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Diagnosing adrenal insufficiency using ACTH stimulation test

Alexandra M. Nanzer [1,2], Grainne D'Ancona[1], Philip A. Kelly[3] and David J. Jackson [1,2]

Affiliations: [1]Guy's and St Thomas' NHS Foundation Trust, Thoracic Medicine, Guy's Severe Asthma Service, London, UK. [2]King's College London, London, UK. [3]King's College Hospital NHS Foundation Trust, London, UK.

Correspondence: Alexandra M. Nanzer, Guy's and St Thomas' NHS Foundation Trust, Thoracic Medicine, Guy's Severe Asthma Service, Guy's Hospital, Great Maze Pond, London SE1 9RT, UK. E-mail: alexandra.nanzerkelly@gstt.nhs.uk

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From the authors:

We acknowledge B. Lipworth's work and significant contribution in highlighting the metabolic consequences of steroid therapy in airways disease over the past decades. In their letter he and colleagues refer to a post-synthetic adrenocorticotropic hormone (ACTH, Synacthen) cortisol level of 500 nmol·L^{-1} as the accepted cut-off to diagnose impaired adrenal function. These diagnostic values were derived using older cortisol assays; however, the cortisol levels in our report relate specifically to the newer Roche Elecsys II Cortisol assay used at our centre that gives, on average, 25% lower serum cortisol values, with a cut-off of $\geqslant$420 nmol·L^{-1} for the 250 µg intramuscular short Synacthen test (SST) at 30 or 60 min [1]. The median cortisol level after SST was 490 nmol·L^{-1} (interquartile range (IQR) 453–620 nmol·L^{-1}) in patients who passed the SST; in those who failed the SST the cortisol level after SST was 262 nmol·L^{-1} (IQR 130–310 nmol·L^{-1}).