

# Adrenal Crisis Alert in Children

## EMERGENCY ROOM TREATMENT PROTOCOL

For treatment of adrenal crisis:

Initiate treatment immediately.

1. Start IV using isotonic saline solution.
2. During IV start, draw blood sample for lab.
3. Immediately administer hydrocortisone 25 mg IV for infants and toddlers, 50 mg for school-aged children, 100 mg for adolescents and young adults.
4. Continue hydrocortisone 3x their usual maintenance dose and up to 100 mg/m<sup>2</sup>/day as continued therapy for 24-48 hours as needed.
5. Continue to administer appropriate amounts of IV saline for fluid resuscitation, anticipating at least 10% fluid deficit.
6. In emergencies or before surgery: hydrocortisone must be given intramuscularly or intravenously especially if fever, vomiting or diarrhea is present.

## ADDISON'S DISEASE DIAGNOSIS DURING AN EMERGENCY

Measurement of blood ACTH and cortisol during the crisis, BEFORE GLUCOCORTICOIDS ARE GIVEN, is enough to make a preliminary diagnosis.

Low serum sodium and glucose, and high potassium are also usually present at the time of an adrenal crisis. Once the crisis is controlled, an ACTH (cosyntropin) stimulation test among other tests determined by the endocrinologist can be performed to obtain specific diagnosis.

Do not delay treatment while waiting for laboratory confirmation.

## Signs & Symptoms:

### Acute Adrenal Failure

- Orthostatic hypotension or tachycardia
- Severe vomiting/diarrhea
- Severe dehydration
- Sudden penetrating pain in lower back, abdomen or legs
- Loss of consciousness

### Chronic Symptoms & Signs of Addison's Disease

- Hyperpigmentation of exposed and non-exposed parts of the body
- Extreme weakness or fatigue
- Salt craving
- Unintentional weight loss
- Loss of appetite
- Chronic diarrhea
- Nausea/vomiting

Provided with compliments by: The National Adrenal Diseases Foundation, a non-profit organization providing information, education and support to all persons affected by adrenal disease.

Additional Resources:

- <https://tinyurl.com/endocrine-guidelines-PAI>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6297573/>
- Bornstein (chair) et al, Guidelines on Primary Adrenal Insufficiency, *Clin Endocrinol Metab*, February 2016, 101(2):364–389