

Free Catecholamines in Urine

Description	Urinary Free Catecholamines and methylated metabolites										
Indication	Investigation of a metanephrine secreting tumour-phaeochromocytoma, neuroendocrine tumours, neuroblastoma, hypertension.										
Additional Info	<p>Quantitation of free catecholamines is valuable in the diagnosis and follow-up of patients with phaeochromocytoma and related neuroendocrine tumours. It has been estimated that 1 in every 500 hypertensive patients may have this type of tumour.</p> <p>If clinical suspicion of phaeochromocytoma remains high despite normal 24hr urine catecholamine and methylated metabolite levels, and especially if symptoms are episodic, plasma metanephrines should be measured due to their high diagnostic sensitivity as 24-hour urine tests are not always successful in detecting intermittently secreting tumors.</p>										
Concurrent Tests	Urinary free Noradrenaline/Adrenaline/Dopamine and methylated metabolites Normetadrenaline/Metadrenaline.										
Dietary Requirements	N/A										
Interpretation	<p>Generally if a catecholamine (noradrenaline/adrenaline) is seen to be raised, then the methylated metabolite (normetadrenaline/metadrenaline) is <i>usually</i> (but not always) raised and vice-versa.</p> <p>Normetadrenaline is raised in the vast majority of patients with tumours that secrete noradrenaline (the noradrenaline level may be normal) as these tumours can methylate catecholamines in situ.</p> <p>Metadrenaline is raised in the vast majority of patients with tumours that secrete adrenaline (the adrenaline level may be normal) as these tumours can methylate catecholamines in situ.</p> <p>Dopamine secreting tumours (neuroblastoma) are <i>usually</i> (but not always) associated with paediatric patients.</p> <p>Reference Range</p> <table><tr><td>Noradrenaline</td><td>120 - 590 nmoL/24hr</td></tr><tr><td>Adrenaline</td><td>30 - 190 nmoL/24hr</td></tr><tr><td>Dopamine</td><td>650 - 3270 nmoL/24hr</td></tr><tr><td>*Normetadrenaline</td><td><650 nmoL/24hr</td></tr><tr><td>*Metadrenaline</td><td><350 nmoL/24hr</td></tr></table> <p>*Available for Clinical Scientists to aid in interpretation.</p>	Noradrenaline	120 - 590 nmoL/24hr	Adrenaline	30 - 190 nmoL/24hr	Dopamine	650 - 3270 nmoL/24hr	*Normetadrenaline	<650 nmoL/24hr	*Metadrenaline	<350 nmoL/24hr
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*Metadrenaline	<350 nmoL/24hr										
Collection Conditions	Urine must be collected into 5N H ₂ SO ₄ as collection at pH >4.0 can cause auto-oxidation.										

Frequency of testing

To allow for detection of intermittent secretion, three separate daily collections are suggested.