

Scenario: Type 2 DM

S.S., a 58-year-old Asian woman, comes to the clinic with chronic fatigue, thirst, constant hunger, and frequent urination. She denies any pain, burning, or low-back pain on urination. She tells you she has had frequent vaginal yeast infections that she has treated with over-the-counter medication. She works full time at a bank and states she has difficulty reading numbers and reports, resulting in her making some mistakes. She says, “By the time I get home and make supper, I am too tired to do anything else.” She says her feet often “burn or feel like there are pins in them.” She has a history of gestational diabetes. In reviewing S.S.’s chart, you note she last saw the provider 6 years ago. Her current weight is 173 lbs (78.5 kg). She is 5’3” (135 cm) tall. Today her BP is 152/97 mm Hg. A random plasma glucose level is 291 mg/dL (16.2 mmol/L). The provider suspects she has developed type 2 diabetes (DM) and orders the laboratory studies shown in the chart.

Laboratory Test Results

Fasting glucose	184 mg/dL (10.2 mmol/L)
Hemoglobin A _{1c} (A _{1c})	8.8%
Total cholesterol	256 mg/dL (6.6 mmol/L)
Triglycerides	346 mg/dL (3.91 mmol/L)
Low-density lipoprotein (LDL)	155 mg/dL (4.01 mmol/L)
High-density lipoprotein (HDL)	32 mg/dL (0.83 mmol/L)
Urinalysis (UA)	+ glucose, - ketones

1. Interpret S.S.’s laboratory results.

Fasting glucose: high (70-110)
Hemoglobin A1C: normal value
Total cholesterol: high (<200)
Tri: high (150)
LDL: high (<100)
HDL: normal
UA: high (70-110)

2. Identify 3 methods we use to diagnose DM.

blood tests (A1C), symptoms, H&P

3. Name 6 risk factors for type 2 DM. Highlight those that S.S. has.

Being overweight, family history, age, not active (sedentary), race, waist size.

4. Which of her assessment findings are consistent with type 2 DM?

overweight, her lab values, sedentary occupation, age

CASE STUDY PROGRESS

S.S. is diagnosed with type 2 DM. The provider starts her on metformin 500 mg orally each day at breakfast and atorvastatin 20 mg orally at bedtime. She is referred to the dietitian for instructions on starting a 1200-calorie diet using an exchange system to promote weight loss and lower glucose, cholesterol, and triglyceride levels. You are to provide teaching about pharmacotherapy and exercise.

5. How can you incorporate S.S.'s cultural preferences as you develop her teaching plan?

You can look at cultural food that she consumes as it might be different than ours and you can look at what she does for fun/activity

6. What is the reason for starting S.S. on metformin?

it lowers blood sugar levels by improving the way your body handles insulin

7. Outline the general teaching you would provide S.S. about oral hypoglycemic therapy.

you should always carry sugar with you, and the signs of hypoglycemia and hyperglycemia

8. What would you teach S.S. to do if she becomes ill with the flu or viral illness?

When you are sick, you might not have an appetite, but you should still continue taking your medication along with a little snack

9. What benefits would S.S. receive from exercising?

It will help manage her diabetes better by eliminating a risk factor and it could help her mood!

10. What would you teach S.S. about exercise?

To take it easy at first and build up from then

11. Besides the dietitian, what interprofessional and community referrals may be appropriate for S.S.?

Support groups, a gym friend group

CASE STUDY PROGRESS

S.S. comments, "I've heard many people with diabetes lose their toes or even their feet." You take this opportunity to teach her about neuropathy and foot care.

12. Which symptoms lead you to believe S.S. has some form of neuropathy?

If she cant feel her toes/feet, if it acts up while she is sleeping and cant sleep because of it

13. What other findings in S.S.'s history increase her risk for developing neuropathy?

being overweight

14. What would you teach S.S. about neuropathy?

to take care of her feet, avoid extreme temps, and to report any signs and symptoms

15. Because S.S. has symptoms of neuropathy, placing her at risk for foot complications, you realize you need to instruct her on foot care. Outline 5 points you would include when teaching her about foot care for persons with DM.

Avoid extreme temps, careful about trimming nails, inspect daily, quit smoking, walk regulary, wash your feet carefully

16. What ongoing monitoring will S.S. need for nephropathy and retinopathy?

to see a doctor routinely and to tell the doctor everything that goes on

17. At the conclusion of the visit, which statements indicate S.S. has an accurate understanding of the teaching you provided about DM? Select 4 correct options.

- a. "When I am ill, I do not need to take the metformin."
- b. "The only place it is safe to go barefoot is in my house."
- c. "It is best to take the metformin at breakfast and dinner."
- d. "Looking at the condition of my feet every day is important."
- e. "I will make an appointment with the eye doctor next week."
- f. "Taking a walk for at least 20 minutes a day will help my DM."
- g. "If I take my medicine, I can eat what I want, and my glucose will be fine."
- h. "I will be able to stop the metformin when my pancreas starts working better."

i. CASE STUDY PROGRESS

- j. 18. S.S. returns to the clinic 6 weeks later for a follow-up appointment. She met with the diabetic educator and is making changes to her eating habits and has started walking. **For each assessment finding, use an X to indicate whether the interventions were Effective (helped to meet expected outcomes), Ineffective (did not help to meet expected outcomes), or Unrelated (not related to the expected outcomes).**

Assessment Finding	Effective	Ineffective	Unrelated
a. Reports stress incontinence when she coughs, sneezes		x	
b. BP 130/78 mm Hg			x
c. Fasting blood glucose level results: 153 mg/dL	x		
d. Weight loss of 6 pounds (2.7 kg)	x		
e. Reports decreased tingling in her toes.	x		
f. Reports continued blurred vision.		x	
g. Eating dinner with her husband every night.			x
h. Hemoglobin A1C level results: 8.2%	x		
i. Reports of frequent urination		x	