

Emergency regimen – guideline to prevent and treat adrenal crisis in children and adolescents with primary adrenal insufficiency (Congenital adrenal hyperplasia (CAH) or Addison’s disease) or secondary adrenal insufficiency

Children treated with glucocorticoid replacement therapy (**hydrocortisone**) need to increase the dose of hydrocortisone in the event of fever, infection, stress, surgical interventions and anesthesia to avoid adrenal crises.

A. In case of moderate physical stress, for example:

- Fever between 38 and 39 °C
- Illness that requires bedrest
- Infection that requires treatment with antibiotics
- Minor surgical interventions in local anesthesia

Action: Double the daily dose of hydrocortisone and divide the medication into 3 to 4 doses/24 hours.

Be aware of that low body temperature < 36.5 °C can be a sign of hypoglycemia due to cortisol deficiency. Give at least double dose of daily hydrocortisone and additional carbohydrates.

B. In case of severe physical stress, for example:

- Fever above 39 °C
- Infection with vomiting and/or diarrhea
- Surgical interventions in local anesthesia such as dental interventions

Action: Increase the daily dose of hydrocortisone at least threefold and divide the medication into 4 doses/24 hours.

- In case of sustained vomiting and/or diarrhea – **go to hospital!**

C. In case of severe trauma/ or illness when oral medication cannot be administered or if the child becomes more ill regardless of the above taken actions:

Action: Inject hydrocortisone (Solu-Cortef®) intramuscularly (im)/or intravenously (iv) and go to hospital for further treatment.

Dose of Solu-Cortef® 50 mg/ml:

Weight of the child (age of the child)	Solu-Cortef® 50 mg/ml:
< 15 kg (0-2 years)	25 mg
15-25 kg (2-6 years)	50 mg
> 25 kg (> 6 years)	100 mg

References

- Bornstein SR, Allolio B, Wiebke A et al. *J Clin Endocrinol Metab* Feb 2016, 101(2):364-389.
 Cortet C, Barat P, Zenaty D et al. *Annales d’Endocrinol* 2017, 78:535-543.
 Miller BS, Spencer SP, Geffner ME et al. *J Investig Med* 2020, 68:16-25.
 Nickels DA, Moore DC. *Pediatr Infect Dis J* 1989, 8:16-19.
 Webb EA, Krone N. *Best Pract and Res Clin Endocrinol Metab* 2015, 29:449-468.