Live. Learn. Hope.

Patient Assessment: Diabetic Foot Assessment

Clinical Education

4/2021

NORTHWEST Kidney Centers

Disclaimer

- The Independent Study Training Plans were developed in 2021 and will be available for Continuing Education Credits until 2023.

- During this period, policies, protocols, procedures, and supplies may change. Therefore, **ALWAYS** refer to K-NET and Policy Manager for the most current information.

- Remember that these Independent Study modules are designed to stimulate critical thinking skills and introduce/review the different workflow processes.

Learning Objectives

At the end of the presentation, the nurse will be able to:

1. Identify the difference between Type 1 & 2 diabetes.
2. List the signs & symptoms associated with diabetes.
3. Recognize the risk factors.
4. Explain the diabetes program at NKC.
5. Relate the Primary Care Nurse implications – for routine & abnormal diabetic foot examination results.

Diabetes - Definition

- Diabetes is a chronic (long-lasting) health condition that affects how your body turns food into energy.

- Most of the food you eat is broken down into sugar (also called glucose) and released into your bloodstream. When your blood sugar goes up, it signals your pancreas to release insulin. Insulin acts like a key to let the blood sugar into your body's cells for use as energy.

- Diabetes cannot regulate blood sugar level due to dysfunction of the pancreas

Impact of Diabetes

- **34.2 million** U.S. adults have diabetes, and 1 in 5 are unaware they have it.
- The **seventh leading cause** of death in the U.S.
- The **No. 1** cause of kidney failure, lower-limb amputations, and adult blindness.
- In the last **20 years**, the number of adults diagnosed with diabetes has more than **doubled**.
- **>40%** of NKC patients are diabetic

Types of Diabetes

Type I: IDDM

(Insulin Dependent Diabetic Mellitus)

Autoimmune disease – immune destroys the cells in the pancreas that make insulin

- Only 10% have Type I
- Usually, a sudden onset before the age of 30 years.
- Insulin injections necessary for blood glucose control

11/2020

Type II: NIDDM

(Non-Insulin Dependent DM)

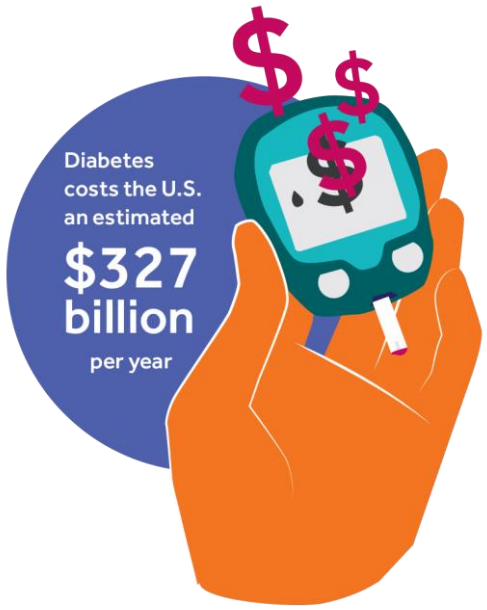
Body does not make or use insulin well ("insulin resistance")

- Most diabetics have type II ($\simeq$ 90%)
- Most frequently occurs in obese people older than 30 years of age
- ↓ sensitivity to insulin (called insulin resistance) OR ↓ amount of insulin production
- 1) Diet/exercises
  2) Hypoglycemic pill
  3) Insulin s/c injections

Financial Impact

- Medical costs and lost work and wages for people with diagnosed diabetes total **$327 billion** annually.

- Medical costs for people with diabetes are twice as high as for people who don't have diabetes.



Diabetes Symptoms

- Nocturia
- Excessive thirst
- Frequent hunger
- Unintentional weight loss
- Frequent nausea
- Blurry vision
- Numbness or tingling on hands or feet
- Constant tiredness
- Slow healing wounds
- Frequent infections

Risk Factors

Type 1 Diabetes

- Family history
- Age – early onset

Type 2 Diabetes

- Prediabetic
- Overweight
- 45 years old
- Family history
- Sedentary lifestyle
- Gestational diabetes
- Ethnicity – African American, Latino, Native American

Diabetes Program at NKC

All patients with diagnosis of “diabetes mellitus” will have:

1. Hemoglobin A1C drawn on admit & quarterly thereafter.
2. Routine Diabetic Foot Examinations done within 30 days of admission & thereafter every March and September.
3. Monthly visual diabetic foot examination on identified “high risk” diabetic patients.
4. Routine diabetic education provided by primary nurse.
5. Referral in obtaining diabetic footwear if they are interested.

Diabetes Program – Focus #1

Diabetic Patients Lab Monitoring:

Monthly blood glucose

Hemoglobin A1C – quarterly

- measures the average blood sugar level over the past 2 or 3 months.
- An A1C below 5.7% is normal, between 5.7 and 6.4% indicates you have prediabetes, and 6.5% or higher indicates diabetes *(CDC, 2019)*

NKC goal for Hemoglobin **A1C < 7.0%**

Results are referred to Nephrologists

Diabetes Program – Focus #2

Lower **E**xtremity **A**mputation **P**revention (LEAP) Program (HDP-L19250)

The primary goals of the program are to:

a. Educate patients on the risk of amputation and how to care for their feet
b. Encourage patients to perform daily foot checks
c. Have patients followed by a foot care provider/program
d. Refer eligible patients to a podiatrist, if interested
e. Monitor for signs/symptoms of foot problems

Diabetic Foot Examinations

Purpose:

To monitor the diabetic patient's feet for general health and the development of diabetes complications.

- May be performed by the Primary Care Nurse or delegated to another RN or LPN trained to do the exam

- Findings from the examinations are recorded in the patient's EMR along with other appropriate documentation on patient education regarding foot care

Two Types Of Foot Exams

- VISUAL EXAM = Observation and documentation of each foot's appearance
- DIABETIC FOOT EXAM = Using "Diabetic Foot Examination Worksheet" and a 10-gram nylon monofilament line to gather information, then documenting in EMR

LEAP Program Guidelines

Primary Nurse Workflow

- ✓All diabetic patients NEW to NKC will have a Diabetic Foot Exam performed at initial Plan of Care (within first 30 days)
- ✓Include "Diabetes" in the Plan of Care
- ✓Provide patient with appropriate educational handouts related to diabetic foot care

Performing VISUAL Diabetic Foot Exam

- Wearing appropriate PPE, remove patient's shoes and socks
- Remove gloves, perform hand hygiene, and put on clean gloves
- Check each foot (including between each toe) for skin color, temperature, pedal pulses, redness, swelling, blisters, ulcers, etc.
- Ask patient to describe any abnormal symptoms, such as numbness, tingling, pain, inability to detect temperature, etc.
- Refer to MD as needed and document findings

Visual Foot Exam

Assess all areas of each foot, top, bottom, sides, & in between toes.

Make note of areas with ulcers, calluses, scars, or necrotic tissues

The Diabetic Foot Exam Worksheet

The paper version of the "Diabetic Foot Examination Worksheet" can be printed from the Policy Manager # **HDP-C19300A**

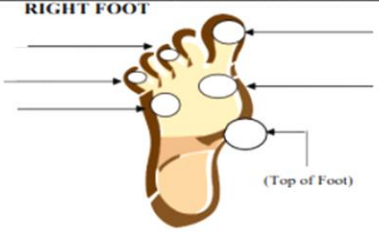
Diabetic Foot Examination Worksheet

Patient's Name_____ Date_____

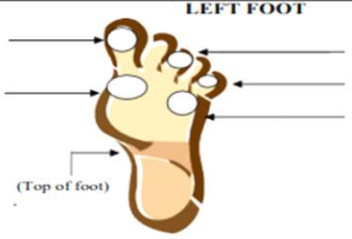
Check the boxes "No" or "Yes" for each question. In "Comments" section, note specific details. Document findings in the patient's EMR.

Questions:	Comments:
Has patient received physician supervised foot care within past four months? ☐ (No) ☐ (Yes)	
Does patient or caregiver check patient's feet? ☐ (No) ☐ (Yes) If yes, note frequency.	Frequency: daily; several times a week; once a week; less often than once a week
Has the patient ever been seen by a pedorthist or podiatrist? ☐ (No) ☐ (Yes)	(Pedorthist specializes in diabetic footwear. Podiatrist specializes in treating feet.)
Is there a history of foot ulcer? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Has the patient had an amputation since last NKC foot exam? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L
Does patient consent to a foot exam? ☐ (No) ☐ (Yes)	If no, document reason in the EMR. If yes, proceed with exam.
Has the patient had an amputation? ☐ (No) ☐ (Yes)	Location: toe/partial foot; BKA; AKA; Total leg ☐ (R) ☐ (L)
Is there a foot ulcer now? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Is pedal pulse present? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Are there any signs of irritation/redness? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Is there swelling/blisters? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Does the patient complain of inability to detect temperature? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Does the patient complain of abnormal or unusual sensation? ☐ (No) ☐ (Yes)	☐ (R) ☐ (L)
Can patient feel 10-gram nylon filament at each location?	(Yes / No)

RIGHT FOOT

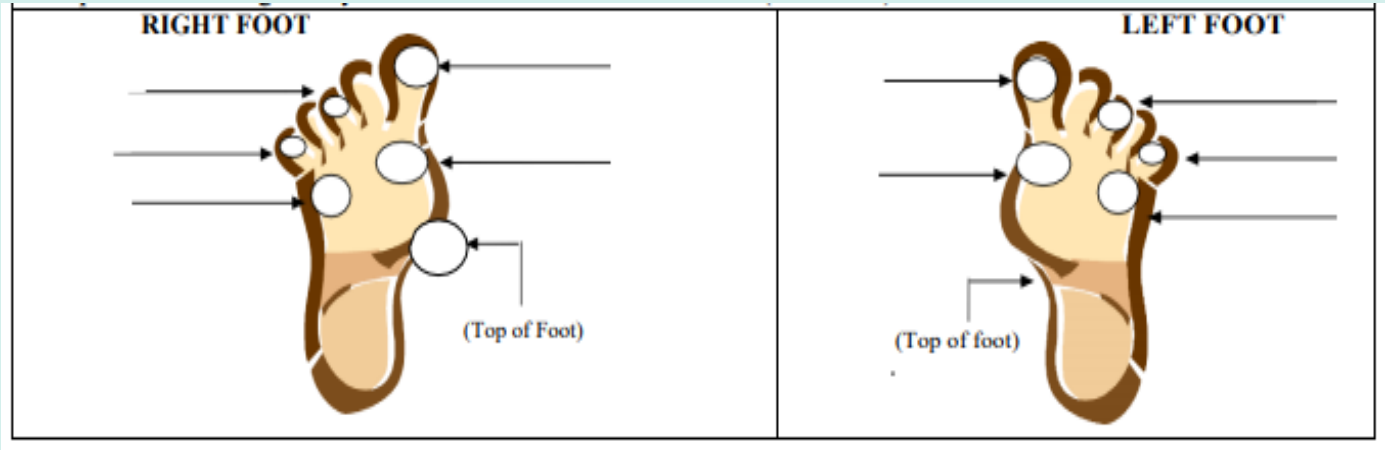


LEFT FOOT



Completing The Diabetic Foot Exam

- ✓ Perform all the steps for completing the **VISUAL** exam as previously described
- ✓ Use the "Diabetic Foot Examination Worksheet", to collect the additional information
- ✓ Use the LEAP monofilaments on the bottom of each foot, at the areas indicated on the worksheet



Using LEAP Monofilaments

- Wear appropriate PPE and obtain monofilament
- Explain procedure to patient; ask patient to say "Yes" when monofilament is felt
- Hold the filament perpendicular to patient's foot and touch the skin, bend the filament, lift from skin; process lasts 1.5 seconds on each site
- Touch the sites on each foot randomly; don't use same pattern
- Do not touch monofilament to any ulcers, calluses, scars, or necrotic tissue

The 10-gram Nylon Monofilament

The10-gram nylon monofilament 3-step process:

1. Touch the skin
2. Bend the filament
3. Lift from the skin

Takes 1.5 seconds on each site.

Finishing The Foot Exam

- ✓ Replace patient's socks and shoes
- ✓ Remove gloves; perform hand hygiene
- ✓ Provide patient with appropriate instructions, education, and any necessary referrals
- ✓ Document findings in the EMR
- ✓ Make referrals for abnormal findings

Primary Nurse Implications

If a patient has an active foot wound, the Primary Care Nurse will add "LEAP Monitoring" to the patient's note.

Primary Care Nurse will perform monthly visual checks to track the status of the foot wound and make a monthly note using "Leap Monitoring" as the Summary heading.

If a diabetic patient is not currently followed by a foot care provider, the Primary Care Nurse will instruct patient to contact his or her primary care physician.

Primary Nurse Implications (cont.)

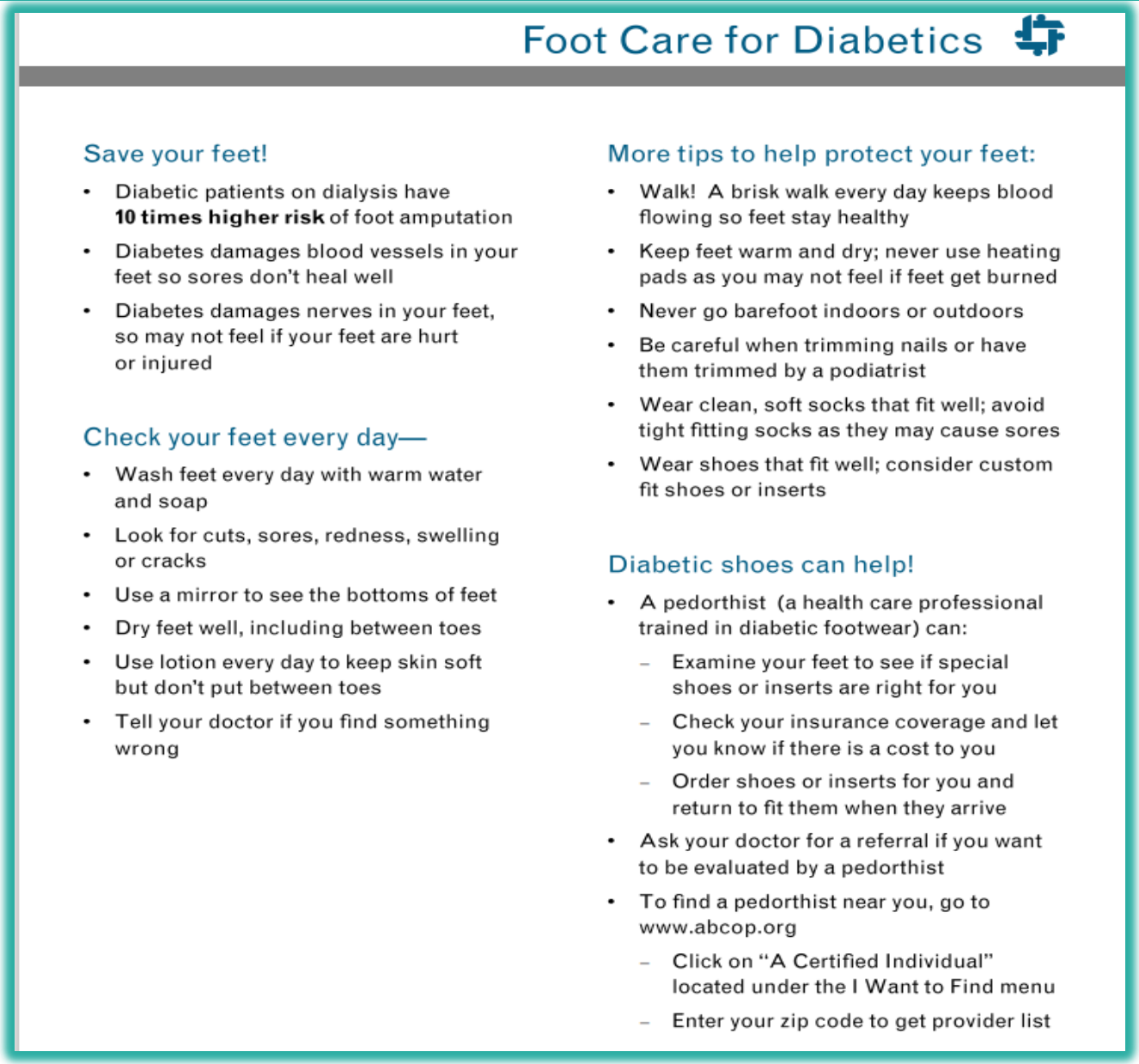
If a diabetic patient is receiving ongoing physician-supervised foot care, the physician's name and phone number will be added to the patients' contact list in the EMR.

The Primary Care Nurse will review with the patient the handout titled "Foot Care for Diabetics" after each Diabetic Foot Examination. Hand is available in K-Net – search for the title.

If a diabetic patient refuses to have a foot exam performed, the Primary Care Nurse will document in the EMR, along with the reason for the refusal.

Foot Care for Diabetics

Handout available in K-NET



Foot Care for Diabetics

Save your feet!

- Diabetic patients on dialysis have **10 times higher risk** of foot amputation
- Diabetes damages blood vessels in your feet so sores don't heal well
- Diabetes damages nerves in your feet, so may not feel if your feet are hurt or injured

Check your feet every day—

- Wash feet every day with warm water and soap
- Look for cuts, sores, redness, swelling or cracks
- Use a mirror to see the bottoms of feet
- Dry feet well, including between toes
- Use lotion every day to keep skin soft but don't put between toes
- Tell your doctor if you find something wrong

More tips to help protect your feet:

- Walk! A brisk walk every day keeps blood flowing so feet stay healthy
- Keep feet warm and dry; never use heating pads as you may not feel if feet get burned
- Never go barefoot indoors or outdoors
- Be careful when trimming nails or have them trimmed by a podiatrist
- Wear clean, soft socks that fit well; avoid tight fitting socks as they may cause sores
- Wear shoes that fit well; consider custom fit shoes or inserts

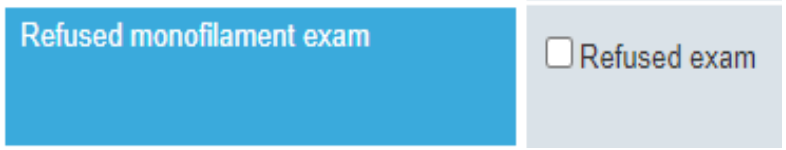
Diabetic shoes can help!

- A pedorthist (a health care professional trained in diabetic footwear) can:
  - Examine your feet to see if special shoes or inserts are right for you
  - Check your insurance coverage and let you know if there is a cost to you
  - Order shoes or inserts for you and return to fit them when they arrive
- Ask your doctor for a referral if you want to be evaluated by a pedorthist
- To find a pedorthist near you, go to www.abcop.org
  - Click on "A Certified Individual" located under the I Want to Find menu
  - Enter your zip code to get provider list

EMR Entries

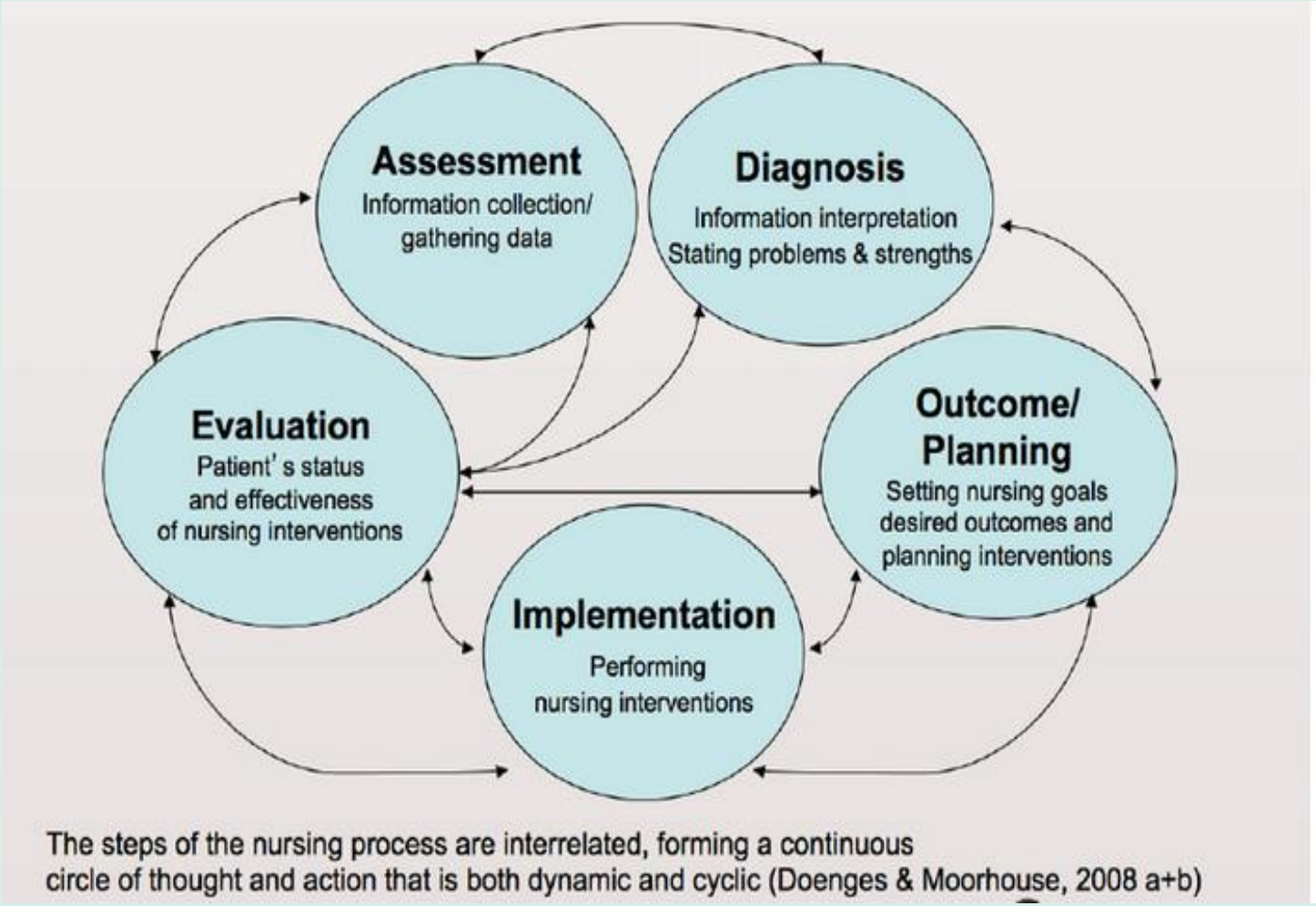
To complete a Diabetic Foot Assessment in Clarity > Patient > Patient Assessments > select the name of the patient > *Diabetic Foot Assessment* > "Add New" > Date > "Create "Checklist"

Same pathway is used when a patient refused the foot examination. Click on the "Refused monofilament exam" and free text the reason for refusal.



Refer to Clarity User Guide in K-NET

Remember The Nursing Process!



The steps of the nursing process are interrelated, forming a continuous circle of thought and action that is both dynamic and cyclic (Doenges & Moorhouse, 2008 a+b)

References

- *CDC .* (2020, June 11). Retrieved from Diabetes: https://www.cdc.gov/diabetes/basics/diabetes.html

- *K-NET (1).* (2020). Retrieved from Clarity - Nurses: https://knet.nwkidney.org/intra/17

- Doenges, M., & Moorhouse, M. (2008). *Application of Nursing Process and Nursing Diagnosis* (Fifth ed.).

- *Lewis, Mary (1).* (2020, May 4). Retrieved from Completing the Diabetic Foot Examination: https://nwkidney.policymedical.net/policymed/newSearch/searchDocuments?sfContent=diabetes&queryStr=%2Fpolicymed%2FnewSearch%2FdoSearchReg%3FsfContent%3Ddiabetes#

- *Lewis, Mary (2).* (2020, May 4). Retrieved from Diabetic Foot Examination Worksheet: https://nwkidney.policymedical.net/policymed/newSearch/searchDocuments?sfContent=diabetic&queryStr=%2Fpolicymed%2FnewSearch%2FdoSearchReg%3FsfContent%3Ddiabetic#

References

- *Lewis, Mary (3).* (2020, May 4). Retrieved from Monthly Visual Diabetic Foot Examination on Identified High Risk Diabetic Patients: https://nwkidney.policymedical.net/policymed/newSearch/searchDocuments?sfContent=diabetic&queryStr=%2Fpolicymed%2FnewSearch%2FdoSearchReg%3FsfContent%3Ddiabetic#

- *Lewis, Mary (4).* (2020, May 4). Retrieved from Leap Monofilaments Instructions for Use: https://nwkidney.policymedical.net/policymed/newSearch/searchDocuments?sfContent=diabetic&queryStr=%2Fpolicymed%2FnewSearch%2FdoSearchReg%3FsfContent%3Ddiabetic#

- Mackness, T. (2020, May 4). *Lower Extremity Amputation Prevention (LEAP) Program.* Retrieved from NWKidney Policy Medical Web site: https://nwkidney.policymedical.net/policymed/newSearch/searchDocuments?sfContent=diabetes&queryStr=%2Fpolicymed%2FnewSearch%2FdoSearchReg%3FsfContent%3Ddiabetes#

Questions?