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## PREVALENCE AND INCIDENCE

### PRIMARY ADRENAL INSUFFICIENCY PER 1,000,000 IN THE US<sup>1</sup>



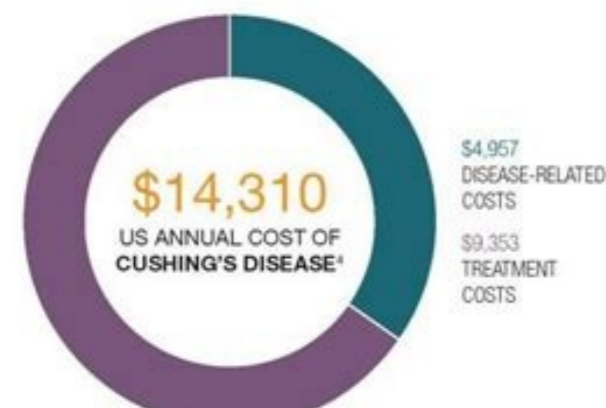
### CUSHING'S SYNDROME INCIDENCE PER 1,000,000 ADULTS <65 IN THE US<sup>2</sup>



### CUSHING'S DISEASE INCIDENCE PER 1,000,000 ADULTS <65 IN THE US<sup>3</sup>



## COST BURDEN



## SEX DIFFERENCES

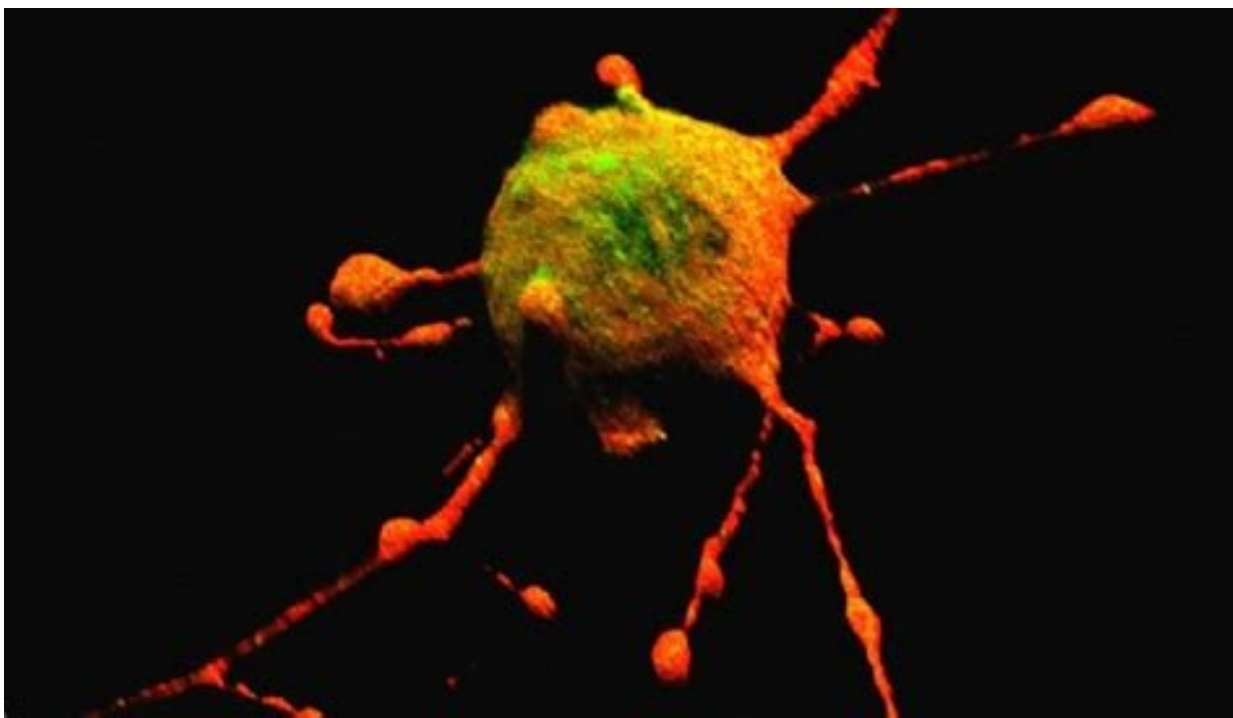
### CUSHING'S DISEASE CASES PER 1,000,000 PER YEAR IN THE US<sup>4</sup>



#### Notes

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3. Broder M.S., Neary M.P., Chang E., Chespeno D., Ludman R.K. Incidence of Cushing's Syndrome and Cushing's Disease in Commercially Insured Patients <65 Years Old in the United States. *Pharmacotherapy* 2014.
4. Broder M.S., Neary M.P., Chang E., Chespeno D., Ludman R.K. Burden of Disease, Annual Healthcare Utilization, and Costs Associated with Commercially Insured Patients with Cushing Disease in the United States. *Endocr Pract* 2015;21(1):77-86.

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Symptoms	Signs	Routine Laboratory Tests
<b>Adrenal insufficiency</b>		
Fatigue	Hyperpigmentation (primary only), particularly of sun-exposed areas, skin creases, mucosal membranes, scars, areola of breast	Hyponatremia
Weight loss	Low blood pressure with increased postural drop	Hyperkalemia
Postural dizziness	Failure to thrive in children	Uncommon: hypoglycemia, hypercalcemia
Anorexia, abdominal discomfort		
<b>Adrenal crisis</b>		
Severe weakness	Hypotension	Hyponatremia
Syncope	Abdominal tenderness/guarding	Hyperkalemia
Abdominal pain, nausea, vomiting, may mimic acute abdomen		Hypoglycemia
Back pain	Reduced consciousness, delirium	Hypercalcemia
Confusion		

Most symptoms are nonspecific and present chronically, often leading to delayed diagnosis. Hyponatremia and, later, hyperkalemia are often triggers to diagnosis, requiring biochemical confirmation of adrenal insufficiency. Hyperpigmentation is a specific sign, but it is variably present in individuals and must be compared with the patient's background pigmentation, such as that in siblings. Adrenal crisis is a medical emergency with hypotension, marked acute abdominal symptoms, and marked laboratory abnormalities, requiring immediate treatment. Continuing effort to prevent adrenal crisis is integral to patient management. Additional symptoms and signs may arise from the underlying cause of adrenal insufficiency, eg, associated autoimmune disorders, neurological features of adrenoleukodystrophy, or disorders that may lead to adrenal infiltration.

## Clinical guidelines: The Endocrine Society of Sri Lanka

### Cushing syndrome

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*Sri Lanka Journal of Diabetes, Endocrinology and Metabolism* 2014; **1**: 1-12

#### List of abbreviations

ACTH	Adreno Cortico Trophic Hormone
BIPPS	Bilateral Inferior Petrosal Sinus Sampling
CS	Cushing Syndrome
CD	Cushing Disease
HDDST	High Dose Dexamethasone Suppression Test
HPAA/XS	Hypothalamo Pituitary Adrenal Axis
LDOST	Low Dose Dexamethasone Suppression Test
ODST	Overnight Dexamethasone Suppression Test
UFC	Urine Free Cortisol
GR	Glomerular Filtration Rate
CRH	Corticotropin Releasing Hormone
PCOS	Polycystic Ovary Syndrome
TSS	Transphenoidal Surgery

#### Introduction

Cushing syndrome (CS) comprises symptoms and signs associated with prolonged exposure to inappropriately elevated levels of free plasma glucocorticoids. Iatrogenic CS is the most common form. Endogenous CS, may be caused by either excess ACTH secretion or independent adrenal overproduction of cortisol.

#### Epidemiology

Endogenous CS is a very rare entity, with an annual incidence of 2-3 cases per million individuals. The female:male ratio is 3:1. In patients whom initial cure was not obtained, a 2 to 3 fold increase in mortality is reported.

#### Clinical features of CS

CS often presents a diagnostic challenge, particularly in the early stages when the signs and symptoms are non-specific. As the clinical features are non-specific, presence of highly discriminative clinical features (Table 1) should prompt further biochemical tests.

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S1

Adrenal incidentaloma guidelines 2020. Endocrine society guidelines for adrenal insufficiency. Adrenal incidentaloma european guidelines.

Endocrine Reviews Journal Article Mark Sherlock, Andrew Scarsbrook, Afroze Abbas, Sheila Fraser, Padiporn Limumpornpetch, Rosemary Dineen, Paul M Stewart Endocrine Reviews, Volume 41, Issue 6, December 2020, bnaa008 Abstract An adrenal incidentaloma is now established as a common endocrine diagnosis that requires a multidisciplinary approach for effective management. The majority of patients can be reassured and discharged, but a personalized approach based upon image analysis, endocrine workup, and clinical symptoms and signs are required in every case. Adrenocortical carcinoma remains a real concern but is restricted to



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