

Insulin Therapy: The Question This Issue

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Note: The goal of this section of *Insulin* is to provide answers to frequently asked questions regarding insulin therapy in diabetes. Readers are encouraged to submit their own questions by visiting www.InsulinJournal.com or by e-mailing insulin@elsevier.com. One or more questions will be addressed each issue.

QUESTION:

What is a good formula for initiating insulin therapy in a newly diagnosed type 1 diabetic?

ANSWER:

Patients with type 1 diabetes have absolute insulin deficiency and are very sensitive to insulin. The preferred treatment choice for patients with type 1 diabetes is an intensive insulin regimen consisting of a long-acting basal insulin given once a day (eg, Lantus[®] or Levemir[®]) along with rapid-acting insulin (Novolog[®], Humalog[®], or Apidra[®]) given at each meal. Most patients require 0.4 to 0.8 unit of insulin per kg body weight per day. Patients may need less immediately after diagnosis (0.2–0.4 unit per kg per day), while others may develop insulin resistance and need higher doses.

The total daily dose should be split equally between the basal and bolus insulins. The bolus insulin is then divided into 3 parts to be given with each meal. The author asks the patient to quantify his/her 3 meals as a percentage of total daily intake and divides the total dose accordingly. Later, the patient learns carb counting and starts injecting bolus insulin based on insulin-to-carb ratio (ICR). ICR is calculated by dividing 500 by the patient's total daily dose.

CASE:

A 64-kg patient with type 1 diabetes may need 32 units of insulin a day (64×0.5). The patient will get half of this as basal insulin (16 units of Lantus at bedtime, for example) and half as bolus insulin (16 units of Novolog a day, for example). For this patient, supper constitutes about half the total daily intake, and breakfast and lunch are pretty equal in amount. The patient is started on 4 units of Novolog with breakfast, 4 units with lunch, and 8 units with supper. Later, he starts injecting Novolog based on an ICR of 1:15 (500 divided by 32 is approximately 15).