

Requisition #: 9900001
Patient Name: Report Masked
Patient Age: 17
Sex: M

Practitioner: NO PHYSICIAN
Date of Collection: 12/01/2022
Time of Collection: Not Given
Report Date: 8/9/2023

Copper Zinc Profile

Compound	Reference Range	Units	Patient Value	Low	Reference Interval Normal	High
*Ceruloplasmin	1.5 - 4.5	umol/L	0.4 L			
Ceruloplasmin-Copper	9.0 - 27.0	umol/L	2.3 L			
**Copper Serum	12.0 - 23.0	umol/L	62.8 H			
**Zinc Serum	10.0 - 17.0	umol/L	45.7 H			
NonCeruloplasmin-Copper	2.3 - 6.3	umol/L	60.6 H			
Copper/Zinc	0.8 - 2.0	Ratio	1.4			

* Tests performed by Quest Diagnostics, Lenexa, KS

** Test performed by Quest Diagnostics, Nichols Institute, Valencia, CA



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Copper Zinc Profile

- Continued

High copper.

Elevated copper may be associated with ingestion of excess copper in water (even “safe” water may have excess copper due to copper algicides or copper pipes), food contaminated with copper fungicides, acute and chronic diseases, gastrointestinal symptoms, cancer, hemochromatosis, infections, oral contraceptives, thyrotoxicosis, pregnancy, excessive dietary intake, antiseizure drug use, or biliary cirrhosis. Wilson’s disease can be present when serum total copper is low, normal, or high. Preliminary research indicates that many types of cancer metastases due to angiogenesis can be reduced by lowering serum copper values since angiogenesis depends on an adequate copper supply.

High zinc.

High zinc is almost always associated with excessive dietary intake. High zinc intake may cause copper deficiency and high zinc values may occur in coronary heart disease, arteriosclerosis, certain cancers, and anemias.



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Copper Zinc Profile

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High nonceruloplasmin or “free” copper

High nonceruloplasmin or “free” copper is associated with Wilson’s disease, a genetic disease due to a defective ATPase dependent copper transport protein, Menkes steely hair disorder, autistic spectrum disorders, extrahepatic biliary atresia, copper poisoning, chronic liver disease, primary biliary cirrhosis, Agenes syndrome, and arterioductular hypoplasia syndrome.

Low serum ceruloplasmin

Low ceruloplasmin values may be found in Wilson’s disease, a genetic disease due to a defective ATPase dependent copper transport protein, Wilson’s disease carriers, Menkes steely hair disorder, extrahepatic biliary atresia, chronic liver disease including hepatitis, primary biliary cirrhosis, Agenes syndrome, and arterioductular hypoplasia syndrome. Individuals with low ceruloplasmin and high nonceruloplasmin copper should consider DNA tests for Wilson’s disease, a disease in which copper excretion is defective.