



Goals of Diabetes Lesson Plans

14-15 years

Highs and Lows of Diabetes

Goals of Diabetes Lesson Plans	Age Group: 14-15yrs
Topic: Hypos, hypers and ketones. (Delivered by Nurse)	
Title of session: Highs and Lows of Diabetes.	Timing of session: Approx 34mins

Aim of session:

- Learn causes of high and low BG.
- Suggest ideas of how to prevent high and low glucose.
- Explain the significance of ketones.
- Learn about ketoacidosis.

Learning Objectives:

- Can I state some of the factors that can affect BG.
- Can I describe my own symptoms and treatment for hypoglycaemia.
- Can I describe my own symptoms and treatment for hyperglycaemia.
- Do I know when to check for ketones?
- Do I know how to calculate extra insulin to reduce ketones.

Assessment for Learning (AfL) activities built into session:




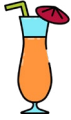



- Highs and lows quiz.
- Identifying suitable hypo treatment from selection.
- Scenario flashcards and answers for highs and lows.
- Ketone calculations.

Evaluation activities to be built into session:

- Red/amber/green.

Materials/resources needed:

- Highs and lows quiz (attached).
- Selection of appropriate (glucose) and inappropriate (biscuits, chocolate, fruit, s'wich, cheese string) hypo treatments.
- Scenario flashcards and answer cards (attached examples).
- Printed worksheets, ketone calculations.
- Access to DigiBete Goals of Diabetes Videos – hypos and hypers 14-15y.

	High	Low	Either	Don't know
Giving too much insulin with a meal 				
Exercise 				
Missing insulin 				
Guessing carbs in a meal 				
Alcohol 				
Exam stress 				
Growing 				
Hot holiday 				
Cold holiday 				
Not rotating Injection/pump sites 				
Snacking without insulin 				
Not giving enough insulin with a meal 				

Example scenarios for hyper, hypo, illness

Each young person to have answer flash cards which state:

TREAT HYPO /GIVE A CORRECTION /TEST FOR KETONES
/HAVE A SNACK/ GO TO HOSPITAL

Example scenarios:

1. BG 3.2 mmol, lunch in 30 mins time.
2. BG 6 mmol, about to play football.
3. BG 17.4mmol, feeling a bit poorly.
4. BG 15.3mmol, about to play basketball.
5. BG 'HI', ketones 5.5mmol, stomach ache.
6. BG 12.2mmol, about to eat lunch.
7. BG 3.8mmol, been sick, not very well, not eating (ketones 4.5mmol).
8. BG 14mmol, on an insulin pump.

KETONES WORKSHEET

If BG is high and ketones are present, you are likely to need twice your usual correction dose to clear the ketones and reduce the BG to target.

(answers in red – to take off worksheets before printing for young people)

In each case, the target is 5mmol

BG and Ketones	Usual Correction Dose	Total Given
BG 20mmol, ketones 1.3mmol	1 unit per 5mmol	6 units
BG 23mmol, ketones 2.4 mmol	1 unit per 3mmol	12 units
BG 18mmol, ketones 0.2mmol	1 unit per 2mmol	6.5 units
BG 27mmol, ketones 3.5mmol	1 unit per 4mmol	11 units

Use this space below to work out the doses.

Time	Session Content/ Taught Content	Resources Needed
<p>2 mins 5 mins</p>	<p>Q: What BG level do you call low or high? Complete highs and lows quiz individually. Educator to go through each factor and explain effects – may be different for different people.</p>	<p>Listen to individual responses – agree definitions together. Highs and lows quiz. Listen to responses and share experiences.</p>
<p>2 mins</p>	<p>Q: How do you feel if you are low?</p>	<p>Listen to responses for both. Flip chart to write responses. Identify common symptoms.</p>
<p>5 mins</p>	<p>Q: How do you feel if you are high?</p>	
<p>5 mins</p>	<p>What are suitable treatments for a low BG? Group task to identify appropriate treatments from a mixed selection. Pick out correct treatments from a selection of suitable and unsuitable foods or drinks.</p>	<p>Selection of suitable (glucose in different forms) and unsuitable foods (sandwich, yogurt, chocolate, biscuit, fruit, crisps, cheese string).</p>
<p>1 min</p>	<p>How much do you use? This will differ based on size and treatment method (closed loop pumps use less).</p>	<p>Listen to responses.</p>
<p>5 mins</p>	<p>Q: What should you do after treating a hypo? Wait 15 minutes and recheck – explain why.</p>	
<p>5 mins</p>	<p>Q: When would you check for ketones? Above 14mmol OR if unwell with any BG. Educator to explain what ketones are, how they form, potentially dangerous, need for extra insulin to clear. Has anyone ever had DKA? (Diabetic Ketoacidosis) – at diagnosis or since? Can you remember how you felt?</p>	<p>Listen to responses. Refer back to illness on highs/lows quiz.</p> <p>Share any experiences.</p>

