

CHAPTER 12

DIABETES MELLITUS

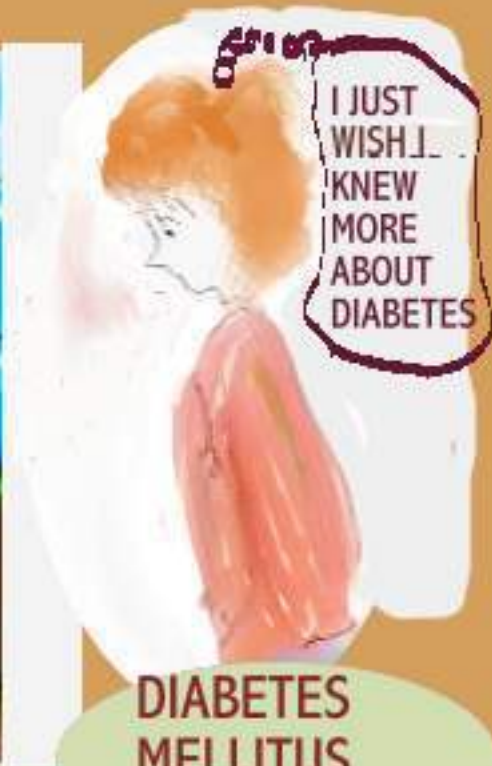
1. IDENTIFYING DIABETES MELLITUS
2. DKA (DIABETIC KETOACIDOSIS)
3. MONITORING BLOOD GLUCOSE
4. INSULIN ADMINISTRATION
5. COMPLICATIONS OF DIABETES
6. PATIENT EDUCATION



I JUST WISH I KNEW MORE ABOUT DIABETES

DIABETES MELLITUS JUST FOR YOU!





FOR HELPFUL INFORMATION ON DIABETES MELLITUS
VISIT: WWW.DEARNURSES.COM

- 1) DIABETIC CARE FOR NURSES IN THE CLINICAL SETTING
- 2) COMPLICATIONS OF DIABETES MELLITUS
- 3) DIABETES FOR THE LAYPERSON



WHAT EXACTLY IS DIABETES?



Diabetes Mellitus should not to be confused with Diabetes Insipidus. Each illness follows a different course. Diabetes Mellitus is a chronic condition, which results in a number of health problems ,if left untreated.

In 1921, Best and Banning made exciting discoveries about Insulin. Insulin plays a major role in controlling blood glucose (blood sugar).

Diabetes accounts for a tremendous amount of lost work days and poor health. Amputation of limbs, heart disease, eye problems (including blindness are all consequences of diabetes. Diabetes and its complications are considered to be one of the leading causes of death in the USA.

TYPES OF DIABETES

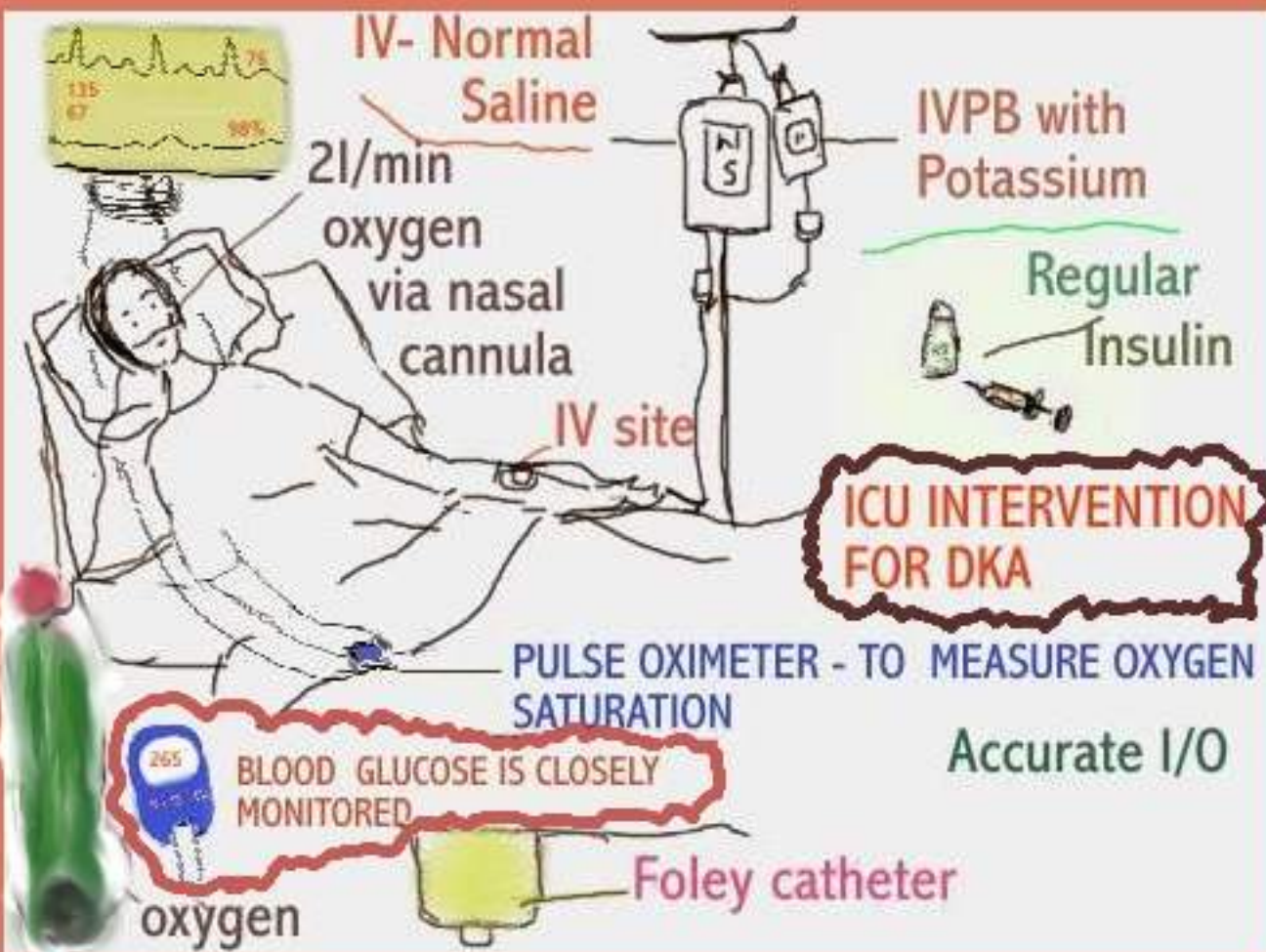
TYPE 1- diabetes is referred to as "insulin dependent diabetes. It generally occurs in childhood and carries more serious consequences. Management can be difficult because of the age group involved. Insulin is needed to manage this type of diabetes, hence the name "insulin dependent".

TYPE 2 - this type of diabetes accounts for up to 90%. It may very readily be managed by diet and exercise. The pancreas still has the ability to produce some insulin. Hypoglycemic agents (pills to lower blood sugar) and lifestyle changes may be all that is needed to control blood glucose (blood sugar).

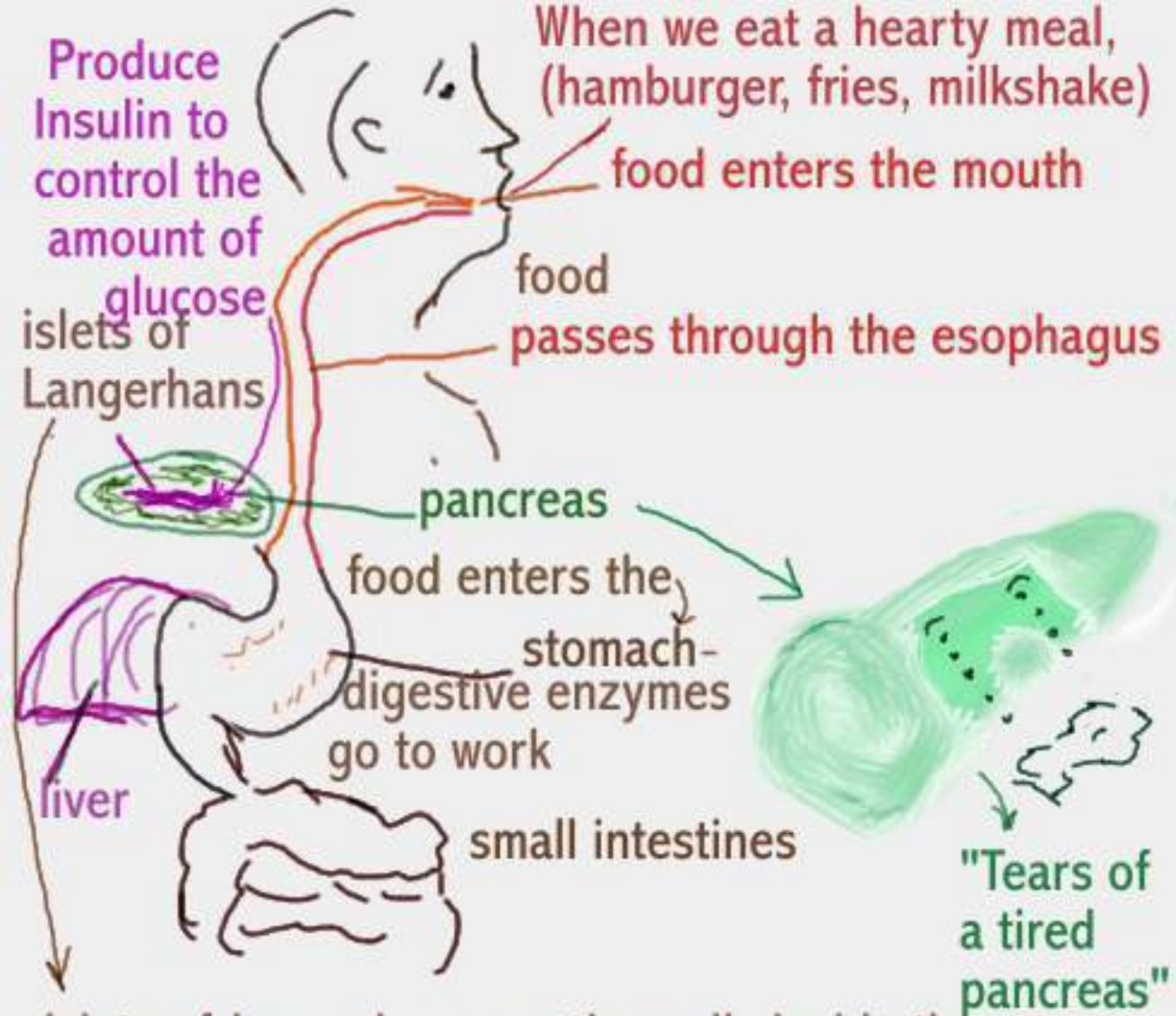
DKA - Diabetic Ketoacidosis

HHNK- Hyperosmolar Hyperglycemic Nonketotic Coma, these are complications of diabetes.

THE DOCTOR USUALLY ORDERS ANY MEDICATIONS THAT ARE NEEDED TO CONTROL BLOOD GLUCOSE.



DKA (DIABETIC KETOACIDOSIS) A COMPLICATION OF DIABETES, REQUIRES AGGRESSIVE TREATMENT. VISIT: WWW.DEARNURSES.COM FOR MORE INFORMATION.



Islets of Langerhans are tiny cells inside the pancreas - they produce Insulin to control blood glucose.

Rotate
finger-
sticks



MONITORING
BLOOD GLUCOSE

Monitoring blood glucose is essential to maintain glucose within normal limits. Normal blood glucose is 60-120. Typically blood glucose is measured before mealtime. This will make for a more accurate reading. There are many different blood glucose meters on the market.

Follow the manufacturer's instructions for accurate meter reading. MD orders are usually written to follow a sliding scale for each patient.

Finger sticking for glucose monitoring is usually done off to the side of the finger. Rotation of sites is essential to allow healing .

MONITORING BLOOD GLUCOSE IS AN ESSENTIAL PART OF MANAGING THE DIABETIC PATIENT. HYPOGLYCEMIC AGENTS OR INSULIN, OR BOTH WILL BE ORDERED BY THE DOCTOR , TO MEET THE PATIENT'S NEEDS.

INTERCOM



May I help you?

Nurse, since you gave me that Insulin shot I feel weak and shaky.

IT IS NOW 0830 AND SALLY IS HAVING AN INSULIN REACTION.

TO LEARN MORE ABOUT THIS INSULIN REACTION IN THE DIABETIC PATIENT, READ: DIABETIC CARE FOR NURSES IN THE CLINICAL SETTING, VOLUME 1, AT: WWW.DEARNURSES.COM

AN INSULIN REACTION MAY HAPPEN WITHOUT MUCH WARNING. IT IS IMPORTANT FOR THE NURSE WHO ADMINISTERS INSULIN TO RECOGNIZE THE SIGNS OF HYPOGLYCEMIA TO LEARN MORE, PLEASE VISIT : WWW.DEARNURSES.NET, (THE CLINICAL SETTING STEP BY STEP, CHAPTER 2)

INSULIN ADMINISTRATION

PATIENTS WHO ARE "INSULIN DEPENDENT" WILL REQUIRE INSULIN ON A DAILY BASIS. THE DOCTOR USUALLY ORDERS THE DOSE NEEDED FOR THE PATIENT.

INSULIN IS GIVEN SQ (SUBCUTANEOUSLY), IN THE FATTY TISSUE UNDER THE SKIN. THERE ARE CIRCUMSTANCES WHEN IT IS GIVEN IV (INTRAVENOUSLY), FOR EXAMPLE IN INTRAVENOUS NUTRITION OR IN THE IMMEDIATE TREATMENT OF DKA.

AN OVERVIEW OF TYPES OF INSULIN
TYPICALLY, INSULINS MAY BE DESCRIBED AS BEING:
RAPID ACTING, SHORT ACTING, INTERMEDIATE ACTING OR LONG ACTING. REGULAR INSULIN IS CONSIDERED TO BE SHORT ACTING, NPH IS DESCRIBED AS BEING INTERMEDIATE ACTING.

PLEASE CONSULT YOUR PHARMACY FOR MORE INFORMATION ON INSULIN. THE DOCTOR ORDERS THE DOSE THAT IS NEEDED. HYPOGLYCEMICS IF USED, IS ALSO ORDERED BY THE DOCTOR.

HELPFUL HINTS FOR INSULIN ADMINISTRATION

IF YOU ARE THE NURSE WHO GIVES INSULIN TO A PATIENT, ALWAYS MAKE SURE THERE IS SOME ORANGE OR APPLE JUICE ON HAND (NOT "SUGAR FREE"), IN CASE THE MEAL ARRIVES LATE AND THE INSULIN GOES TO WORK BEFORE THE PATIENT CAN EAT.

REMEMBER REGULAR INSULIN WHICH IS FREQUENTLY USED IS SHORT ACTING !

ADVISE THE PATIENT IF HE /SHE STARTS TO FEEL WEAK OR "SHAKY" AFTER 30 MINUTES OF INSULIN ADMINISTRATION , TO DRINK THE JUICE AND CALL FOR HELP.



EXAMPLE OF SLIDING SCALE

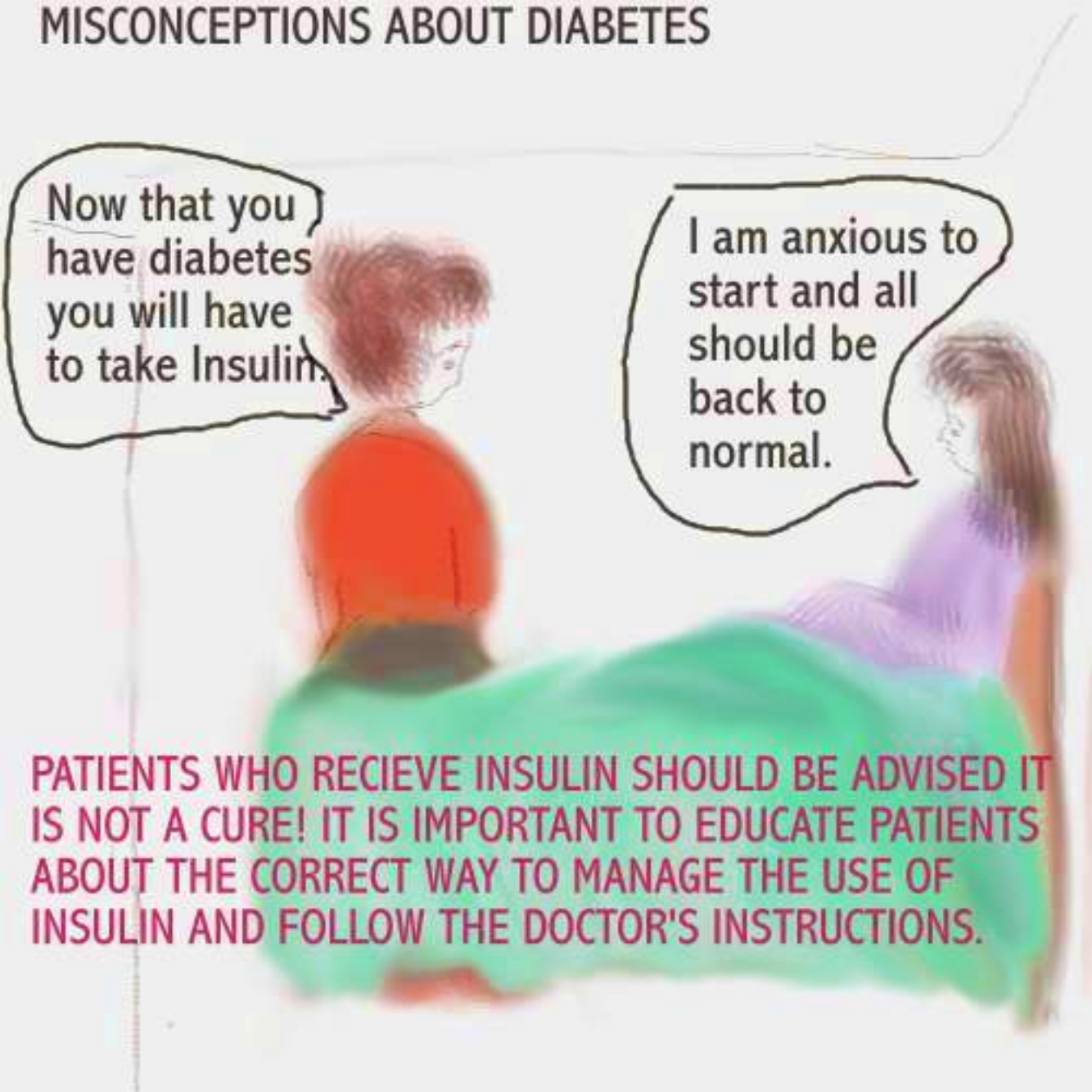
SLIDING SCALE INSULIN IS USUALLY ORDERED BY THE DOCTOR AND SHOULD BE DISCONTINUED WHEN ORDERED BY THE DOCTOR.

SAMPLE:

GIVE REGULAR INSULIN, SQ FOR BLOOD SUGAR
0-80 GIVE OJ AND CALL MD, 80-199 - 0 UNITS
200-250 = 3 UNITS
250-300 = 5 UNITS
300-351 = 8 UNITS
351-400 = 10 UNITS
> 400 GIVE 12 UNITS AND CALL MD.

PLEASE REMEMBER, THIS IS A SAMPLE AND SHOULD NOT BE ATTEMPTED IN THE CLINICAL SETTING.

MISCONCEPTIONS ABOUT DIABETES



Now that you have diabetes you will have to take Insulin.

I am anxious to start and all should be back to normal.

PATIENTS WHO RECIEVE INSULIN SHOULD BE ADVISED IT IS NOT A CURE! IT IS IMPORTANT TO EDUCATE PATIENTS ABOUT THE CORRECT WAY TO MANAGE THE USE OF INSULIN AND FOLLOW THE DOCTOR'S INSTRUCTIONS.

I hate to exercise and I do not have a weight problem anyway.



I fail to see what high sugar has to do with eyesight. I need new glasses.



My doctor talks about calorie control, I can add a few more units of Insulin and have my sugar under control.



**DIABETES
MISCONCEPTIONS**

COMPLICATIONS OF DIABETES

The following scenarios are examples of how to identify the complications of diabetes in the clinical setting. Diabetes may affect the eyes, brain, heart, skin, blood vessels or kidneys.



**DIABETES MELLITUS
MAY AFFECT VISION!**



I know there was no tree there when I drove by.

IN ORDER TO LEARN MORE ABOUT THE COMPLICATIONS OF DIABETES MELLITUS, VISIT: WWW.DEARNURSES.COM

COMPLICATIONS OF DIABETES



HYPOGLYCEMIA (LOW BLOOD GLUCOSE) MAY COMPLICATE DIABETES. MONITORING BLOOD GLUCOSE IS ORDERED BY THE DOCTOR. PAGES 21-24 ARE GOOD EXAMPLES OF HOW TO AVOID HYPOGLYCEMIA IN THE CLINICAL SETTING. (PAGES 21-24 ARE FOUND IN VOLUME 1)



HYPERGLYCEMIA (HIGH BLOOD GLUCOSE) MAY COMPLICATE DIABETES. PAGES 11-15 (VOLUME 1) ARE EXAMPLES OF WHAT HAPPENS WHEN A PATIENT'S DIABETES BECOMES COMPLICATED BY HYPERGLYCEMIA.

HNKS -HYPERGLYCEMIC HYPEROSMOLAR NONKETOTIC SYNDROME

PATIENTS WHO EXHIBIT THIS CONDITION ARE USUALLY OLDER AND HAVE TYPE 2 DIABETES. SEVERE DEHYDRATION (DUE TO HIGH BLOOD GLUCOSE), MENTAL CONFUSION, HYPOTENSION AND SEIZURES MAY RESULT. MEDICAL MANAGEMENT IS NECESSARY. FLUID REPLACEMENT THERAPY TO COMBAT DEHYDRATION AND CORRECTION OF ELECTROLYTE IMBALANCES ARE ORDERED BY THE DOCTOR.

PVD



Tom has Peripheral Vascular Disease, and type 2 diabetes. High blood glucose affects blood circulation. Tom complains of "intermittent claudication".

Intermittent claudication affects diabetics. Patients experience pain on walking, but this usually resolves at rest. Circulation to the legs is affected and gangrene may result. Amputation may also result from PVD.



Gangrene of three toes caused by Peripheral Vascular Disease.

Tom has had Type 2 diabetes for about 25 years. He is now having visual problems.



It gets harder and harder to see every day.




Diabetic retinopathy - a condition which affects the blood vessels in the eye. Weakening and leaking of the blood vessels result in poor vision and possible blindness.

POOR HEALING IN DIABETES



Tom is a 35 year old male who had open heart surgery two weeks ago. Wound healing has been difficult because his blood sugars have been hard to control. Questions have been raised about family members bringing him snacks. Tom and family will need teaching.






Mom and my brother take shots for diabetes, wonder when my turn is coming.

DIABETES FOR THE LAYPERSON

PATIENT EDUCATION OF THE DIABETIC PATIENT SHOULD NOT BE OVERLOOKED. TO LEARN MORE ABOUT THIS TOPIC, VISIT: WWW.DEARNURSES.COM



Poor circulation to the right foot,

RED ALERT! large ulcer



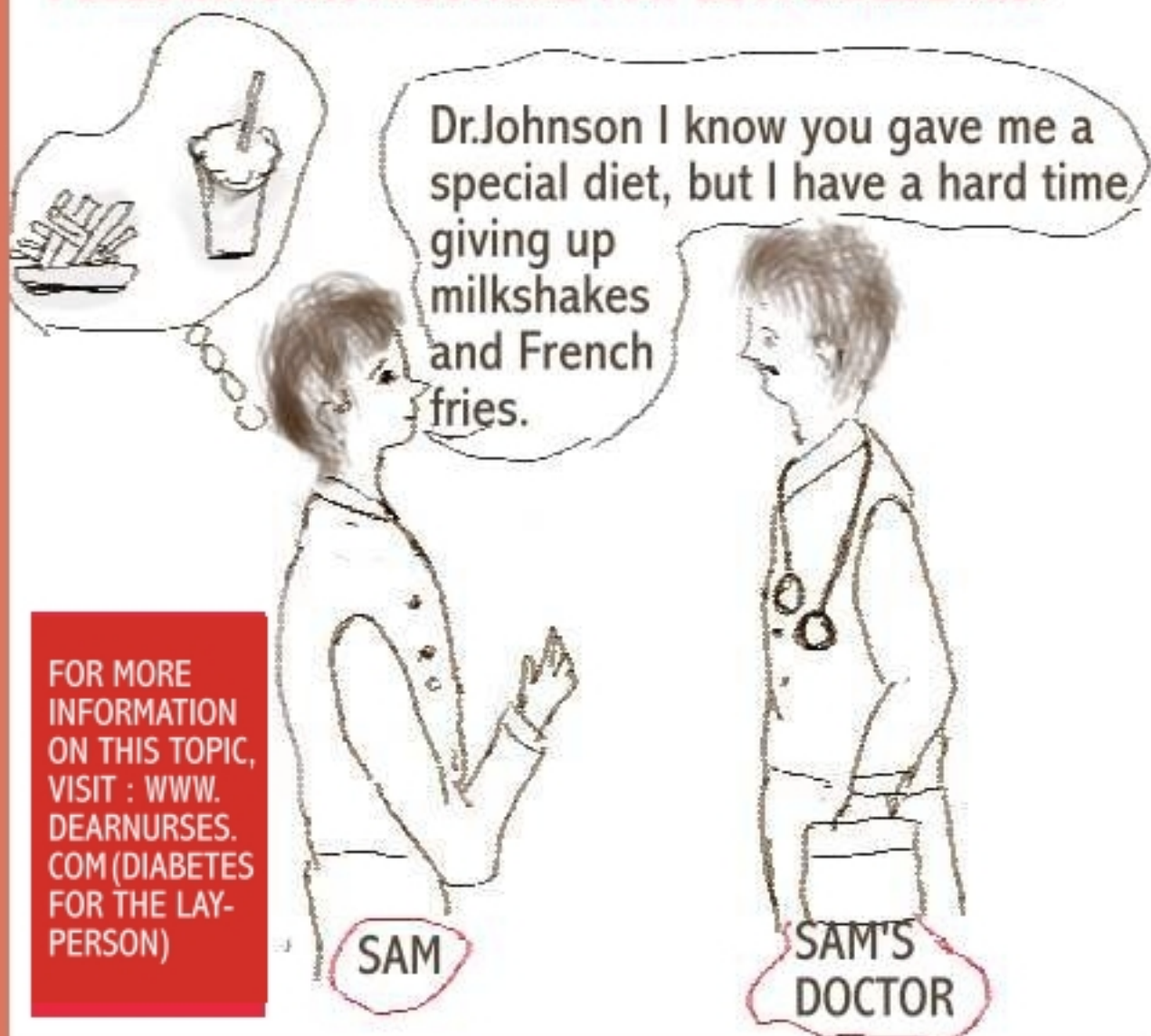
BLOOD GLUCOSE MONITOR SHOWING HIGH BLOOD GLUCOSE



AMPUTATION OF RIGHT FOOT



**DIAGNOSING THE PROBLEM -
FOLLOWING INSTRUCTIONS MAY BE A CHALLENGE!**



Mr. Swanson defies
the nurse and
calls his wife to
bring him some
food.



Honey I am really
starving. I asked the
nurse for a sandwich
and she refused. Can
you get over here
quickly with my
favorite treat?

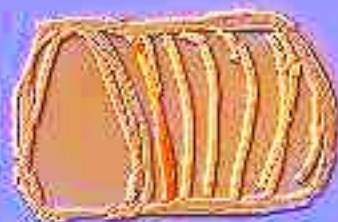
**HEY MR. SWANSON
WHY DON'T
YOU FOLLOW
INSTRUCTIONS?**

**FOR MORE INFORMATION
VISIT: WWW.DEARNURSES.COM
(DIABETES FOR THE
LAYPERSON)**

ENERGY PRODUCING FOODS



TALK TO YOUR DOCTOR ABOUT HOW TO AVOID
DIABETES



HAVE A HEALTHY LIFE!