THE BASAL INSULIN/BOLUS INSULIN CONCEPT

**Basal Insulin**
- Suppresses glucose production between meals and overnight
- 50% of daily needs which is given by one or two injections per day or per insulin pump

**Bolus Insulin (Meal Time or Post-prandial)**
- Limits hyperglycemia after meals
- Immediate rise and sharp peak at 1 hour
- 10-20% of total daily insulin requirement at each meal

**INSULIN REGIMENS**

**Regimen Considerations:**
- Depends on individual characteristics (e.g., daily schedule, timing of meals, physical activity, age, and medication adherence)
- Willingness to monitor and take multiple injections
- Current pattern of high and low blood glucoses
- History of hypoglycemia unawareness

<table>
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<tr>
<th>Common Insulin Regimens</th>
<th>Pre-Mixed or Split Mixed (NPH/Regular or Rapid-Acting Analogue twice a day)</th>
<th>Modified Split Mixed (NPH and Regular in AM, Regular in evening meal, NPH at bedtime)</th>
<th>Basal Insulin Only</th>
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| **Intensive Insulin Regimens** | 2 injections per day  
Typically 3-4 injections/day  
More flexible with regard to timing of meals, content of meals, and activity  
Allows for frequent adjustments/corrections  
Requires frequent monitoring of glucose  
Can get the best A1C with less hypoglycemia compared to conventional regimens | Less nocturnal hypoglycemia and better control of fasting glucose  
3 injections per day  
Need consistent meals through the day  
Substitute rapid acting insulin (Aspart, Lispro, glulisine) for Regular to further decrease risk of hypoglycemia | May reduce fasting plasma glucose  
Used to improve glucose control when used with oral medications |

**Initiating Insulin Type 2 Diabetes: Examples of Various Options to Consider**
- 10 units NPH or 0.1 to 0.15 units/kg at bedtime
- 10 units glargine or 0.1 to 0.15 units/kg once (morning or bedtime)
- 10 units detemir or 0.1 to 0.15 units/kg once daily (morning or at bedtime)
- 10 units of premixed insulin once a day (pre-breakfast or pre-dinner)
- 10 units premixed insulin twice daily (pre-breakfast and pre-dinner)