

**INFORMATION FOR HEALTH CARE PROFESSIONALS**  
**SWITCHING BETWEEN INSULIN PRODUCTS IN DISASTER RESPONSE SITUATIONS**

**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 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 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 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:**

Rapid-Acting Insulins such as:

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

Short-Acting Insulins:

Regular insulin brand name examples

- Humulin®R
- Novolin®R
- ReliOn R from Walmart

**INTERCHANGE RECOMMENDATIONS:**

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

**Intermediate-acting and basal insulin** analogs are typically given once or twice daily to provide basal insulin needs (to prevent high glucose between meals and overnight).

**IF PATIENT IS TAKING THIS:**

Intermediate-Acting Insulins:

NPH insulin brand name examples

- Humulin®N
- Novolin®N
- ReliOn NPH from Walmart

**INTERCHANGE RECOMMENDATIONS:**

Intermediate-acting insulins may be interchanged with another intermediate-acting insulin or basal insulin analog with a 20% reduction in dose

- NPH ONCE daily to a basal insulin analog
  - Example: NPH 20 units daily can be switched to Levemir® 16 units daily
- NPH TWICE daily to a basal insulin analog
  - Add all the units of NPH injected per day and give 80% as a single dose of a basal insulin analog daily
    - Example: NPH 34 units AM and 16 units PM can be switched to Lantus® 40 units daily (80% of 50 units daily = 40 units)

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<p><b>IF A PATIENT IS TAKING THIS:</b>  Basal insulin analogues such as:</p> <ul style="list-style-type: none"> <li>• Levemir® (detemir U-100)</li> <li>• Lantus®, Basalgar® (glargine U-100)</li> <li>• Toujeo® (glargine U-300)</li> <li>• Tresiba® (degludec U-100 &amp; U-200)</li> </ul>	<p><b>INTERCHANGE RECOMMENDATIONS:</b>  Basal 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"> <li>• 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</li> <li>• Basal insulin analogs (with the exception of Tresiba®) may be interchanged with another basal insulin analog with a 20% reduction in dose</li> <li>• Tresiba® (80 units or less) may be interchanged with another basal insulin analog with a 20% reduction in dose</li> <li>• Tresiba® (greater than 80 units) may be interchanged with another basal insulin analog with a 20% reduction in dose, but the other basal insulin must be split into two equal doses given 12 hours apart. <ul style="list-style-type: none"> <li>○ Example: Tresiba® 100 units daily can be switched to Basalgar® 40 units (80% of 100 units = 80 units/2) every 12 hours</li> </ul> </li> </ul>
<p><b>PREMIXED INSULINS</b> combine an intermediate-acting insulin or basal 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>	
<p><b>IF PATIENT IS TAKING THIS:</b>  PREMIXED INSULINS with Regular insulin</p> <ul style="list-style-type: none"> <li>• NPH/Regular (Humulin® 70/30,</li> <li>• Novolin® 70/30, or ReliOn 70/30)</li> </ul> <p>PREMIXED INSULINS with rapid-acting insulin</p> <ul style="list-style-type: none"> <li>• Humalog® Mix 75/25</li> <li>• Humalog® Mix 50/50</li> <li>• Novolog® Mix 70/30</li> </ul> <p>PREMIXED INSULIN with rapid- and ultra-long acting insulins</p> <ul style="list-style-type: none"> <li>• Ryzodeg® 70/30 (degludec/aspart)</li> </ul>	<p><b>INTERCHANGE RECOMMENDATIONS:</b>  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"> <li>• Insulin mixes containing a rapid-acting insulin should be injected <u>no more</u> than 15 minutes before the start of a meal</li> <li>• Insulin mixes containing Regular insulin can be injected up to 30 minutes before the start of a meal</li> <li>• PREMIXED insulin may be interchanged with NPH using a 20% reduction in dose</li> </ul>
<p><b>UNIQUE INSULIN THERAPIES</b></p>	
<p><b>Concentrated Insulin:</b> Humulin® R U500 insulin. Strongly recommend consulting a healthcare professional with experience in U500 insulin if switching to another insulin</p>	
<p><b>INSULIN PUMP</b>  Insulin pump patients may only substitute Humalog®, Novolog®, Fiasp®, Apidra®, Admelog® or regular insulin in the pump</p> <ul style="list-style-type: none"> <li>• Substitutions cannot include an intermediate-acting insulin or a basal insulin analog or concentrated insulin (i.e., U200, U300, or U500)</li> <li>• 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</li> <li>• 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"> <li>• Give 0.3 units/kg of a basal insulin analog as a once daily dose <ul style="list-style-type: none"> <li>○ Example: patient weighs 60 kg, give 18 units of a basal insulin analog once daily</li> </ul> </li> <li>• 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"> <li>○ Example: patient weighs 60 kg, give 3 units of rapid or short-acting insulin with each meal</li> </ul> </li> </ul> </li> </ul>	

**THE RECOMMENDATIONS DO NOT REPLACE CLINICAL JUDGMENT.**

Approved by the American Diabetes Association, the Endocrine Society and JDRF - August 2020

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<b>Insulin</b>	<b>Producer</b>	<b>Substitution</b>
FARMASULIN® H	Pharmak A/S, Ukraine	ACTRAPID ® HM, ACTRAPID® HM FLEXPEN®, INSUMAN RAPID®, GENSULIN P
FARMASULIN® H 30/70	Pharmak A/S, Ukraine	MIXTARD ® 30 HM, INSUMAN® COMB 25, GENSULIN M30
FARMASULIN® H NP	Pharmak A/S, Ukraine	P ROTAPHANE ® HM, INSUMAN ® BASAL, GENSULIN H
HUMODAR B 100 R	Indar, Ukraine	P ROTAPHANE ® HM, INSUMAN ® BASAL, GENSULIN H
HUMODAR C25 100 R	Indar, Ukraine	MIXTARD ® 30 HM, INSUMAN® COMB 25, GENSULIN M30
HUMODAR R 100 R	Indar, Ukraine	ACTRAPID ® HM, ACTRAPID® HM FLEXPEN®, INSUMAN RAPID®, GENSULIN P