



Skin Care and Reporting: Clients with Diabetes

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After reading the newsletter, the home health aide should be able to:

1. Describe how diabetes affects blood glucose levels.
2. Identify the layers of the skin and their function.
3. Identify complications of diabetes related to the skin.
4. Discuss care that helps to prevent and manage diabetic skin problems.

Diabetes is a serious chronic illness that is affecting more and more people in the US and throughout the world.  Currently, 1 in 3 American adults has diabetes or pre-diabetes, a disorder that puts them at risk for diabetes. People with diabetes are at risk for many serious health problems, including heart disease, stroke, blindness, renal failure, and amputation of limbs. Diabetes affects every organ in the body, including the skin, which is the largest organ.

This newsletter will focus on diabetes and its effects on the skin, including an overview of diabetes, skin function, and how the skin is affected by diabetes. The role of the home health aide in providing skin care aimed at preventing and managing skin complications of diabetes will also be covered.

Diabetes—An Overview

Proper use of sugar, or glucose, in the body is essential for good health. When food is eaten, glucose and other nutrients are absorbed from the GI tract and enter the blood stream. In order for the body's cells to use this glucose for energy, the glucose must move from the blood stream into the cells. Insulin, a hormone secreted by the pancreas, "unlocks" the cells so that glucose can enter and be used. If insulin is not produced (type 1 diabetes), or if the

cells are resistant to it (type 2 diabetes), glucose remains in the blood stream, reaching abnormally high levels. Chronically high blood glucose levels are responsible for the many serious complications of diabetes that can occur with both type 1 and type 2 diabetes. Diabetes can affect every part of the body if blood glucose levels are not well-controlled. Like other organs, the skin can be severely affected by diabetes.

Skin Layers and Their Function

The skin provides a number of essential functions for the body. It is a major sensory organ, allowing us to feel touch, pain, pressure, heat and cold. This provides warning to us of hazards from extreme temperatures or possible trauma. The skin is our body's main barrier protection from the possibly harmful effects of the outside world, by keeping out bacteria and other substances that could cause infection or damage to body organs. The skin makes vitamin D, an essential nutrient, from sunlight.  It keeps moisture in the body so that body cells can perform their many functions, and helps to regulate body temperature. It is also an organ of excretion, eliminating wastes from the body through the sweat glands.

There are three main layers of the skin:

Epidermis: This is the top layer of skin. It is the thinnest layer, but it is generally tough and protective.

Dermis: This layer lies under the epidermis, and is much thicker than the epidermis. It contains nerve endings, hair follicles, and oil and sweat glands.



Subcutaneous fat: This is a fatty layer that acts as a protective cushion and helps to regulate body temperature.

All of these layers receive oxygen and nutrients from a large network of blood vessels in the area. This is essential to keep the skin cells alive and functioning.

Skin Complications of Diabetes

Diabetes can cause skin changes anywhere on the body. Skin on the legs and feet is at high risk due to the effects of neuropathy and peripheral arterial disease, both of which occur commonly in the legs and feet of those with diabetes.

Peripheral neuropathy: High blood glucose levels often cause damage to the nerves in the feet. This can cause the skin on the feet to be very sensitive and painful, with burning, tingling and stabbing sensations. Or, the feet may feel numb or without sensation, having little or no feeling in them.

Peripheral arterial disease: Diabetes may cause damage to the arteries supplying blood to the legs and feet, causing poor circulation. This can cause numbness, tingling, and pain when walking. It may also cause skin death, ulcers and poor healing.

Infection: People with diabetes are at increased risk for skin infections, due to high blood glucose levels and poor circulation. Bacterial infections may include cellulitis, boils. Fungal infections, often caused by Candida, are common in warm, moist areas, such as the mouth, armpits, groin, vagina, and under the breasts.

Dryness and cracking: Diabetes can cause the skin, especially on the feet, to be very dry, with peeling and cracking. This can increase the risk of wounds and infection, especially if dry skin becomes itchy, causing the client to scratch it.

Injury: Skin on the feet of people with diabetes is often prone to injury, due to the decreased sensation caused by neuropathy and poor circulation. Also, wounds on the legs and feet often heal poorly.

Darkened skin areas: Areas of the skin around the neck, armpits, groin, elbows, knees, and under the breasts may become dark and scaly. This condition

is called acanthosis nigricans, and often affects people with diabetes who are obese.

Skin Care

- Inspect the feet every day, especially between the toes and around the nails, where problems often develop.
- Encourage the client to stay on his/her prescribed diet, exercise and drug therapy to help prevent or slow the progress of diabetic complications. While neuropathy usually can't be reversed, maintaining healthy blood glucose levels is the best way to keep all complications of diabetes from starting or progressing.
- The client's skin should be handled very gently, and any tight garments, such as snug pants or socks, should be avoided.
- The skin should be kept clean and dry. Baths and showers should be brief, and done gently with warm water and a mild soap. Hot water and bubble baths are drying to the skin, and should be avoided. The skin should be rinsed thoroughly and gently patted dry. Make sure warm, moist areas, such as the armpits, under the breasts, and between the legs and toes, are dried thoroughly.
- Lotion should be applied to dry areas of skin to help prevent itching, peeling and cracking. It should not be applied between the toes, as infection and skin breakdown may occur.
- The feet should not be soaked, unless ordered by the doctor, as this may increase the risk of skin breakdown, injury, and infection.
- Be aware that the client may not be able to feel pain in some areas, such as the feet. This increases the risk of injury from dangers such as hot water and stepping on objects. The client's feet should always be protected by sturdy, well-fitting shoes or slippers when out of bed.
- Check the client's shoes for rough areas or small objects, such as pebbles, before putting them on.
- Use of a moisturizing lip balm can help to prevent dry, cracked lips.
- Notify the nurse promptly if any areas of skin show redness, sores, cracking, wounds, drainage, calluses or blisters, or if the client complains of numbness, tingling, itching or pain.



When working with clients having diabetes, your knowledge and good care help to prevent and manage skin complications.



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NAME: _____ DATE: _____ UNIT: _____

Directions: Place the letter of the one best answer in the space provided.

- ____ 1. Diabetes affects every organ in the body.
A. True
B. False
- ____ 2. The main job of insulin is to:
A. raise blood sugar levels
B. help keep water in the body
C. help glucose get into the cells
D. improve circulation
- ____ 3. Functions of the skin include:
A. temperature regulation
B. vitamin D production
C. waste elimination
D. all of the above
- ____ 4. The outer layer of the skin, which serves to protect internal structures, is the:
A. dermis
B. epidermis
C. ectodermis
D. subcutaneous fat
- ____ 5. In clients with diabetes, peripheral arterial disease and neuropathy are most likely to affect the:
A. abdomen
B. arms and hands
C. legs and feet
D. head and neck

- _____ 6. Fungal skin infections related to diabetes occur most commonly in:
- A. cuts or scratches
 - B. hair follicles
 - C. outer areas of the body, like hands and feet
 - D. warm, moist areas
- _____ 7. Which of the following skin changes most commonly affects people with diabetes who are obese?
- A. bright red areas over the nose and cheeks
 - B. fleshy growths on the skin
 - C. pink rash over the chest and abdomen
 - D. dark, scaly areas around the neck
- _____ 8. The most important way to decrease skin complications of diabetes is by:
- A. maintaining normal blood glucose levels
 - B. taking increasing amounts of insulin or oral medication
 - C. tracking the family history of the disease
 - D. seeking prompt medical attention when signs of complications occur
- _____ 9. Proper skin care for clients with diabetes includes all of the following EXCEPT:
- A. give longer baths/showers than usual for best skin cleaning
 - B. when bathing, use a mild soap and warm, not hot, water
 - C. make sure the client wears protective, well-fitting shoes when out of bed
 - D. handle the client gently and avoid any constricting garments
- _____ 10. The feet of a diabetic client should be soaked daily, to keep skin soft and prevent injury and infection.
- A. True
 - B. False

