
CASE STUDY 2 SHIFT WORK QUESTIONS:

1. What areas of concern would you identify with Tom when discussing his diabetes management?
2. How would you help him with his fear of hypoglycemia? What strategies would you recommend to help him feel safe?
3. When Tom is ready, what would you discuss and teach regarding adjusting his insulin? Why would this be important for Tom?
4. Develop a plan for Tom's insulin doses/times for each of his shifts, including transition days. What things would you need to know?
5. Would a change to rapid-acting insulin and long-acting insulin analogue work as well? What would be the advantages?

CASE STUDY ANSWER SHEET:

1. The following should be discussed with Tom:

- Improved overall control as determined by SMBG and A1C.
- Fear of hypoglycemia.
- Weight gain and desirable BMI.

2. Discussion of the following should start towards addressing his fears about hypoglycemia:

- Meals – importance of spacing and CHO content.
- Advantages of learning to adjust insulin to prevent hypoglycemia versus extra food, which would contribute to weight gain.
- SMBG – importance of frequent testing ac and 2-hour pc meals; before, during, and after activity/exercise; before going to sleep.
- Informing friends, family, and coworkers of how to help with lows if needed.
- Availability of fast-acting glucose supply at all times (at work and at bedside).
- Glucagon administration (review with wife).

3. Discuss/review the following in regards to insulin dose adjustment:

- Insulin action, peak times, and site rotation. Injecting over exercising muscles.
- Importance of SMBG ac and 2-hours pc meals, record keeping, and observing patterns.
- Setting target goals.
- Problem solving - using his SMBG results. (Provide an algorithm to give direction; then help him fine-tune).
- Importance of self-adjustment for tighter control and safety.
- Aiming for decreased A1C (approximately 7.0%).

4. Information needed to develop a plan for Tom would include:

- His work schedule and meal plan/times for each shift.
- Activity levels for each shift; e.g., when on evenings, does he sleep later; when on nights, does he eat before going to sleep; how long does he sleep?

- Activity/meals on transition days, SMBG frequency, and willingness to test at work.
- Is he interested in learning to count CHO?
- Making sure he has written instructions to follow and arrangements for follow-up for revisions as necessary.
- His interest/willingness to switch to a long-acting insulin analogue and rapid-acting insulin at meal times. If this is not an option he may need to reduce his IA insulin when he is working night shifts.

5. **Rapid-acting insulin would work very well because of the shorter duration of action.** There would be less worry about hypoglycemia if Tom were able to learn how to adjust for decreased food intake or increased activity. Using a long-acting insulin analogue could help alleviate Tom's fear of hypoglycemia while sleeping. Prior to walking or driving home, Tom should check his BG and eat a snack before leaving work if indicated.

Tom's shift work schedule and dose adjustments for each shift:

Day shift (0730 to 1530 hours):

0630 Breakfast	0930 Snack	1200 Lunch	1500 Snack	1800 Supper	2300 Snack
SA 10 units IA 20 units		SA 12 units		SA 14 units	IA 30 units

Evening shift (1530 to 2330 hours):

0800 Breakfast	1000 Snack	1200 - 1300 Lunch	1500 Snack	1830 Supper	Midnight Snack
SA 10 units IA 20 units		SA 12 units		SA 14 units	IA 30 units

Transition day – (going on nights, usually naps 1800 to 2100 hours):

0800 Breakfast	1000 Snack	1200 Lunch	1500 Snack	1700 Supper	2300 Snack
SA 10 units IA 20 units		SA 12 units		SA 14 units	IA 20 units*

*May need to be reduced depending on SMBG results and anticipated activity level during night shift. If he eats a meal during his night shift he may need some SA to cover the meal.

Night shift (2330 to 0730 hours) – usually sleeps 0800 to 1500 hours:

0800 Breakfast	1500 Snack	1700 Lunch	2200 Supper	0100 Snack	0300 Snack
IA 30 units		SA 12 units	SA 14 units IA 20 units		+ SA 8 to 10 units

* May require smaller dose or no short-acting insulin if BG is low or within target. Night shift short-acting insulin may need to be adjusted according to SMBG results and CHO content of meals/snacks or activity level. Be careful about insulin dose before going to bed.

Transition day – (going off nights, usually sleeps 0800 to 1200 hours):

0800 Breakfast	1200 - 1400 Lunch	1600 Snack	1800 Supper	2300 Snack
+SA 10 units* IA 20 units	SA 12 units		SA 14 units	IA 30 units

* Many people like to get up at noon and start their day. **Be especially vigilant for hypoglycemia on transition days.**