Efficient glucose control is essential to preventing life-threatening complications of diabetes, but most patients with type 2 diabetes (T2D) do not maintain long-term, adequate control.

Currently, many basal insulin products are emerging and in development.

We sought to assess educational and clinical practice gaps related to insulin use in the practices of diabetologists/endocrinologists and primary care physicians (PCPs).

### METHODS

A survey instrument was developed to assess practice gaps and educational needs:

- Included multiple-choice knowledge- and case-based questions
- Made available online to healthcare providers without monetary compensation or charge
- Respondent confidentiality was maintained, and responses were de-identified and aggregated prior to analysis
- The survey launched on June 25, 2015, and participant responses were collected through August 13, 2015.

### RESULTS

#### QUESTION 1

Which of the following statements concerning insulin degludec is correct?

- It is a novel insulin analog with an extended duration of action
- It is available as a long-acting insulin in multiple countries
- It is a long-acting insulin with a predictable action profile
- It is a long-acting insulin with a rapid onset of action

#### QUESTION 2

A 45-year-old patient with insulin-dependent diabetes has a baseline HbA1c of 8.5%. Which of the following new basal insulin analogues would be the most appropriate therapy for them?

- Insulin degludec
- Insulin glargine U-300
- Insulin glargine U-100
- Lantus

#### QUESTION 3

Which of the following statements concerning insulin degludec (Ingepi) is correct?

- It is a novel insulin analog with an extended duration of action
- It is available as a long-acting insulin in multiple countries
- It is a long-acting insulin with a predictable action profile
- It is a long-acting insulin with a rapid onset of action

#### QUESTION 4

Which of the following statements is true regarding basal insulin completed today (HbA1c) in an investigational type 1 diabetes model vs. the marketed insulin formulation?

- Ingepi has a comparable HbA1c to the "original" marketed insulin formulation
- It has a duration of action longer than 40 hours
- Ingepi has a substantially lower incidence of weight gain than the marketed insulin formulation
- It has a higher risk of nocturnal hypoglycemia compared with the marketed insulin formulation

#### QUESTION 5

Which of the following statements concerning insulin degludec (Ingepi) is correct?

- It is a long-acting insulin with a rapid onset of action
- It is available as a long-acting insulin in multiple countries
- It is a long-acting insulin with a predictable action profile
- It is a long-acting insulin with a rapid onset of action

#### QUESTION 6

Which of the following statements concerning insulin degludec (Ingepi) is correct?

- It is a novel insulin analog with an extended duration of action
- It is available as a long-acting insulin in multiple countries
- It is a long-acting insulin with a predictable action profile
- It is a long-acting insulin with a rapid onset of action

#### QUESTION 7

In comparison with insulin glargine U-300 U/mL (U-300) insulin glargine U-300 U/mL (U-300) with Ingepi was associated with:

- A similar efficacy profile to the "original" marketed insulin
- A substantially lower incidence of weight gain
- A substantially lower incidence of weight gain than the marketed insulin formulation
- A substantially lower incidence of weight gain than the marketed insulin formulation

#### QUESTION 8

Which of the following statements is true regarding basal insulin completed today (HbA1c) in an investigational type 1 diabetes model vs. the marketed insulin formulation?

- Ingepi has a comparable HbA1c to the "original" marketed insulin formulation
- It has a duration of action longer than 40 hours
- Ingepi has a substantially lower incidence of weight gain than the marketed insulin formulation
- It has a higher risk of nocturnal hypoglycemia compared with the marketed insulin formulation

#### QUESTION 9

To be approved by the European Medicines Agency (EMA) and FDA, biosimilar insulins must demonstrate:

- A comparable HbA1c to the "original" marketed insulin formulation
- A comparable HbA1c to the "original" marketed insulin formulation
- A comparable HbA1c to the "original" marketed insulin formulation
- A comparable HbA1c to the "original" marketed insulin formulation

#### QUESTION 10

Which of the following statements concerning insulin degludec (Ingepi) is correct?

- It is a novel insulin analog with an extended duration of action
- It is available as a long-acting insulin in multiple countries
- It is a long-acting insulin with a predictable action profile
- It is a long-acting insulin with a rapid onset of action

### CONCLUSION

- This assessment of healthcare providers’ clinical practice behaviors identified knowledge and competency gaps among PCPs and diabetologists/endocrinologists in several key areas related to the use of insulin in the management of diabetes.
- Persistent educational gaps for all physicians involved in diabetes management
- Recognizing the prevalence of patients with diabetes with difficult achieving HbA1c goals
- Comparing basal insulins and associated characteristics such as duration, action, and safety and tolerability, including risk for hypoglycemia
- Identifying how to individualize diabetes therapies based on patient characteristics
- Providing patients with diabetes with appropriate instruction to effectively self-administer treatment
- Future education is needed to close these gaps to optimize physician practices in diabetes management

### References


### Notes

For more information contact Amy Larkin, PharmD, Director of Clinical Strategy, Medscape, LLC at alarkin@medscape.net.

### Disclosures

The authors have nothing to disclose.

### CLINICAL PRACTICE GAPS IN INSULIN USE IN DIABETES MANAGEMENT

Amy T. Larkin, PharmD, Jess Droppin, Anne Le, PharmD

Medscape Education, New York, NY