

**Endocrinology Laboratory (inc SAS Steroid Centre), Specialist  
Laboratory Medicine, Block 46, St James's University Hospital,  
Beckett Street, Leeds LS9 7TF**

**SPECIMEN REQUIREMENTS & REF. RANGES FOR ENDOCRINOLOGY & ONCOLOGY TESTS  
April 2020**

Test	Preferred Sample type	Alternative sample type	Vol (mL)	Min vol (mL)	Reference Ranges	Units
17-OH Progesterone (LC-MS/MS since April 2015)	Serum	Heparin	1	0.25	Neonates (>48h after birth) 5d: < 3.0 < 16y M+F : < 4.0 Adult (> 16y M+F): <.5.0 (Adult female results may be higher in luteal phase of menstrual cycle)	nmol/L
25-OH vitamin D2 + D3  (LC-MS/MS since Sept 2005 now only available for R&D)	Serum	Heparin	1	0.2	Total 25OH vitamin D2 + D3 < 30 nmol/L suggests Vitamin D deficiency 30 – 75 nmol/L suggests depletion & may be insufficient to maintain skeletal health > 75 nmol/L suggests Vitamin D sufficiency 500 nmol/L suggests toxicity	nmol/L
ACTH (Immulite 2000 since July 2005)	EDTA	None	2	0.5	< 47 - applies to samples taken at 09.00 am	ng/L
Aldosterone (LC-MS/MS since May 2017)	Serum	Heparin, EDTA	1	0.3	Na intake 100-150, K intake 50-100 mmol/day, Adults aged 20-40 yrs: 08.00h after overnight recumbancy; 100-450. Random samples taken during normal activities through the day; 100-850. Values decrease significantly in the elderly (> 60 yrs). Values can be very high (>5000) in the neonate, but reduce rapidly. Adult ref. ranges are reached by age 10 yrs	pmol/L
Androstenedione (LC-MS/MS since 2007)	Serum	Heparin	1	0.2	Pre-puberty, male & female: < 1.4 (taken from literature) Provisional Adult male: 1.3 – 5.8 Adult female without PCO in early follicular phase: 1.1 – 5.7	nmol/L
NT-proBNP (Immulite 2000)	Heparin (without gel)	None	1	0.5	LOW result <400 ng/L. BNP indicates low probability of Cardiac Failure. Consider alternative diagnoses.  INTERMEDIATE result 401-1999 ng/L. BNP is associated with heart failure in fewer than 25% of patients. Please review the patient and if heart failure is still suspected consider a referral for BNP-guided echocardiography	ng/L



Oestradiol (in house RIA after ether extraction)	Serum	Heparin	1	0.3	Prepubertal children: < 30 Males: < 150 Females: Pre menopausal 200 – 2000 Post menopausal < 150	pmol/L
Plasma Renin Activity <sup>1,2</sup> (LC-MS/MS analysis of generated angiotensin since May 2017)	Heparin	EDTA	1	0.3	Affected by age, posture, state of hydration & electrolyte status. Na intake 100 – 150, K intake 50 – 100 mmol/day Adults aged 20 – 40 y: 08.00 h after overnight recumbency 1.1 – 2.7 08.30 h after 30 min ambulant 2.8 – 4.5 Samples taken at random during the day & normal activities 0.5 – 3.5  Values can be very high (>50) in the neonate & decreased in the elderly.	nmol/L/h
SHBG (Immulite 2000 since July 2005)	Plain	Heparin	1	0.3	Adult female: 18 -114 Adult male: 13 - 71	nmol/L
Testosterone (LC-MS-MS, since May 2004)	Plain	Heparin	1	0.2	Age & sex-related ranges: Female: Birth – 8 y < 0.9 Adult pre-menopausal < 1.8 Male: 6 month – 8 y < 0.9 Adult 8 – 30	nmol/L
Thyroglobulin/ Thyroglobulin Antibodies (Beckman Access since Dec 2017)	Plain	None	1	0.75 (single Tg assay uses 0.25)	Thyroglobulin: < 0.1 after thyroidectomy TgAb The presence of thyroglobulin autoantibodies (TgAb) can interfere with the thyroglobulin assay, hence the TgAb status of the patient should also be measured.	ug/L IU/mL
Urine Free Cortisol (LC-MS/MS since 2007)	Plain Urine 24 hr	None	10	0.5	Adults 10-147 nmol/day In-house age related ranges not available (published literature and patient data used to derive ranges for children and teenagers) Random (<24h ) ranges not available	nmol/24 h

Clinically useful results for assay marked \* might be obtained with smaller volumes of sample – please contact the Lab for advice (ext 64717)

<sup>1</sup> **Avoid exposure of renin samples to temperatures around 4°C, ie do not place on ice or in fridge.**

<sup>2</sup> **The plasma must be rapidly separated from the cells and frozen immediately.**

*S. Gibbons/ C.G.Ford / K.Stuart  
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