

Selenium

Synonyms

Se

Clinical Indication

Outside of China, symptomatic selenium deficiency in humans appears to be restricted to patients on parenteral nutrition and children with inborn errors of metabolism on specialised diets, especially patients on a non-supplemented synthetic amino acid diet (e.g., phenylketonuria, total parenteral nutrition). Such diets are now usually supplemented with selenium.

Significant selenium deficiency is manifest primarily as cardiomyopathy. This correlates poorly with serum selenium levels and rarely occurs in selenium deficient patients on total parenteral nutrition. Selenium toxicity generally only occurs only after ingestion of selenium as a chemical, rather than from a high dietary intake. Chronic ingestion of megadoses of selenium supplement would be required for toxicity to occur.

Part of Profile / See Also

Request Form

Combined Pathology manual Blood form or ICE request

Availability / Frequency of Analysis

Referred test: Analysed at the Trace Element Laboratory, Kings College Hospital Synnovis (9067), if specific criteria met.

Turnaround Time

2 Weeks

Patient Preparation

None required.

Sample Requirements

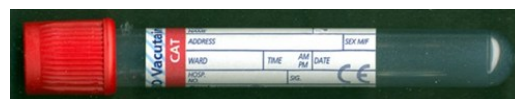
Specimen Type

Serum

Volume

2 ml.

Container



Red top (plain) tube is preferred



but pink/purple top (EDTA) is acceptable



Paediatric lithium heparin (Orange top – Sarstedt tube)



Paediatric lithium heparin (Pale green top – BD Microtainer)

Reference Range & Units

0.45 – 1.47 umol/L in children

0.90 – 1.67 umol/L in adults

Interferences

Interpretation & Clinical

There is some debate as to what is the most appropriate index of selenium status, but in clinical practice serum/plasma selenium is usually measured.

Decision Value (if applicable)

Normal selenium concentrations are age-dependent being lower in neonates. There is evidence that selenium is a negative acute phase reactant and this should be excluded by concurrent measurement of CRP.

References

<https://www.synnovis.co.uk/our-tests/selenium>

Test code

SE

Lab Handling

Aliquot 500ul and store in referrals rack at 4C. Sent daily by courier to King's College, London.



9067

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ISO 15189:2012