INSULIN ADMINISTRATION

Preparation	Brand		Route†	Administration	Mixing of Insulins	Comments
RAPID-ACTING						
Insulin Aspart	**NovoLog** *(Novo Nordisk)*	℞	SC CSII IV	Give dose within 5–10mins before a meal.	**SC:** May mix with NPH insulin. Draw NovoLog into syringe first. Inject immediately after mixing. May dilute with Insulin Diluting Medium for NovoLog to 1:10 (U-10) or 1:2 (U-50) concentrations. **CSII:** Do not dilute or mix with other insulins. **IV:** Do not mix with other insulins.	**CSII:** Change inj site at least every 3 days and reservoir at least every 6 days.
Insulin Glulisine	**Apidra** *(sanofi-aventis)*	℞	SC CSII IV	Give dose within 15mins before a meal or 20mins after starting a meal.	**SC:** May mix with NPH insulin. Draw Apidra into syringe first. Inject immediately after mixing. **CSII:** Do not dilute or mix with other insulins. **IV:** Do not mix with other insulins.	**CSII:** Change inj site at least every 48 hours and reservoir at least every 2 days.
Insulin Lispro	**Humalog** *(Lilly)*	℞	SC CSII	Give dose within 15mins before or immediately after a meal.	**SC:** May mix with Humulin N. Draw Humalog into syringe first. Inject immediately after mixing. May dilute with STERILE DILUENT for Humalog to 1:10 (U-10) or 1:2 (U-50) concentrations. **CSII:** Do not dilute or mix with other insulins.	**CSII:** Change inj site at least every 3 days and reservoir at least every 7 days.
SHORT-ACTING						
Insulin Injection Regular (R)	**Humulin R U-100** *(Lilly)*	OTC	SC IM IV*	*Individualize.*	**SC:** May mix with longer-acting human insulins. Draw clear insulin into syringe first.	Use syringes marked with U-100.
	Novolin R *(Novo Nordisk)*		SC IM IV	Give dose ≥3 times daily within 30mins before a meal.		
INTERMEDIATE-ACTING						
Insulin Isophane Suspension (NPH)	**Humulin N** *(Lilly)*	OTC	SC	*Individualize.*	May mix with Humalog or Humulin R. Draw clear insulin into syringe first then Humulin N.	Rotate vial to mix. Should look uniformly cloudy. • Use syringes marked with U-100.
	Novolin N *(Novo Nordisk)*				May mix with other insulins. Draw clear insulin into syringe first then Novolin N.	Rotate vial to mix. Should look uniformly cloudy. • Use syringes marked with U-100 or U-40. • Inject rapidly over 2–4 secs to avoid clogging needle tip.
SHORT- AND INTERMEDIATE-ACTING MIXTURES						
Insulin Aspart Protamine/Insulin Aspart	**NovoLog Mix 70/30** *(Novo Nordisk)*	℞	SC	Give dose twice daily within 15mins before a meal.	Do not mix with other insulins.	Roll vial, prefilled syringe 10 times until uniformly cloudy.
Insulin Isophane Suspension (NPH)/ Regular Insulin (R)	**Humulin 70/30** *(Lilly)*	OTC	SC	*Individualize.*	See product label.	Rotate vial to mix. Should look uniformly cloudy. • Use syringes marked with U-100.
	Novolin 70/30 *(Novo Nordisk)*				Do not change the ratio by adding NPH or Regular insulin to the vial. Use separate insulin formulations (Novolin N and Novolin R).	Rotate vial to mix. Should look uniformly cloudy. • Use syringes marked with U-100 or U-40. • Inject rapidly over 2–4 secs to avoid clogging needle tip.
Insulin Lispro Protamine/Insulin Lispro	**Humalog Mix 50/50** *(Lilly)*	℞	SC	Give dose within 15mins before a meal.	Do not mix with any other insulins.	Rotate vial to mix. Should look uniformly cloudy.
	Humalog Mix 75/25 *(Lilly)*					
LONG-ACTING						
Insulin Detemir	**Levemir** *(Novo Nordisk)*	℞	SC	Give dose once daily (PM) or twice daily (12 hrs apart).	Do not dilute or mix with other insulins.	Should look clear, colorless.
Insulin Glargine	**Lantus** *(sanofi-aventis)*	℞	SC	Give dose once daily at the same time every day.	Do not dilute or mix with other insulins.	Should look clear, colorless.
Insulin Injection Regular (R)	**Humulin R U-500** *(Lilly)*	℞	SC	*Individualize.*	See product label.	Caution with dosage. • Should look water-clear. • Use tuberculin or similar insulin syringe.

NOTES

* IV to be used in a clinical setting under proper medical supervision.
† SC = subcutaneous, IM = intramuscular injection, IV = Intravenous, CSII = continuous subcutaneous insulin infusion
• Caution with changes in strength, manufacturer, preparation, species of insulin source.
• Rate of insulin absorption, onset and duration of action may be affected by the injection site, blood supply, temperature, exercise, and other variables.
For more information, see drug entry or visit www.eMPR.com (Rev. 11/2012)