

INFORMATION FOR HEALTH CARE PROFESSIONALS
INSULIN PRODUCTS SWITCHING GUIDE
SWITCHING BETWEEN INSULIN PRODUCTS IN DISASTER RESPONSE SETTINGS

IMPORTANT: These recommendations are intended to be used only for disaster response situations when patients are not on their usual schedule, may have limited monitoring capabilities, or don't have access to their prescribed insulins.

- Individuals with type 1 diabetes have priority for receiving insulin. Even a few hours of interrupted insulin therapy can result in life-threatening diabetic ketoacidosis (DKA).
- These guidelines do not replace clinical judgment and are intended to assist with short-term diabetes management until the patient can resume their prescribed care regimen.
- A reduction in insulin dose by 20% is recommended when switching to another insulin under disaster response situations to avoid hypoglycemia. This may result in short-term, mild hyperglycemia until the patient is back to a normal routine and insulin regimen.
- Consultation with an experienced healthcare professional is advised for patients with complicated insulin needs, e.g., pregnancy, dialysis, insulin pump, or concentrated insulins (i.e., U200, U300, and U500).

INSULIN STORAGE NOTES

- Insulin should be kept away from direct heat and sunlight. DO NOT use insulin that has been frozen.
- Unopened insulin vials and pens should be stored in a refrigerator at 36° F to 46°F ((2 - 8°C) and are good until expiration date on the vial or pen.
- Opened vials and pens may be left unrefrigerated at 59°F to 86°F (13 - 30°C) for up to 28 days.
- Insulin loses potency when exposed to extreme temperatures which can result in loss of blood glucose control; however- under emergency conditions- insulin that has been stored above 86°F (30°C) may be used if necessary. Once properly stored insulin becomes available, insulin that has been exposed to extreme conditions should be discarded.

RAPID-ACTING AND REGULAR INSULINS are typically given before meals to regulate the rise in glucose after a meal.

- Rapid-acting insulins should be injected no more than 15 minutes before the start of a meal
- Regular insulin can be injected up to 30 minutes before the start of a meal

IF PATIENT IS TAKING THIS:

INTERCHANGE RECOMMENDATIONS:

Ultra-Rapid and Rapid-Acting Insulins

Ultra-Rapid and Rapid-Acting brand name examples

- Humalog®
(Insulin lispro U-100 & U-200)
- Novorapid® or Fiasp®
(insulin aspart U-100)
- Apidra® (insulin glulisine U-100)

Short-Acting Insulins:

Regular insulin brand name examples

- Humulin® R or Novolin® R
- Farmasulin® H or Pharmsulin® H
- Actrapid® R
- Gensulin® P
- Humodar® P
- Insuman Rapid®

- Rapid- and Short-acting insulins may be interchanged with a 20% reduction in the dose
 - Example: Novorapid® 10 units before meals can be switched to Actrapid® 8 units before meals (80% of 10 units = 8 units)
 - Example: Actrapid® or Farmasulin® H 10 units before meals can be switched to Novorapid® 8 units before meals (80% of 10 units = 8 units)

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<p>Intermediate-acting human insulin and long-acting insulin analogs are typically given once or twice daily to provide basal insulin needs (to prevent high glucose between meals and overnight).</p>	
IF PATIENT IS TAKING THIS:	INTERCHANGE RECOMMENDATIONS:
<p><i>Intermediate-Acting Insulins:</i></p> <p>NPH insulin brand name examples</p> <ul style="list-style-type: none"> ● Humulin® N ● Novolin® N ● Farmasulin® H NP ● Insuman Basal ● Gensulin® H ● Protofane® HM or Protophane® HM ● Humodar® B 	<p>Intermediate-acting insulins may be interchanged with another intermediate-acting insulin or long-acting insulin analog with a 20% reduction in dose</p> <ul style="list-style-type: none"> ● NPH ONCE daily to a long-acting insulin analog <ul style="list-style-type: none"> ○ Example: NPH 20 units daily can be switched to Levemir® 16 units daily ● NPH TWICE daily to a long-acting insulin analog <ul style="list-style-type: none"> ○ Add all the units of NPH injected per day and give 80% as a single dose of a long-acting insulin analog daily <p>Example: NPH 34 units AM and 16 units PM can be switched to Lantus® 40 units daily (80% of 50 units daily = 40 units)</p>
<p>Long-acting insulin analogues:</p> <p>Long-acting insulin analogues examples:</p> <ul style="list-style-type: none"> ● Levemir® (detemir U-100) ● Lantus®, Basalgar®, Ilar® (glargine U-100) ● Toujeo® (glargine U-300) ● Tresiba® (degludec U-100 & U-200) 	<p>Long-acting insulin analogs may be interchanged with NPH with a 20% reduction in dose and divided based on predicted meal frequency</p> <ul style="list-style-type: none"> ● If eating 2 meals per day, split the new dose into ½ NPH with first meal of the day and ½ NPH with second meal of the day ● Long-acting insulin analogs (except for Tresiba®) may be interchanged with another long-acting insulin analog with a 20% reduction in dose ● Tresiba® (80 units or less) may be interchanged with another long-acting insulin analog with a 20% reduction in dose ● Tresiba® (greater than 80 units) may be interchanged with another long-acting insulin analog with a 20% reduction in dose, but the other long-acting insulin must be split into two equal doses given 12 hours apart. <p>Example: Tresiba® 100 units daily can be switched to Basalgar® 40 units (80% of 100 units = 80 units/2) every 12 hours</p>
<p>PREMIXED INSULINS combine an intermediate-acting insulin or long-acting insulin analog with a rapid or regular insulin. The ratio of the mixture is indicated in the name. e.g., 70% intermediate or long-acting with 30% rapid or short-acting.</p>	
IF PATIENT IS TAKING THIS:	INTERCHANGE RECOMMENDATIONS:
<p>PREMIXED INSULINS with Regular insulin</p> <p>Examples of PREMIXED INSULINS with Regular insulin:</p> <ul style="list-style-type: none"> ● NPH/Regular ● Humulin® 70/30 ● Novolin® 70/30 ● Farmasulin® H or Pharmsulin® 30/70 ● Mixtard® 30 HM ● Gensulin® M30 	<p>Regular and Rapid-acting PREMIXED insulins may be interchanged with another PREMIXED insulin with a 20% reduction in the dose</p> <ul style="list-style-type: none"> ● Insulin mixes containing a rapid-acting insulin should be injected <u>no more</u> than 15 minutes before the start of a meal ● Insulin mixes containing Regular insulin can be injected up to 30 minutes before the start of a meal ● PREMIXED insulin may be interchanged with NPH using a 20% reduction in dose
<p>PREMIXED INSULINS with rapid-acting insulin</p> <p>Examples of PREMIXED INSULINS with rapid-acting insulin</p> <ul style="list-style-type: none"> ● Humalog® Mix 75/25 or 50/50 ● Novolog® Mix 70/30 or NovoMix® 30 ● Insuman® Comb 25 ● Humodar® C25 	
<p>PREMIXED INSULIN with rapid- and LONG-acting insulins</p>	
<p>If the PREMIXED insulin contains a LONG-acting and rapid-acting insulin may be interchanged with another PREMIXED insulin with a 20% reduction in the</p>	

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	dose (similar to the dosing above) but must be split into two equal doses given approximately 12 hours apart.
Example of PREMIXED INSULIN with rapid- and LONG-acting insulins	
<ul style="list-style-type: none"> • Ryzodeg® 70/30 (degludec/aspart) 	
COMBINATION LONG-ACTING INSULIN WITH GLP-1 AGONIST	
IF PATIENT IS TAKING THIS:	INTERCHANGE RECOMMENDATIONS:
COMBINATION LONG-acting insulin with GLP-1 agonist	<p>If the medication contains a LONG-acting insulin and a GLP-1 agonist, it may be interchanged with:</p> <ul style="list-style-type: none"> • NPH insulin using a 10-20% reduction in dose and splitting the dose into two equal doses given approximately 12 hours apart. • As a second option, this formulation may be switched to a PREMIXED insulin (see above) with a 10-20% reduction in the dose and splitting the dose into two equal doses given approximately 12 hours apart.
<p>Examples of combined LONG-acting insulins AND GLP-1 agonist:</p> <ul style="list-style-type: none"> • Soliqua® (insulin glargine/lixisenatide) • Xultophy® or Klastofai® (insulin degludec/liraglutide) 	
UNIQUE INSULIN THERAPIES	
Concentrated Insulin: Humulin® R U500 insulin. Strongly recommend consulting a healthcare professional with experience in U500 insulin if switching to another insulin	
INSULIN PUMP	
<p>Insulin pump patients may only substitute Humalog®, Novolog®/ Novorapid®, Fiasp®, Apidra®, Admelog® or regular insulin in the pump</p> <ul style="list-style-type: none"> • Substitutions cannot include an intermediate-acting insulin or a long-acting insulin analog or concentrated insulin (i.e., U200, U300, or U500) • Individuals with type 1 diabetes have priority for receiving insulin. Even a few hours of interrupted insulin therapy can result in life-threatening Diabetic Ketoacidosis (DKA). <u>If patient does not have a back-up plan</u>, consult with a healthcare professional experienced in insulin pump management • When the insulin pump cannot be used, basal insulin is the primary need, with rapid- or short-acting insulin as circumstances permit: <ul style="list-style-type: none"> • Give 0.3 units/kg of a long-acting insulin analog as a once daily dose or an intermediate acting insulin twice daily <ul style="list-style-type: none"> ○ Example: patient weighs 60 kg, give 18 units of a long-acting insulin analog once daily or an intermediate acting insulin twice daily • If rapid or short acting insulin is available, give 0.3 units/kg divided by 6 at each meal <ul style="list-style-type: none"> ○ Example: patient weighs 60 kg, give 3 units of rapid or short-acting insulin with each meal 	

THE RECOMMENDATIONS DO NOT REPLACE CLINICAL JUDGMENT

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