



## Managing cortisol deficiency with Multiple Daily Injections of Solu-Cortef (Cortisol MDI)

In patients with cortisol deficiency, multiple daily injections (MDI) of Solu-Cortef are a suitable alternative in cases of poor absorption of oral corticosteroids. Patients who have not stabilized on oral cortisol steroid replacement may find improved quality of life by switching to injections. Some patients find this is an effective transitional method to try if they are not stable on traditional oral steroids and are in the process to begin the cortisol pumping method. Solu-cortef injections can be given in 1 milligram increments and doses can be tailored more specifically than oral corticosteroids.

### Supplies needed:

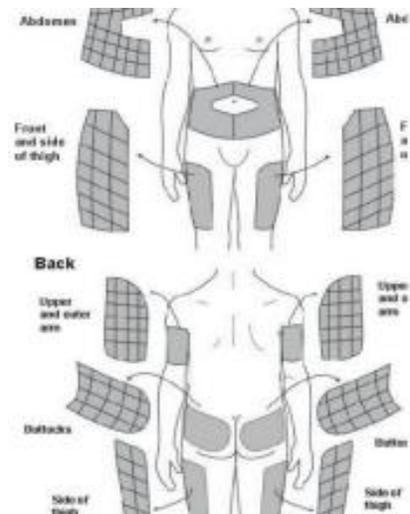
- Solu-Cortef 100mg vials
- Saline or Bacteriostatic Water
- Skin Prep such as alcohol swabs
- 3ML Syringes to reconstitute Solu-Cortef
- Syringes or “insulin” needles for injections

### Instructions:

Each 100mg vial of Solu-Cortef will need to be reconstituted with 1mL of saline or bacteriostatic water for a 1:1 ratio. (1mg=1unit) Physicians need to calculate a baseline cortisol dose schedule based on circadian rhythm protocols, the patient’s cortisol clearance, activity level and health comorbidities. For example, if a patient was taking 40mg of hydrocortisone tablets, that would equate to 40units of solucortef to be administered in the form of multiple daily injections.

Reconstituted Solu-Cortef can be kept for 3 days when protected from light.

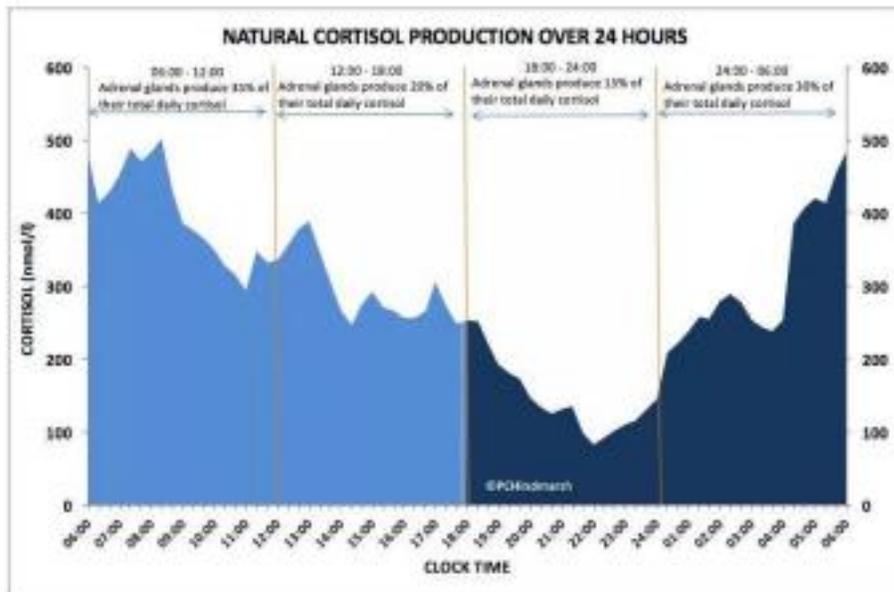
The average half-life of Solu Cortef is 1.5-2 hours. Injections should be administered in the layer of fat just below the skin in abdomen, upper arms, thighs or buttocks. Patients should rotate injection sites. (See image)



Injections are best scheduled to mimic natural circadian rhythm of cortisol. (See image below) For example, a patient on a 30mg dosage of hydrocortisone might have a schedule like this:

7am	11am	3pm	7pm	11pm	3am
10mg 10units	5mg 5units	4mg 4units	2.5mg 2.5units	1.5mg 1.5units	7mg 7units

\*Dosages and times may need to be adjusted for individual patient's needs.



### Injection instructions:

1. Wash your hands.
2. Remove cap of sodium chloride or bacteriostatic water.
3. Sanitize the top of the vial with an alcohol swab.
4. Using your 3mL syringe, draw up 1mL of sodium chloride or bacteriostatic water.
5. Remove cap on Solu-Cortef vial.
6. Insert needle filled with saline or bacteriostatic water into vial of Solu-Cortef and empty syringe contents into the powdered solution.
7. Discard syringe in proper sharps container.
8. Gently shake vial of Solu-Cortef to fully dissolve into liquid form.
9. Using your insulin needle, insert needle into vial and draw up required dosage.
10. Sanitize injection site with an alcohol swab.
11. Lightly pinch up fat layer at desired injection site. Holding the needle like a dart, insert needle at an angle and press down the plunger of syringe. Immediately release skin, wait 5-10 seconds and remove needle.
12. Discard needle in proper sharps container.

**Sources:**

<https://davisplus.fadavis.com/3976/meddeck/pdf/hydrocortisone.pdf&ved=0ahUKEwi2obvzpLrYAhUKxoMKHZf8BAQQFggyMAI&usg=AOvVaw1O0MOSJYhcRHqt7svsme48>

<http://www.nottingham.ac.uk/nmp/sonet/rlos/bioproc/liverdrug/6.html>

<http://www.cahisus.co.uk/pdf/CIRCADIAN%2520RHYTHM%2520DOSING.pdf&ved=0ahUK Ewi17vCCrLrYAhWC8YMKHbQHBeMQFggkMAA&usg=AOvVaw2MseV2SqaC4RjbfEtfH lu>

<https://www.healthline.com/health/diabetes/insulin-injection#how-to-inject>

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