ENDOCRINE LABORATORY TEST REPERTOIRE

Department of Medical Biochemistry and Immunology
University Hospital of Wales
Heath Park
Cardiff
CF14 4XW

Endocrine Service Open Monday – Friday 08:45 to 17:15

For laboratory general enquiries:

Automated Immunoassay Tests	Tel: 029 2184 2637
Specialist Endocrine Tests	Tel: 029 2184 8368

Contact: Rachel Hunt (Lead Biomedical Scientist Endocrine & Screening)
Email: rachel.hunt@wales.nhs.uk Tel: 029 2184 4157

For clinical advice:

Dr Carol Evans (Consultant Clinical Scientist, Laboratory Director of UHB Medical Biochemistry & Immunology Service)
Email: carol.evans9@wales.nhs.uk Tel: 029 2184 8367

FOR URGENT REQUESTS PLEASE CONTACT THE LABORATORY
Samples will be processed as soon as it is feasible to do so.
It may be possible to process small sample volumes but advisable to contact laboratory for advice.
Please provide clinical details, particularly current patient medication, and collection times of sample on all request forms

Specialist Endocrine Tests

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
17(OH) Progesterone	Serum/Li Heparin Plasma 250µL	After separation freeze sample at -20C. First class post	Tandem Mass Spectrometry	Serum 17OHP nmol/L **Female** : = or <7 days <8.5 8-90 days 3.9 91 days-1 year <2.4 1-6 years <1.7 7-12 years <2.6 13-15 years <2.7 >16 years <2.6 **Male :** = or <7 days <3.6 8-90 days 5.9 91 days-1 year <6.5 1-6 years <1.7 7-12 years <2.5 13-15 years <3.5 >16 years <5.6	3 days	U.K.NEQAS Birmingham	Diagnosis and monitoring of congenital adrenal hyperplasia
17(OH)P Blood Spot	Heel Prick fully filled 1cm spot	First Class Post	Tandem Mass Spectrometry	Time 17OHP nmol/L 0800 30-70 12:00 <12 16:00 <8 22:00 <8	10 days	CDC Atlanta	Monitoring congenital adrenal hyperplasia

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
17(OH)P Saliva	Saliva (passive drool) Approx 5ml (1teaspoon)	First Class Post	Tandem Mass Spectrometry	Time 17OHP pmol/L 0800 260-1000 12:00 <130 16:00 <130 22:00 <130	5 days	RFB Scheme	Monitoring congenital adrenal hyperplasia
ACTH	EDTA Plasma 250µL	Take blood into cooled tubes, transport to lab on ice. Separate and freeze immediately. Transport frozen.	Siemens Immulite 2000 XPi	< 46 ng/L	5 days	U.K.NEQAS Edinburgh	Second line investigation of Cushing's syndrome and adrenal insufficiency
Androstenedione*	Serum/Li Heparin Plasma 250µL	First Class Post	Tandem Mass Spectrometry	Provided on report. Interpretation available from the laboratory	5 days	U.K.NEQAS Birmingham	1. The investigation of hyperandrogenism. 2. The management of congenital adrenal hyperplasia due to 11 beta or 21-hydroxylase deficiency. 3. Diagnosis of 17 beta hydroxysteroid dehydrogenase deficiency

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Anti-Mullerian Hormone	Serum 250µL	Stable for 3 days at 20-25°c, 5 days at 2-8°c, 6 months at -20°c. Freeze sample only once	Beckman DXi Immunoassay	AMH Range pmol/L <1.5 Negligible response 1.5-6.5 Reduced response 6.6-19.8 Safe response >19.9 Excessive response	5 days	U.K.NEQAS Edinburgh	1. Predicts ovarian reserve. 2. Used to individualise IVF treatment. 3. Investigation of selected cases of ambiguous genitalia.
Anti-thyroglobulin	Serum 250µL	First Class Post	Abbott Alinity Immunoassay	<3 kU/L	5 days	U.K.NEQAS Birmingham	1. Screen for interference in Tg assay. 2.Tumour marker for differentiated thyroid cancer
Salivary Cortisol and cortisone	Saliva - passive drool in Universal container or collection using salivettes Approx 5ml (1teaspoon) Salivette® Cortisol' purchasable via Sarstedt (order number 51.1534.500).	First Class Post	Tandem Mass Spectrometry	Cortisol nmol/L 8 am 3-20 late night <1.7 Cortisone nmol/L 8 am 18-47 late night <10	10 days	IBL Hamburg and RFB scheme	Screening test for Cushing's syndrome

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Urine Free Cortisol	24 hour urine - plain container 3mL aliquot	First Class Post	Tandem Mass Spectrometry	Adult <146 nmol/24hrs	5 days	U.K.NEQAS Birmingham	Screening for Cushing's syndrome
C-Peptide	Serum, EDTA or Li Heparin Plasma 250µL	Separate and freeze immediately. Transport frozen.	Mercodia Elisa	Interpretation available from the laboratory.	5 days	U.K.NEQAS Guildford	Differential diagnosis of hypoglycaemia.
C-Peptide	Serum or Li Heparin Plasma 250µL	Separate and freeze immediately. Transport frozen.	Abbott Alinity Immunoassay	Interpretation available from the laboratory.	5 days	U.K.NEQAS Guildford	Evaluation of pancreatic β-cell function.

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Dexamethasone	Serum/ Li Heparin Plasma 600µL	After separation freeze sample at -20C. First class post	Tandem Mass Spectrometry	Contact laboratory	10 days	U.K. NEQAS Birmingham	To evaluate for possible false-positive results following an overnight dexamethasone suppression test.
Dehydroepiandrosterone sulphate (DHEA-S)*	Serum/ Li Hep Plasma 250µL	First class post	Tandem Mass Spectrometry	Reference range available from laboratory on request	5 days	U.K.NEQAS Birmingham	1. Investigation of significant hyperandrogenism and/or virilization of sudden onset. 2. Investigation of premature adrenarche
Growth Hormone	Serum / Li Heparin Plasma 250µL	First Class Post	Siemens Immulite 2000 XPi	Interpretation available from the laboratory	5 days	U.K.NEQAS Edinburgh	Investigation of Growth Hormone deficiency and excess
IGF 1	Serum, EDTA or Li Heparin Plasma 250µL	Separate and freeze within 24 hours. Transport frozen.	Siemens Immulite 2000 XPi	Interpretation available from laboratory	5 days	U.K.NEQAS Guildford	Investigation of Growth Hormone deficiency and excess

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Insulin	Serum, EDTA or Li Heparin Plasma 250µL	Separate and freeze immediately. Transport frozen. If the sample hasn't been frozen please still refer with appropriate details	Mercodia Elisa	Interpretation available from laboratory	5 days	U.K.NEQAS Guildford	Non-specific insulin assay recommended for the investigation of hypoglycaemia
Insulin	Serum or Li Heparin Plasma 250µL	Separate and freeze immediately. Transport frozen.	Abbott Alinity Immunoassay	Interpretation available from laboratory	5 days	U.K.NEQAS Guildford	Specific insulin assay. 1. May be included in the assessment of childhood obesity 2. Recommended for research trials and studies
Parathyroid Hormone	EDTA plasma 1mL	Separate and freeze immediately. Transport frozen.	Abbott Alinity Immunoassay	Adults (>/=18 years) 2.3-11.5pmol/L Age</=17 years or unknown 1.6-7.2 pmol/L	2 days	U.K. NEQAS	Differential diagnosis of hypercalcaemia

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Prolactin	1ml serum	First Class Post	Abbott Alinity Immunoassay	Adult Female 109-557 mU/L Adult Male 73-407mU/L	3 days	U.K NEQAS Birminham	1.Investigation of pituitary function. 2.Assessment of infertility, amenorrhoea, impotence, galactorrhoea, failure of lactation
Extracted Prolactin	See Prolactin	See Prolactin	PEG precipitation	Contact laboratory	5 days	See Prolactin	Screening for macro Prolactin interference
Sex hormone binding globulin (SHBG)	Serum or Li Heparin Plasma 200µL	First Class Post	Abbott Alinity Immunoassay	Adult male 14 – 71 nmo/L Premenopausal female 20 – 155 nmol/L Postmenopausal female 14 – 69 nmol/L	7 days	U.K.NEQAS Birmingham	Assessment of androgen status
Testosterone	Serum/ Li Heparin plasma 250µL	First Class Post	Tandem Mass Spectrometry	Adult Male 8 – 30 nmol/L Adult Female <1.7 nmol/L	3 days	NEQAS Birmingham	1. Investigation of hirsuitism/ virilisation in females. 2. Investigation of hypogonadism in males. 3. Monitoring testosterone replacement

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Calculated Free Testosterone	See Testosterone	First class post	Calculation	0.23 – 0.63 nmol/L	3 days	UK NEQAS for Steroid Hormones	Investigation of male hypogonadism
Thyroglobulin	Serum 300µL	First Class Post	Abbott Alinity Immunoassay	In thyroid cancer patients after total thyroidectomy or I^{131} ablation < 0.1 ug/L Thyroglobulin in non-thyroid cancer patients: Child<3 weeks 10 – 250 ug/L >1 year – Adult 5 – 40 ug/L	5 days	U.K.NEQAS Birmingham	1. Post operative monitoring of differentiated thyroid cancer. 2. Used in the differential diagnosis of neonatal hypothyroidism
Thyrotropin receptor antibodies (Cardiff) (TRAb)	Serum 250µL	First Class Post	Abbott Alinity Immunoassay	< 3.1 IU/L	4 days	UKNEQAS Sheffield	1. Diagnosis of Grave's disease. 2. Diagnosis of thyroid associated ophthalmology. 3. To predict/diagnose transient neonatal hyperthyroidism.
Total 25OH Vitamin D	Serum, EDTA or Li Heparin Plasma 300µL	First Class Post	Abbott Alinity Immunoassay	Total 25 OH vitamin D (nmol/L) <30 Deficiency 30-50 Insufficiency >50 Adequate	2 days	UK NEQAS for Vitamin D	Guidelines are available from the laboratory on request

Assay	Sample Requirement	Sample Handling / Transport	Methodology	Reference Range	Turnaround Time (target working days)	EQA	Clinical Utility
Blood Spot TSH	Blood spot	First Class Post	Perkin Elmer Autodelfia	Contact laboratory	3 days	U.K.NEQAS Birmingham, DGKL Germany, CDC Atlanta	Screening for hypothyroidism
5-HIAA	3ml of 24hr urine collection	Overnight room temperature	Tandem Mass Spectrometry	<60 μmol/24 hours	10 days	U.K.NEQAS Birmingham	Carcinoid syndrome
Children's Catecholamine investigations (HMMA/HVA)	100μL random urine (plain)	Overnight room temperature	Tandem Mass Spectrometry	Contact laboratory	10 days	U.K.NEQAS Birmingham	Neuroblastoma
Urine Metadrenalines	3ml of 24hr urine collection	Overnight room temperature	Tandem Mass Spectrometry	Contact laboratory	5 days	U.K.NEQAS Birmingham	Phaeochromocytoma
Plasma Metadrenalines	EDTA plasma 400μL	Separated from red cells within 30 minutes or 2 hours if sent on ice. Transport frozen.	Tandem Mass Spectrometry	Contact laboratory	10 days	U.K.NEQAS Birmingham	Phaeochromocytoma

*Androstenedione and DHEAS are provided as a profile and are reported together. A single specimen of 250uL is required for the analysis of both analytes.