

Copeptin aids in the diagnosis of polyuria-polydipsia syndrome



What is Copeptin?

Copeptin and vasopressin (AVP), often known as antidiuretic hormone (ADH), are derived from the same pre-vasopressin precursor molecule. Serum copeptin concentrations are substantially correlated with AVP levels, and both molecules respond equally to stimuli and changes in blood volume. Unlike AVP, which is released in a pulsatile pattern and swiftly removed from plasma, copeptin levels in plasma tend to be relatively steady. Copeptin is also significantly more stable during storage than AVP, allowing for improved accuracy and easier sample handling.¹

What is the Clinical Utility of Copeptin?

**Polyuria-polydipsia syndrome:
Improved differential diagnosis**

We understand the challenges in diagnosing polyuria-polydipsia syndrome and distinguishing between cases of primary polydipsia and diabetes insipidus. Direct AVP measurement would be the preferred diagnostic method, but the molecular properties of AVP make such testing complex and unreliable. A single copeptin assay can now distinguish between central diabetes insipidus and nephrogenic diabetes insipidus. This can reduce the burden of the water deprivation test for the majority of patients while also improving patient management.¹

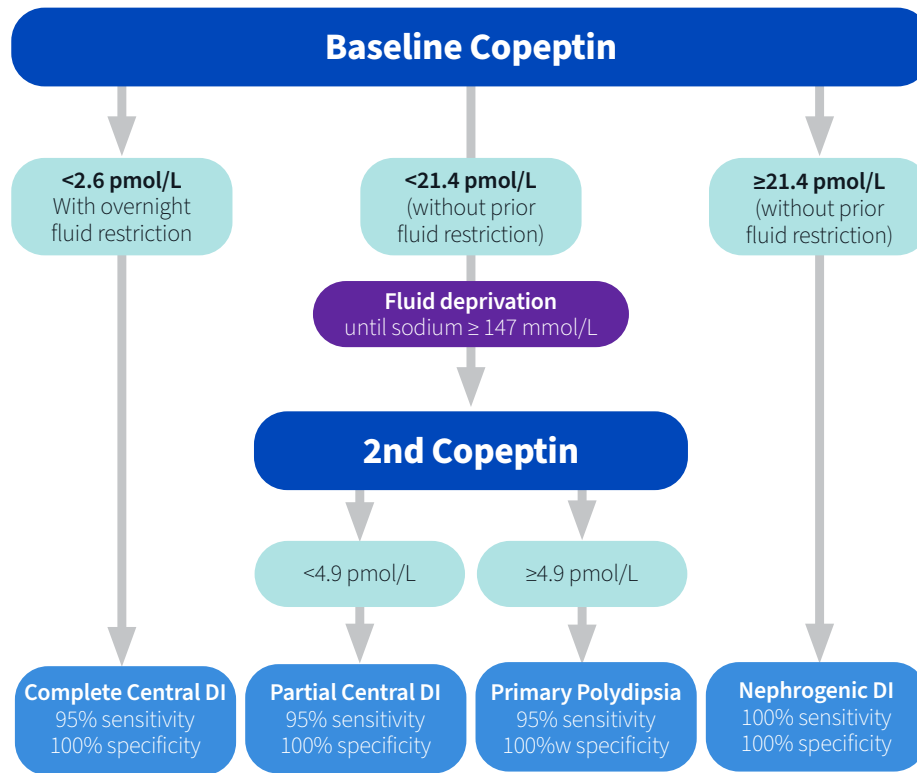
Pituitary surgery:

Easy monitoring for vasopressin deficiency

Pituitary tumors, due to their specific location, can cause a variety of hormone deficiencies and water metabolism issues. Copeptin allows for simple monitoring of vasopressin deficiency after pituitary surgery. Low copeptin levels within twelve hours of surgery are a reliable predictor of the development of post-operative diabetic insipidus.^{1,2}

Additional diagnostic potential of copeptin

- Traumatic brain injury—reliable follow-up for hypopituitarism³
- Hyponatremia—a promising biomarker for differential diagnosis⁴
- Polycystic kidney disease—better assessment of disease progression and management⁵
- Septic shock—fine-tuning of exogenous vasopressin therapy⁶
- Acute myocardial infarction (AMI)—early rule out measurement in combination with troponin⁷



A diagnostic workflow for the differential diagnosis of polyuria-polydipsia syndrome, modified from Christ-Crain M et al.¹

Test Name	Test No.	Specimen	Collection	Storage	Patient Preparation
Copeptin	010505	Plasma	Separate plasma from cells and transfer to a plastic transport tube	Room temperature	None required

References

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