **Vibration** sensory testing with a **128-Hz** Tuning Fork - tests the large-fiber function
- **Ankle Reflex** testing predicts LOPS although it is not directly testing sensation like the other tests above.

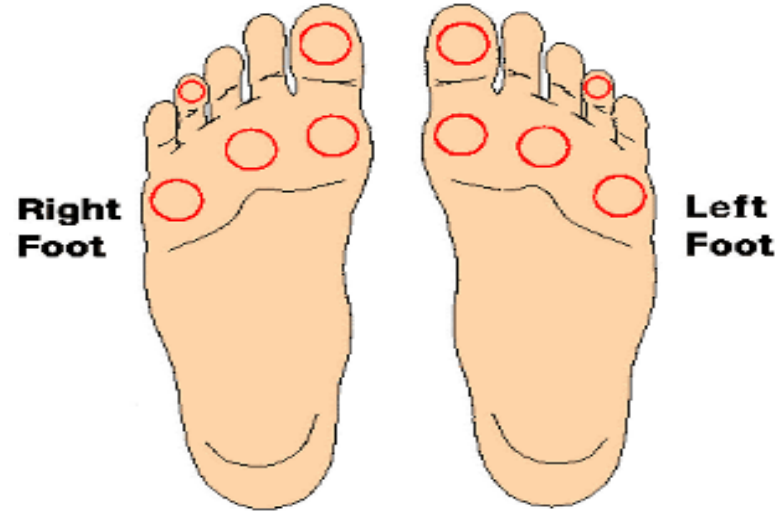
The tests above screen for dysfunction + **predict future risk of complications -- ulceration and amputation.**

Monofilament: 73% (sensitivity); 87% (specificity) for peripheral neuropathy.

Testing for Loss of Protective Sensation

Monofilament Sensory Testing

- ◉ Ask the patient to close his eyes
- ◉ Demonstrate on patient's hand
- ◉ Test 5 areas of the ventral surface of foot
- ◉ Don't test over calluses, ulcer or necrotic (dead) tissue

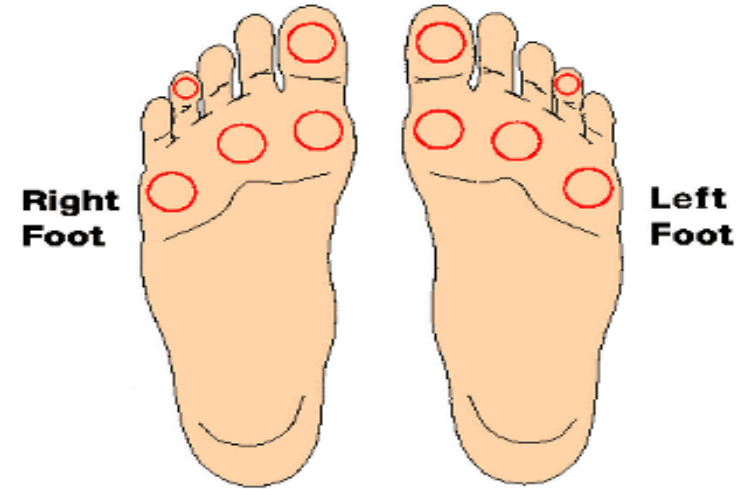




Testing for Loss of Protective Sensation

Monofilament Sensory Testing

- Apply monofilament perpendicular to the skin
- Use sufficient force to bend or buckle the monofilament with a smooth (not jabbing) motion
- Total duration = 1 - 2 sec
- One insensate area = **positive** test for neuropathy



Testing for Loss of Sensation

Pinprick Sensory Test

- A disposable pin is applied just proximal to the toenail on the **dorsal surface of the hallux**, using just enough pressure to deform the skin.
- Inability to sense the pinprick is a positive test for neuropathy (even in just one place.)



Testing for Loss of Sensation

Vibration Sensory Testing (128-Hz)

1. Strike the tuning fork and place the **stem** on a bony surface of the **patient's wrist** to demonstrate what the tuning fork vibrations should feel like.
2. Strike the tuning fork and place the stem on the **dorsal surface of the great toe** just proximal to the nail bed.



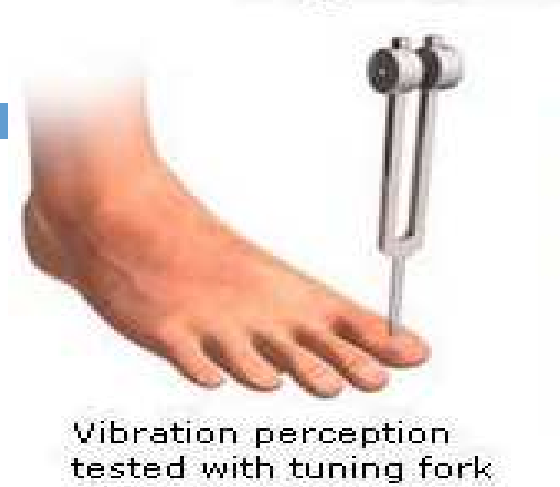
Vibration perception tested with tuning fork



Testing for Loss of Sensation

Vibration Sensory Testing (128-Hz)

3. Ask the patient to tell you when they feel vibration
 - If they don't feel the vibration, they have abnormal sensation = **positive** test for neuropathy
 - If they do feel the vibration, ask the patient to tell you when the vibration stops, and then apply the stem to the dorsal aspect of your distal thumb. If you still feel the vibration in your thumb, the patient has abnormal sensation = **positive** test.



http://www.caringfordiabetes.com/Screening-and-Diagnosis/MicroComplications/S_D_Diabetic_Neuropathy.cfm



Testing for Loss of Reflexes

Ankle Reflex Testing of the Achilles Tendon (S1)

- Also called Ankle Jerk Test; not a sensory test but predicts LOPS
- Must **dorsiflex** the foot to stretch tendon
- Reflexes are graded on a scale of 0 to 4; **with 0 or 1 = Positive test for diminished reflexes.**
 - **Absent reflex = 0**
 - **Diminished reflex = 1**
 - Normal reflex = 2
 - Hyperreflexia = 3
 - Hyperreflexia with clonus = 4

Clonus is a repeating reflex.



Physical Exam Findings in Diabetes

Necrobiosis lipoidica diabeticorum (NLD)

on the lower leg with typical findings:

- skin atrophy
- yellow coloration
- prominent blood vessels

Pathogenesis: Microangiopathy and Vascular Damage due to chronic hyperglycemia>> leads to ischemia, collagen degeneration, and lipid deposition in the skin. May also be a component of Immune-Mediated Inflammation.



Source: R.P. Usatine, M.A. Smith, E.J. Mayeaux, Jr., H.S. Chumley
The Color Atlas and Synopsis of Family Medicine, Third Edition
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Physical Exam Findings in Diabetes

Eruptive xanthomas on the extremities and trunk of a young man with untreated **T2DM** and hyperlipidemia.



Source: R.P. Usatine, M.A. Smith, E.J. Mayeaux, Jr., H.S. Chumley
The Color Atlas and Synopsis of Family Medicine, Third Edition
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Acanthosis nigricans in a woman with type 2 diabetes and obesity.

Patient presents requesting that her skin tags be removed.



Source: R.P. Usatine, M.A. Smith, E.J. Mayeaux, Jr., H.S. Chumley
The Color Atlas and Synopsis of Family Medicine, Third Edition
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Patient Education and Empowerment

- **Explain the Significance of the Findings**
 - The following place the patient at increased risk for **injury, infection**, and therefore the risk for amputation; which can be **prevented**.
 - Loss of protective sensation
 - Bony deformity
 - Decreased or absent pulses
- ADA recommends that general **preventive foot self-care education** be provided to all patients with diabetes.

Foot Wear



- Proper fitting shoes essential- educate the patient!
- **Specially fitted shoes** are necessary in patients with:
 - Bony/soft tissue abnormalities
 - History of foot ulcers

They are often covered by insurance.

Educate Patients about Foot Care

- Never go barefoot
- Check feet daily for sores, ulcers, blisters
- Wear broad, flat shoes that fit properly
- Check shoes for foreign objects before putting on
- Trim nails straight across (not curved)
- Use extreme caution with tub water temperature (burns)
- Keep feet clean and dry (don't soak); dry between toes
- Use lotion on legs and feet (not between toes)



Patient Education Principles

- Assess **individual needs** of each patient
 - What is the patient's understanding of their diagnosis? What concerns or interests the patient?
- Address **cultural, gender, age, and literacy** issues
- Design and implement patient education that is
 - individually tailored and involves the patient
 - scientifically sound but **AVOIDS JARGON.**
- Confirm the patient's comprehension during the process
 - **Talk Back** is a good method: "Let's switch roles...Why don't you explain to me what foods will cause my blood sugar to go up?"

NO

Las cosas que no debes de hacer.



a) No traer los pies sucios.



b) No asearlos con agua muy caliente o muy fría.



c) No dejar humedad entre los pies.



d) No frotar cuando los seca.



e) No calentar los pies con botellas o bolsas de agua caliente, ni almohadillas eléctricas.



f) No cortar las uñas en forma circular, ni hacerlo si tiene mala vista.



g) No caminar descalzo.

i) No usar tela adhesiva, ni objetos que se adhieran a la piel.



j) No debe fumar.



h) No usar botas, sandalias o zapatos de tacón alto.

SI

Las cosas que si debes de hacer.



1- Lavarlos diario con agua tibia y jabón neutro.



2- Secar con toalla suave, sin olvidar entre los dedos.



3- Cortar las uñas en forma recta.

4- Lubricarlos con lanolina o aceite, pero no entre los dedos.



5- Usar zapatos cómodos, suaves y a la medida.



6- Revisar los zapatos antes de usarlos.



7- Cubrir los pies con calcetines o medias, evitando que queden apretados.



8- Las callosidades deberán ser tratadas por un podiatra.

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Resources:

AHRQ www.ahrq.gov

CDC, U.S. Diabetes Surveillance System. http://www.cdc.gov/diabetes/statistics/prevalence_national.htm