PATIENT & CAREGIVER EDUCATION

Insulin Lispro Protamine and Insulin Lispro

This information from UpToDate® Lexidrug™ explains what you need to know about this medication, including what it's used for, how to take it, its side effects, and when to call your healthcare provider.

Brand Names: US

HumaLOG Mix; HumaLOG Mix 50/50 KwikPen; HumaLOG Mix 50/50 [DSC]; HumaLOG Mix 75/25; HumaLOG Mix 75/25 KwikPen

Brand Names: Canada

Humalog Mix 25; Humalog Mix 50

What is this drug used for?

- It is used to lower blood sugar in patients with high blood sugar (diabetes).

What do I need to tell the doctor BEFORE my child takes this drug?

- If your child is allergic to this drug; any part of this drug; or any other drugs, foods, or substances. Tell the doctor about the allergy and what signs your child had.
- If your child has low blood sugar.

This is not a list of all drugs or health problems that interact with this drug.

Tell the doctor and pharmacist about all of your child's drugs (prescription or OTC, natural products, vitamins) and health problems. You must check to make

sure that it is safe to give this drug with all of your child's other drugs and health problems. Do not start, stop, or change the dose of any drug your child takes without checking with the doctor.

What are some things I need to know or do while my child takes this drug?

- Tell all of your child's health care providers that your child is taking this drug. This includes your child's doctors, nurses, pharmacists, and dentists.
- Have your child avoid tasks or actions that call for alertness until you see how this drug affects your child. These are things like riding a bike, playing sports, or using items such as scissors, lawnmowers, electric scooters, toy cars, or motorized vehicles.
- Low blood sugar may happen with this drug. Very low blood sugar can lead to seizures, passing out, long lasting brain damage, and sometimes death. Talk with the doctor.
- Low blood potassium may happen with this drug. If not treated, this can lead to a heartbeat that is not normal, very bad breathing problems, and sometimes death. Talk with the doctor.
- Some diabetes drugs like pioglitazone or rosiglitazone may cause heart failure or make it worse in people who already have it. Using insulin with these drugs may increase this risk. If you also take one of these drugs, talk with the doctor.
- Be sure your child has the right insulin product. Insulin products come in many containers like vials, cartridges, and pens. Be sure that you know how to measure and get your child's dose ready. If you have any questions, call the doctor or pharmacist.
- It may be harder to control blood sugar during times of stress such as fever, infection, injury, or surgery. A change in physical activity, exercise, diet, or weight may also affect your child's blood sugar.
- Have your child wear disease medical alert ID (identification).
- If your child can drive, do not let your child drive if blood sugar has been low.

There is a greater chance of a crash.

- Check your child's blood sugar as you have been told by the doctor.
- Have your child's blood work checked often. Talk with your child's doctor.
- Alcohol interacts with this drug. Be sure your child does not drink alcohol or take products that have alcohol in them.
- Do not share your child's insulin product with another person. This includes any pens, cartridge devices, needles, or syringes, even if the needle has been changed. Sharing may pass infections from one person to another. This includes infections you may not know your child has.

If your child is pregnant or breast-feeding a baby:

- Talk with the doctor if your child is pregnant, becomes pregnant, or is breast-feeding a baby. You will need to talk about the benefits and risks to your child and the baby.

What are some side effects that I need to call my child's doctor about right away?

WARNING/CAUTION: Even though it may be rare, some people may have very bad and sometimes deadly side effects when taking a drug. Tell your child's doctor or get medical help right away if your child has any of the following signs or symptoms that may be related to a very bad side effect:

- Signs of an allergic reaction, like rash; hives; itching; red, swollen, blistered, or peeling skin with or without fever; wheezing; tightness in the chest or throat; trouble breathing, swallowing, or talking; unusual hoarseness; or swelling of the mouth, face, lips, tongue, or throat. Rarely, some allergic reactions have been life-threatening.
- Signs of low potassium levels like muscle pain or weakness, muscle cramps, or a heartbeat that does not feel normal.
- Thick skin, pits, or lumps where the injection was given.
- Swelling in the arms or legs.
- Shortness of breath.

- Low blood sugar may happen. Signs may be dizziness or passing out, blurred eyesight, mood changes, slurred speech, headache, feeling sleepy or weak, shaking, fast heartbeat, confusion, hunger, sweating, or seizures. Call the doctor right away if any of these signs happen. Follow what you have been told to do if low blood sugar happens. This may include taking glucose tablets, liquid glucose, or some fruit juices.

What are some other side effects of this drug?

All drugs may cause side effects. However, many people have no side effects or only have minor side effects. Call your child's doctor or get medical help if any of these side effects or any other side effects bother your child or do not go away:

- Irritation where the shot is given.
- Weight gain.

These are not all of the side effects that may occur. If you have questions about side effects, call your child's doctor. Call your child's doctor for medical advice about side effects.

You may report side effects to your national health agency.

How is this drug best given?

Give this drug as ordered by your child's doctor. Read all information given to you. Follow all instructions closely.

All products:

- It is given as a shot into the fatty part of the skin in the upper arm, thigh, buttocks, or stomach area.
- If you will be giving your child the shot, your child's doctor or nurse will teach you how to give the shot.
- This drug needs to be mixed before use. Follow how to mix as you were told by the doctor.
- Use right away after mixing.

- Give within 15 minutes before a meal.
- Move site where you give the shot each time.
- Do not give into skin that is thickened, or has pits or lumps.
- Do not give into skin that is irritated, tender, bruised, red, scaly, hard, scarred, or has stretch marks.
- This drug will look cloudy and milky when ready to use. Do not use if the solution looks clear or has lumps in it. Do not use if powder is stuck to the sides of the container.
- Do not use if the solution is leaking or has particles.
- Do not use if solution changes color.
- Throw away needles in a needle/sharp disposal box. Do not reuse needles or other items. When the box is full, follow all local rules for getting rid of it. Talk with a doctor or pharmacist if you have any questions.
- Have your child follow the diet and exercise plan your child's doctor told you about.
- Be sure you know what to do if your child does not eat as much as normal or if your child skips a meal.
- Do not mix this insulin in the same syringe with other types of insulin.
- This drug must not be used in an insulin pump. If you have questions, talk with the doctor.

Vials:

- Do not draw into a syringe and store for future use.

Prefilled syringes or pens:

- Remove all pen needle covers before injecting a dose (there may be 2). If you are not sure what type of pen needle you have or how to use it, talk with the doctor.
- Take off the needle after each shot and safely put it in a needle/sharp disposal box. Do not store this device with the needle on it.

- This product may make a clicking sound as you prepare the dose. Do not prepare the dose by counting the clicks. Doing so could lead to using the wrong dose.
- Do not move this drug from the pen to a syringe.

What do I do if my child misses a dose?

- Be sure you know what to do if you forget to give your child a dose.
- If you are not sure what to do if your child misses a dose, call the doctor.

How do I store and/or throw out this drug?

- Store unopened containers in a refrigerator. Do not freeze.
- Do not use if it has been frozen.
- If an unopened container has been stored at room temperature, be sure you know how long you can leave this drug at room temperature before you need to throw it away. If you are not sure, talk with the doctor or pharmacist.
- Protect from heat and light.
- After opening, be sure you know how long the product is good for and how to store it. Ask the doctor or pharmacist if you are not sure.
- Keep all drugs in a safe place. Keep all drugs out of the reach of children and pets.
- Throw away unused or expired drugs. Do not flush down a toilet or pour down a drain unless you are told to do so. Check with your pharmacist if you have questions about the best way to throw out drugs. There may be drug take-back programs in your area.

General drug facts

- If your child's symptoms or health problems do not get better or if they become worse, call your child's doctor.
- Do not share your child's drug with others and do not give anyone else's drug to your child.

- Some drugs may have another patient information leaflet. If you have any questions about this drug, please talk with your child's doctor, nurse, pharmacist, or other health care provider.
- If you think there has been an overdose, call your poison control center or get medical care right away. Be ready to tell or show what was taken, how much, and when it happened.

Consumer Information Use and Disclaimer

This generalized information is a limited summary of diagnosis, treatment, and/or medication information. It is not meant to be comprehensive and should be used as a tool to help the user understand and/or assess potential diagnostic and treatment options. It does NOT include all information about conditions, treatments, medications, side effects, or risks that may apply to a specific patient. It is not intended to be medical advice or a substitute for the medical advice, diagnosis, or treatment of a health care provider based on the health care provider's examination and assessment of a patient's specific and unique circumstances. Patients must speak with a health care provider for complete information about their health, medical questions, and treatment options, including any risks or benefits regarding use of medications. This information does not endorse any treatments or medications as safe, effective, or approved for treating a specific patient. UpToDate, Inc. and its affiliates disclaim any warranty or liability relating to this information or the use thereof. The use of this information is governed by the Terms of Use, available at https://www.wolterskluwer.com/en/know/clinical-effectiveness-terms.

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If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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