Insulin Therapy: When, Which, How?

This department covers selected points from the 2006 Endocrine Update: A CME Day from the Division of Endocrinology and Metabolism at McMaster University and the University of Western Ontario, June 2006.
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There is still great reluctance to initiate insulin therapy in patients with Type 2 diabetes mellitus despite evidence of poor glycemic control (Diabetes In Canada Evaluation [DICE] study). The Canadian Diabetes Association (CDA) clinical practice guidelines for the treatment of diabetes indicate that the goal is normoglycemia with an A1c of < 6% in many patients or at least an A1c of < 7%.

Insulin therapy should no longer be considered the "treatment of last resort;" it is often the only way to achieve treatment targets.

Initiation of insulin therapy

There is no incorrect regimen to use in the initiation of insulin therapy. Bedtime insulin, twice daily or multiple daily insulin injection regimens are all acceptable. There is now a multitude of insulins from which to choose, including:

- ultra fast-acting insulins, such as lispro and aspart,
- regular insulin,
- intermediate-acting insulins, such as neutral protamine hagedorn (NPH) or lente,
- new long-acting analogues, such as glargine or detemir and
- a number of premixed insulins.

Long-acting analogs

The new long-acting analogs have the advantage of a flat profile of action with less risk of hypoglycemia while achieving similar improvements in A1c, as seen with NPH. Nocturnal hypoglycemia is particularly less with the new long-acting analogs.

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In an insulin naive patient with Type 2 diabetes, to initiate therapy with long-acting analogs (glargine or detemir), begin with 10 units to 20 units at bedtime and titrate the dosage based on fasting capillary blood sugars to the desired glycemic level. Dx

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