

19 - Dexamethasone suppression test (DST)

Dexamethasone suppression test (DST)

© SPM Course neurons in the basolateral amygdala may occur, contributing to a memory bias towards negative events in chronic stress. Hypercortisolism (Addison's disease) Hypocortisolism (Cushing's syndrome) Physical symptoms: Apathy, fatigue, and depression Physical symptoms: Fatigue, weight gain, cold intolerance, dry skin Mental symptoms: Anxiety, irritability, poor concentration, agitation, emotional lability. Mental symptoms: Depression, mania, confusion, and psychotic symptoms.

A diurnal variation in cortisol levels occurs in humans, with peak cortisol levels occurring around 6:00:00 AM. Hypercortisolemia with the loss of the normal diurnal variation have been reported in depression (especially in melancholic depression with the somatic syndrome), in some patients with mania (especially psychotic), obsessive-compulsive disorder and schizoaffective disorder. In PTSD hypocortisolemia is seen in a subgroup of patients; this may be due to aberrant feedback to the pituitary due to excessive glucocorticoid receptors - probably a genetic vulnerability. Low cortisol is also seen in chronic fatigue and fibromyalgia. Dexamethasone suppression test (DST) o Exogenous corticosteroids such as dexamethasone will suppress endogenous cortisol production if the HPA axis is intact. o In DST, 1mg dexamethasone is given at 11PM with baseline cortisol sampling; on the next day at 8AM, 4PM and 11PM cortisol levels are measured again. If any one sample has >5mcg/L of cortisol, this indicates DST non-suppression. This demonstrates the failure of feedback suppression of ACTH/CRH and continuous production of endogenous cortisol despite administration of exogenous steroid (dexamethasone). o DST non-suppression is seen in depression and other psychiatric hyper cortisolemic states (also in organic hyper cortisolemic states such as Cushing's). o The sensitivity of the DST for detecting major depression is modest (about 40%- 50%) but is higher (about 60%-70%) in very severe depression with psychotic as well as melancholic features. o DST non-suppression is non-specific to depression and is also seen in mania and schizoaffective disorder. In addition, a number of major medical conditions, pregnancy, severe weight loss and use of alcohol and certain other drugs (hepatic enzyme inducers that reduce dexamethasone availability - barbiturates, anticonvulsants, and others) can also produce DST non-suppression. o Despite the presence of depression, DST may suppress cortisol if the patient has Addison's or hypopituitarism or taking steroids, high-dose benzodiazepines or

indomethacin. o DST non-suppression does not increase the likelihood of antidepressant response. A negative test is not an indication for withholding antidepressant treatment. o Some data suggest that patients with DST non-suppression are less likely to respond to a placebo than those who show a suppression response.

Revision #1

Created 2026-01-04 20:02:54 UTC by Omar Ayman

Updated 2026-01-04 20:02:54 UTC by Omar Ayman