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Clinical Notes Fasting Day 2-3

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## Selenium

Selenium-plasma **2.3 H** umol/L 0.7 - 2.0

## Comments

Toxic effects due to selenium have been reported at concentrations higher than 5 umol/L; however toxicity is dependent on the chemical form (species) of selenium present. Inorganic forms of selenium such as selenite and selenate are more toxic than organic forms such as selenomethionine or selenocysteine which can be found in meat and dairy products, cereals, seafood, and nuts. Sullivan Nicolaides Pathology does not currently offer selenium speciation. Diagnosis of selenium toxicity is based on clinical signs and symptoms, and is supported by laboratory results.

Early signs of acute toxicity include hypotension and tachycardia. Common symptoms include nausea, vomiting, diarrhoea, abdominal pain, tremor, muscle spasms, restlessness, confusion, delirium, and coma. Chronic selenium toxicity (selenosis) is often characterised by alopecia, peripheral neuropathy, and nail changes (namely brittleness, with white spots or longitudinal streaks on the surface). Nail breaks can also occur, which may grow back deformed. As selenosis progresses, decreased cognitive function, weakness, paralysis, and death can occur. A strong garlic-like odour is usually present in both acute and chronic toxicity; this is due to a volatile metabolite called dimethylselenide.

For further information please contact Dr. Lee Price (phone 07 33778672) or Dr. David Kanowski (phone 07 33778779).

As of 22/05/23 the SNP Reference Intervals for plasma selenium have been updated

DH

LAUNCESTON PATHOLOGY NATA ACCREDITATION NO. 2208

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