Clinical Presentation of Adrenal Insufficiency (Adapted From Arlt 2016)

Clinical signs and symptoms:

- Fatigue, lack of energy, weight loss
- Low blood pressure, postural dizziness and hypotension (≥20 mmHg drop in BP from supine to standing position), dizziness, collapse, in severe cases hypovolaemic shock
- Abdominal pain, tenderness and guarding, nausea, vomiting (in particular in primary adrenal insufficiency), history of weight loss
- Fever
- Confusion, somnolence, in severe cases delirium or coma
- Back and leg cramps/spasms are commonly reported and can be distracting if not recognised for what they are (electrolyte derangement in large muscles?)
- In primary adrenal insufficiency: generalised skin hyperpigmentation, in particular in areas exposed to mechanical shear stress (palmar creases, nipples, scars, inside of oral mucosa)
- In secondary adrenal insufficiency: alabaster-like, pale skin; dependent on underlying conditions also signs and symptoms of other pituitary axis

Lab findings:

- Hyponatraemia (in primary and secondary adrenal insufficiency)
- Hyperkalaemia (in primary adrenal insufficiency)
- Pre-renal failure (increased serum creatinine due to hypovolaemia)
- Normochromic anaemia, sometimes also lymphocytosis and eosinophilia
- Hypoglycaemia (primarily in affected children; can cause long-term neurological deficits, if not promptly treated)

Diagnosis of AI

- 9am cortisol <100nmol/l
- 9am cortisol between 100-350nmol/l may need a confirmatory test
- Normal cortisol <415-450 nmol/l on short synacthen test or insulin tolerance test

Note: Check cortisol values for assay at local institution as diagnostic cut-offs will vary

adapted from Arlt