

## High dose Dexamethasone Test - Summary Clinical Guideline

Reference No: CHISCG34

### High dose Dexamethasone Test for the Differential Diagnosis of ACTH Dependant Cushing's Syndrome

**THIS TEST IS ONLY TO BE PERFORMED FOLLOWING DISCUSSION WITH A CONSULTANT  
BIOCHEMIST OR ENDOCRINOLOGIST**

#### INDICATIONS

In the differential diagnosis of Cushing's syndrome

#### CONTRAINDICATIONS

Severe stressful illness/infection  
Active peptic ulceration

#### SIDE EFFECTS

- Possibility of slightly raised blood sugars in Diabetic patients
- Patients with depression may experience a slight mood alteration

#### PRECAUTIONS

Care in patients with:

1. Diabetes Mellitus
2. Psychiatric symptoms in Cushing's syndrome which may worsen

#### PREPARATION

Planning: This test can be done as an inpatient procedure, or as an outpatient procedure provided the patient fully understands the importance of the dose and sample collection times and can attend the hospital for the blood tests. A patient information leaflet exists for this test and should be sent to the patient ahead of the procedure.

Patient: No special patient preparation is required.

#### Equipment:

- Dexamethasone, 2.0 mg tablets x 8
- Two purple top (EDTA) tubes for ACTH samples
- Two yellow top (SST) tubes for cortisol samples

#### PROCEDURE

The request form must state clearly that samples are part of a dexamethasone suppression test and should state date, day of test, and time of sample, and for urines dates and times of collection period. All medication should be noted on the request form. It is important that dexamethasone tablets are taken **strictly 6-hourly** for this test. The timings shown below may need to be adjusted if the basal sample is not collected at exactly 09:00.

**Sample Requirements:**

- Serum cortisol (Yellow top sample)
- Plasma ACTH (Purple top, EDTA sample). This assay will only be done if cortisol results indicate the need

<b>Day &amp; Time</b>	<b>Blood sample</b>	<b>Dexamethasone</b>
1 09:00 15:00 21:00	Take basal sample at 09:00 before giving dexamethasone (Cortisol – Yellow top, ACTH – purple top)	2 mg 2 mg 2 mg
2 03:00 09:00 15:00 21:00		2 mg 2 mg 2 mg 2 mg
3 03:00 09:00	48hr sample at 09:00 (Cortisol – Yellow top, ACTH – purple top)	2 mg

**INTERPRETATION**

Typically patients with Cushing's disease (i.e. ACTH secretion from the pituitary) show greater than 50% suppression of cortisol after high dose dexamethasone whereas patients with ectopic ACTH production or adrenal adenoma will not.

Some investigators have questioned the additional information offered by the high dose dexamethasone test. Most patients with Cushing's Disease will suppress following the low dose dexamethasone test.