

STEPWISE MANAGEMENT OF AN ADRENAL CRISIS

SUSPECTED ADRENAL CRISIS

OBTAIN IV ACCESS

INVESTIGATIONS

- Take investigations **before** giving hydrocortisone (otherwise this will interfere with results) but **treatment should not be unduly delayed**
- **If new presentation:** take blood gas, **ACTH**, **cortisol**, glucose, renal profile, renin, aldosterone, 17-OHP, testosterone, FBC, blood culture, urine culture, urine electrolytes, urine steroid profile (consider urgent catheter specimen)
- **If known/at risk of adrenal insufficiency (e.g. on long-term glucocorticoids):** take blood gas, ACTH, cortisol, glucose, U&Es, FBC, blood culture, urine culture

CHILDREN ≥28 days old (consider neonatal dosing if significantly underweight)

NEONATES <28 days old

Children on sick day dose hydrocortisone may have received IM hydrocortisone dose prior to A&E presentation and **hence may not require a further immediate hydrocortisone bolus on arrival in hospital, depending on their clinical status. However, beware initial apparent clinical improvement may be due to IM hydrocortisone.**

INITIAL TREATMENT

CHILDREN ≥28 days old

- Give IM or IV hydrocortisone:
 < 1 year give 25mg
 1-5 years give 50mg
 > 6 years give 100mg
- Then give 2mg/kg IV hydrocortisone bolus 6 hourly (consider giving 4 hourly or as an infusion [see Appendix 1] if needed)

Monitor renal profile, blood gas, blood glucose 2-12 hourly depending on severity/progression of illness

Regular senior review

Consider PHDU/PICU

FOR NEONATES <28 days old:

- If delay in IV access, give 25mg IM hydrocortisone. Otherwise if IV access achieved, give 4mg/kg IV hydrocortisone bolus
- Then give 4mg/kg IV hydrocortisone bolus 6 hourly (consider giving 4 hourly or as an infusion [see Appendix 1] if needed)

- If blood glucose <3mmol/L, give 2ml/kg 10% dextrose as IV bolus; check BG after 15 minutes and repeat bolus if necessary
- If shock or moderate/severe dehydration, give 10ml/kg of 0.9% sodium chloride as IV bolus and repeat if necessary (consider PICU if requiring more than 40ml/kg) – use U&Es at presentation to inform fluid usage
- If hyperkalaemia, treat accordingly and institute cardiac monitoring (see SORT guideline on [hyperkalaemia management](#))
- If signs of sepsis, start antibiotics
- Prescribe IV maintenance fluids (0.9% NaCl with 5% dextrose is usually an appropriate starting point if clinical picture suggests low sodium has arisen primarily because of salt wasting) – 100ml/kg/day for first 10kg, 50ml/kg/day for next 20kg, 20ml/kg/day for >20kg
- See Appendix 2 for more guidance on fluid & electrolyte management and different considerations for primary and secondary AI

STABLE AND IMPROVING

Continue IV hydrocortisone and reduce to 1mg/kg (max 50mg) 6 hourly (can consider giving 4 hourly or as an infusion)

Continue IV hydrocortisone and reduce to 2mg/kg 6 hourly (can consider giving 4 hourly or as an infusion)

STABLE AND TOLERATING DRINKS/DIET

- Convert to oral sick day steroids: 30mg/m²/day in 4 equally divided doses (see Appendix 3 to calculate body surface area)
- Restart fludrocortisone if indicated

DISCHARGE PLANNING

- Liaise with lead for paediatric endocrinology at DGH (you can check [here](#))
- Complete checklist (see Appendix 4) for information, education and training required prior to discharge
- Arrange open access to local hospital
- Children with confirmed AI should be provided with the BSPED AI leaflet
- Check patient and/or carers are familiar with sick day rules for managing steroids during intercurrent illness (see PIER guideline [Management of Sick Day Episodes in Children and Young People Treated with Regular Glucocorticoids](#))
- Prescribe IM hydrocortisone to be given at times of emergency and train family in administration.