Preventing Adrenal Crisis in Patients on Chronic Corticosteroid Therapy

Long-term treatment with corticosteroids (such as prednisone, deflazacort, or methylprednisolone) can cause the adrenal glands to no longer produce enough cortisol, especially in situations of intense stress for the body, which may favor the onset of an **adrenal crisis.**

Prevention of adrenal crisis in these patients is achieved through:

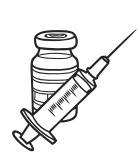
1. **Patient and family education** about the risks of adrenal insufficiency and warning signs (nausea, vomiting, hypotension, severe fatigue, confusion).

2. Administration of stress doses ("stress dosing"). In certain situations—vomiting, trauma, anesthesia, surgical interventions, fractures—these patients must receive an emergency dose of injectable hydrocortisone (hydrocortisone hemisuccinate).

If intervention is delayed, symptoms of acute cortisol deficiency may appear, such as: intense abdominal pain, heavy sweating, chills, dizziness, fainting, fever, nausea and vomiting, diarrhea, rapid heartbeat, rapid breathing, or a general state of extreme fatigue.

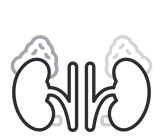
If this happens to you or someone you care for, **do not delay:**

1 Administer a hydrocortisone injection (see details below).



2 Seek immediate medical help – call 112.

3 Clearly inform the 112 operator that the patient is on chronic steroid treatment and is experiencing an adrenal crisis.



4 Be prepared to show the steroid emergency card (if available) to the medical team.

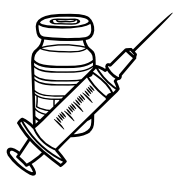
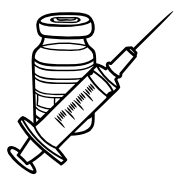
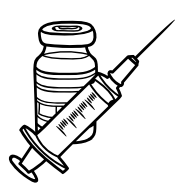
Administer intramuscularly (IM) and transport the patient to the hospital

How to administer hydrocortisone?

Preparation instructions:

Mix 1 vial of hydrocortisone (100 mg) with 2 mL of solvent to obtain the injectable solution.

Recommended doses

Children under 1 year	Children 1-5 ani	Children over 6 ani
25mg	50mg	100mg
		
0,5mL	1mL	2mL

Administration mode:
Administration is intramuscular (IM).

Administer IM in case of emergency and take the patient to a medical facility for further care.

After stabilization, oral medication should be resumed as directed by the treating physician, once the patient can tolerate oral intake.

Source: British Society for Paediatric Endocrinology and Diabetes (BSPED) Developed with the support of Neurocare Association

bolirare.org/en/emergency

Sites for Intramuscular Administration of Hydrocortisone

The injection site is chosen based on the patient's age:

- In **infants,** the thigh (vastus lateralis muscle) is used. (Fig. 1).
- In **children**, the thigh or shoulder (deltoid muscle) can be used. (Fig. 2)
- In **adults,** the shoulder or the upper outer quadrant of the gluteal region (ventrogluteal area) is used.

Fig. 1 - Intramuscular administration in the vastus lateralis muscle (infant).

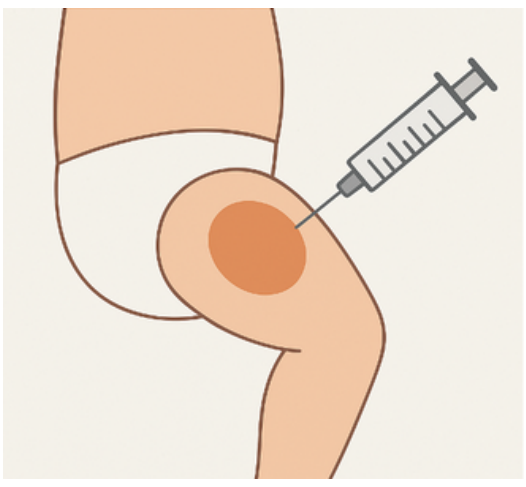
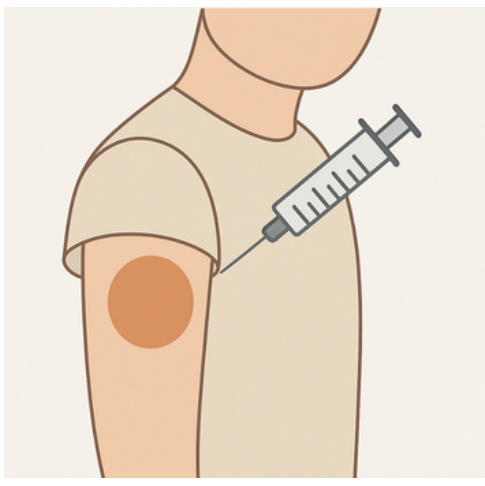


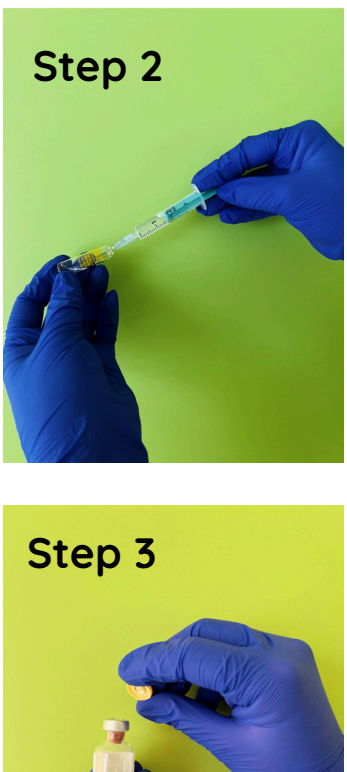
Fig. 2 - Intramuscular administration in the deltoid muscle (child)



Steps to Perform an Intramuscular Injection

Prepare the needle, syringe, 100 mg Hydrocortisone powder vial, and solvent.

Firmly attach the needle to the top of the syringe.

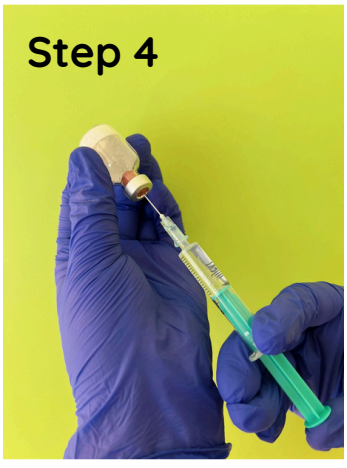


Open the ampoule of solvent.

For glass ampoules, break off the top to avoid spilling. You can use a special opener cap if available.

Remove the needle cap, insert the needle into the ampoule, and slowly pull back the plunger to draw the liquid into the syringe.

ÎRemove the yellow plastic cap from the hydrocortisone powder vial.



IInsert the needle into the rubber stopper of the powder vial and gently push the plunger to release the solvent.

Gently swirl to dissolve the powder and obtain a homogeneous solution.

Source: British Society for Paediatric Endocrinology and Diabetes (BSPED)

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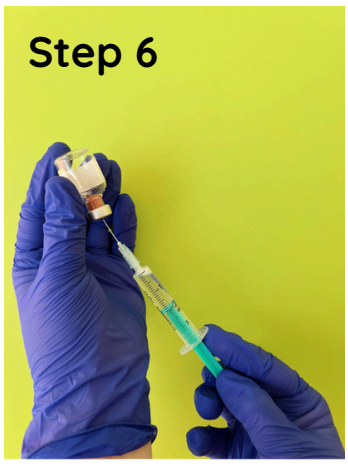


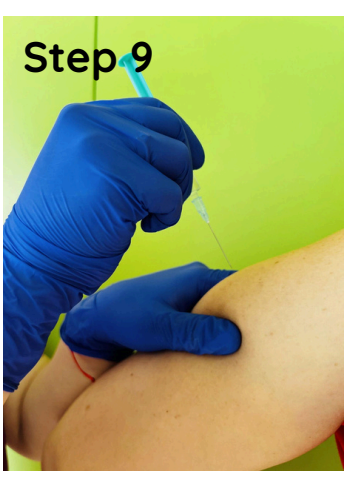
Keeping the needle inside the vial, invert the vial and draw the dissolved solution back into the syringe. Ensure the needle tip remains below the surface of the liquid to extract all the contents.

Once all the contents have been extracted, replace the needle with the sealed one from the emergency kit.

Hold the syringe at eye level in a vertical position to check for air bubbles.

Gently press the plunger until a drop appears at the needle tip to expel the air.

Clean the injection site (typically upper arm, thigh, or buttock) with an alcohol swab or antiseptic pad. Let the area dry completely before injecting.

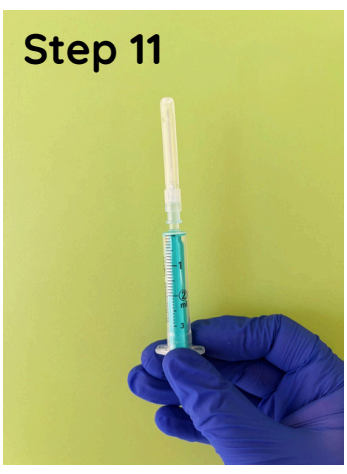


Hold the syringe like a pencil, perpendicular to the muscle where you will inject (upper arm, thigh, or buttock).

Insert the needle into the muscle.

Then slowly press the plunger all the way down.

You may feel some discomfort as the liquid enters the tissue.



Carefully withdraw the needle.

Apply a bandage or plaster to the injection site.

Immediately place the protective cap back on the needle to avoid accidental pricks.

Dispose of the syringe, needle, and used vial safely.

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