HHUMC
مستشفى حمود الجامعي

Diabetic Patient

علاج الأنسولين

Patient
Education Leaflets

961 7 723 111
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Discharge Instructions for a Diabetic Patient in the Pediatric Department

Overview of Diabetes

- Diabetes mellitus refers to a group of disorders that affect blood sugar (glucose), leading to hyperglycemia (high blood sugar).
- The main chronic diabetes conditions include type 1 and type 2 diabetes. Type 1 diabetes is the most common form of diabetes in children and is considered an auto-immune disease.

- **Check your child`s blood sugar <u>before every meal</u>, at <u>bedtime</u>, and <u>before physical activity.</u>**
  - **Please follow the instructions below regarding the Use <u>of a Glucometer:</u>**

Step 1: Preparing the Device

1. **<u>Wash your hands thoroughly</u>** with soap and warm water, then dry completely.

- Gather all necessary supplies: **Glucometer /Test strips/Lancet device /tissue or cotton ball**

No alcohol use

- Insert a test strip into the glucometer.
  - Ensure the strip is correctly positioned.
  - The device should turn on automatically

Step 2: Pricking and Collecting Blood

1. Remove the lancet pen cap, Insert the new lancet into the lancet pen (Always use a new, sterile lancet for each test to minimize pain and avoid infection)
2. twist off the lancet cover to expose the needle, replace the cap, and adjust the depth setting (as advised by your doctor or nurse).
3. Clean the side of the fingertip (avoiding the center, as it is more sensitive, Rotate testing sites to prevent soreness.)
4. Press the lancet pen firmly against the side of the fingertip and press the release button to prick the skin.
5. Gently squeeze the fingertip from the base toward the tip to get a small drop of blood. Avoid excessive squeezing, as it may dilute the sample with tissue fluid.

Step 3: Reading Results

1. Touch the blood drop to the edge of the test strip. The glucometer will draw the blood into the strip automatically.
2. Place the glucometer aside and don’t shake it, wait for the glucometer to display the blood sugar reading. This typically takes a few seconds.

Step 4: Compare the number to your child's target range, as advised by the doctor.

- Keep a record of blood sugar readings to share during follow-ups mainly before every meal and at bedtime, (booklet provided before discharge)
- Target glucose: 70 – 180 mg/dl – time in range at least 70% of the time

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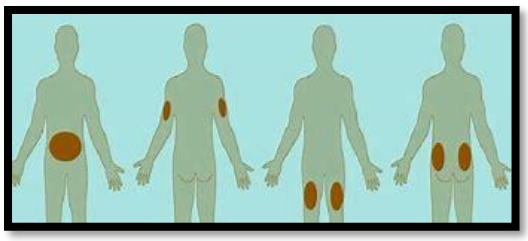
Insulin Therapy

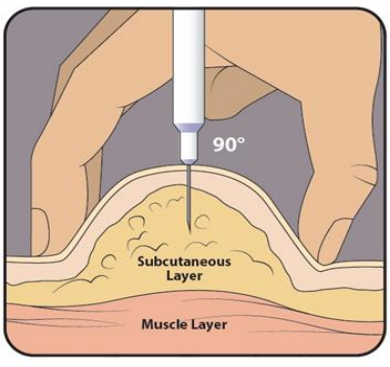
1. Types of Insulin: Your doctor will determine the appropriate type and protocol for your child. Insulin comes in different types based on how quickly it works and how long it lasts:

- **Rapid-acting insulin:** Starts working within 15 minutes; used before meals
- **Long-acting insulin:** Provides a steady level throughout the day; used once or twice daily

3. **Insulin storage: Keeping insulin with you at all times is crucial** so please follow the instructions below to maintain stability and effectiveness:

- Store in the refrigerator **(2°C to 8°C) for** up to **28 days** or with ice cubes when you get out.
- Avoid exposing insulin to extreme heat, freezing, or direct sunlight.
- Avoid shaking the insulin bottle excessively.
- Always check the expiration date and inspect for changes (discoloration)before use.

Common side effects	Rare side effects
○ Low blood sugar (hypoglycemia): Shakiness, sweating, dizziness, irritability. ○ Redness or swelling at the injection site.	○ Allergic reaction: Rash, itching, difficulty breathing. ○ Lipohypertrophy: Lumps or dents under the skin at injection sites. 



4. For insulin Administration please follow the instructions below:

- Wash hands thoroughly with soap and water.
- **Choose an Injection Site:** Rotate injection sites to prevent **lip hypertrophy.**
- Clean the injection site with an alcohol swab and let it dry.
- Pinch the skin gently.

- Insert the needle at a 90-degree angle (45-degree angle for very thin children).
- Push the pen button slowly and steadily.
- Wait 10 seconds before removing the needle to ensure full delivery of insulin.
- Dispose of the needle in a sharp's container

Important Note: When giving two types of insulin, please withdraw the fast insulin first and then slow before injecting the needle into the skin.

1. Organization of insulin therapy

Blood sugar test	**Morning (breakfast)**	**Noon (Lunch)**	**Afternoon (snack)**	**Evening (Dinner)**	**Bedtime**
Insulin NOVORAPID (15 min before meal) BS less than 180					
Insulin NOVORAPID (15min before meal) BS between 180-250					
Insulin NOVORAPID (15min before meal) BS more than 250					
Insulin (LANTUS/LEVEMIR/TRESIBA) once per day					

In case of <u>Hypoglycemia</u> (low blood sugar) **Please follow the instructions below:**	**In case of <u>Hyperglycemia</u> (high blood sugar)** **Please follow the instructions below:**
• when blood sugar below 70 mg/dl , **and /or** • low blood sugar symptoms: sweating, tremors, sudden lethargy, loss of consciousness. • you have to : 1. rest 2. check blood sugar 3. give sugar immediately: …… sugar cube /or …… small spoon (5 grams) 4. recheck blood sugar after 10 minutes 5. continuous evaluation till stability and reaching blood sugar 70mg/dl 6. if your child loses consciousness, place him/her on a side position and give  **GLUCAGON** (1mg=1ml) 0.5/1mg by intramuscular injection.	• when blood sugar more than 70mg/dl • measure **ACETONE** • **if positive :** ▪ **urine : +++/++/+** ▪ **blood : more than 0.5mmol/l** • treatment is as follows: 1. give **INSULIN** 10% of overall daily dose 2. Check sugar test- ACETONE after 2 hours 3. If the patient has insulin pump, change the montage.

Please follow the instructions below regarding your child's diet:

1. Maintain a balanced diet that includes all nutrients without any restrictions, but ensure coordination between the number of meals and insulin protocol to maintain normal growth of the child.
2. Ensure the intake of **3 main meals** and reduce snacks in between, especially those containing starches (bread, cakes, potatoes).
3. For snacks, focus on low-starch vegetables and proteins (meat, chicken, fish, white cheeses) and healthy fats (avocado, nuts) since they do not contain starches.
4. If the child chooses to eat starch-rich snacks (chocolate, sweets, fruit), it is better to consume them immediately after the main meal, such as lunch.
5. Completely **avoid** artificial sweeteners.
6. Encourage your child to drink plenty of water throughout the day, especially during physical activity. And stay tuned to Check the blood sugar before any physical activity
7. Always seek to understand more about food **rich in carbohydrates** (starches, legumes, fruits, vegetables, sweets, sugars, milk and its products, high-starch vegetables) and foods **free of carbohydrates** (fats, animal meats).
8. **Please always coordinate with your specialist and dietitian to ensure your child's health and safety**

Taking care of a child's feet is crucial, especially when they have diabetes. Please follow the instructions below to help keep their feet healthy and intact:

Daily Foot Care:

1. Gently wash your child's feet with warm water and mild soap daily. Avoid hot water, as it can dry out the skin.
2. Pat their feet dry with a soft towel, especially between the toes. Moisture can lead to infections.
3. Apply a gentle moisturizer to keep the skin soft and prevent cracking. Avoid putting lotion between the toes.
4. Check for any cuts, blisters, redness, or swelling. Look for any changes in skin color or temperature.

Nail Care:

1. Keep toenails trimmed straight across to prevent ingrown toenails. Use a nail clipper or emery board to smooth edges.
2. **Avoid Cutting Too Short as it** can lead to ingrown toenails and infections.

Footwear:

1. **Wear Proper Shoes:** Avoid shoes that are too tight or rub against the skin.
2. Always have your child wear socks to protect their feet from friction and moisture. Choose socks that are moisture-wicking.

3. Before putting on shoes, check for any objects inside that could cause injury, such as rocks or sharp edges.

Physical Activity:

1. Encourage your child to have regular physical activity such as playing sports, biking, or swimming because it improves blood circulation to the feet. Ensure your child wears appropriate footwear during exercise.
2. After physical activity, check your child's feet for any injuries or irritation.

Please contact the doctor immediately:

1. If your child complains of persistent foot pain.
2. If you notice any signs of infection, such as redness, swelling, or pus, seek medical advice immediately.
3. If there is any cuts or sores that do not heal.

Please make sure to attend regular medical follow-ups, which include:

- **The specialized pediatric endocrinologist every <u>3 months shall</u>:**
    - Monitor your child's height, weight, and overall physical development.
    - Review blood sugar logs and **HbA1c** levels (average blood sugar over 2-3 months).
    - Adjust insulin doses or dietary plans based on results.
    - Ensure your child receives all recommended vaccines, especially important for diabetic patients.

- The doctor will **annually** examine the following early complications of diabetes**:**
    1. Metabolic control
    2. Ophthalmological disorders,
    3. kidney problems,
    4. nerve damage,
    5. auto-immune disorders: thyroid function, screening for celiac disease

Please contact the doctor <u>immediately</u> when your child has one of the following :

- Persistent high or low blood sugar levels despite adjustments to insulin or diet.
- Unexplained weight loss, fatigue, or changes in appetite.
- Symptoms of infection, such as fever or difficulty breathing.
- Signs of diabetic ketoacidosis (DKA), including nausea, vomiting, abdominal pain, fruity-smelling breath, or rapid breathing.
- Persistent fatigue, irritability, or confusion.

Psychological support

1. Encourage your child to express their feelings about living with diabetes.
2. Make diabetes management a family effort by eating healthy meals together and participating in physical activities as a family.
3. Teach siblings about diabetes so they can provide support
4. Encourage hobbies or interests that build their confidence and self-esteem.
5. Teach your child to plan for parties, sports, or outings by checking blood sugar levels and packing necessary supplies.
6. Meet with teachers and school nurses to explain your child’s diabetes needs (blood sugar monitoring, insulin administration, and emergency procedures) as instructed by the doctor.