



Micro Trace Minerals Laboratory

40+ years of clinical & environmental
laboratory diagnostics

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MTM Newsletter

N° 25 - March 2019

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Laboratory News

■ **Gadolinium - Does Chelation detoxify this metal?**

Gadolinium is a hot topic right now. Does chelation work, and if so, which chelator or which chelation protocol works best?

We thoroughly screened our database for urine samples, taken before and after various chelation treatments. Urine samples were taken from patients who had undergone MRIs. We selected pre- and post-urine samples that were taken on the same day. Chelators used were either DMSA, DMPS or EDTA. The results surprised us all and we are evaluating how to devise a follow-up study that would confirm or negate findings.

In summary

Gadolinium is renally excreted without the use of chelating agents and it seems logical to assume that renal support (including Vitamin B6 with adequate water consumption) should be considered after Gd-agents have been administered.

Our research paper, "Chelation and Gadolinium: How effective is it?" has been published in the Open Access Journal of Diagnostic Pathology.

It can be downloaded from our website:

<https://microtraceminerals.com/fileadmin/uploads/pdf/en/chelation-and-gadolinium-how-effective-is-it-2476-2024-1000151.pdf>

More studies are needed to make a final conclusion. If you have suggestions, I like to hear from you at ebb@microtraceminerals.com

■ **Arsenic and urine test results**

When it comes to diagnosing an arsenic exposure, it is important to compare baseline test results with provocation test results, especially when we need to determine if an extreme value is due to an immediate exposure or the result of a past or chronic, low level exposure.

Our database indicates that extreme arsenic values in urine are not unusual. For Arsenic, DMPS is the chelator of choice. Our evaluation of DMPS provocation urine tests demonstrates that about 5% of the arsenic test values are above the acceptable range of 100 µg/g creatinine; however, an unexpected **36% of the Baseline urines** show arsenic values > 100 µg/g creatinine (MTM database 2018).

This suggests that an immediate exposure to Arsenic through diet or other means is common.



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The FDA states, "Arsenic is a chemical element present in the environment from both natural and human sources, including erosion of arsenic-containing rocks, volcanic eruptions, contamination from mining and smelting ores, and previous or current use of arsenic-containing pesticides." Maximum levels for arsenic in certain foods have been established by Commission Regulation (EC) No 2015/1006.

A high consumption of rice as is seen in certain ethnic groups or a high consumption of algae-based products can exceed the tolerable weekly intake for inorganic arsenic.

EU regulation guideline:

https://ec.europa.eu/food/safety/chemical_safety/contaminants/catalogue/arsenic_en

DMPS has been developed for the detoxification of Arsenic. Urine test results indicate if an exposure to Arsenic has happened. It must be noted, however, that the arsenic test values of our urine reports reflect inorganic arsenic only. During the analytical process, all organic arsenic is broken down to inorganic arsenic.

We realize that chelation therapists omit baseline urine testing for financial reasons. Our medical advisor Dr. Reinhard Strey MD routinely takes a baseline urine before the provocation; however, the baseline urine is not routinely tested. While Dr. Strey sends the provocation urine to the laboratory for testing, he temporarily stores the baseline urine sample in his office refrigerator. When the provocation urine test results show unexpected extreme values (such as arsenic or gadolinium), he submits the baseline urine sample to the laboratory for single element analysis.

Please note:

We routinely test for single elements, ask for prices.

■ Protocol Changes and Plausibility Checks

We recommend that you provide us with information regarding the chelating substance and the urine collection time used. This information is needed for a proper plausibility check. While experience and statistics allow us to differentiate test values of DMPS from EDTA or DTPA, the urine collection time enables us to judge if test values represent a chelator's maximum binding capacity.

For instance, EDTA has a half-life of 45 minutes. If 1gr of EDTA have been administered over 1hrs (which is protocol), the correct urine collection time would be 1h45min. A shorter or considerably longer collection time influences the chelator's binding capacity.

We recognize that the experienced chelation therapist can take this into account when interpreting results, but if he/she changes protocol from treatment session to session, including:

- amount of chelator used
- changes in administration
- drastic changes in hydration and urine collection time

A comparison of results will be difficult.



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■ Combining Chelators

When two or more chelating agents are administered during one treatment session, interpretation of results becomes difficult when protocol is changed. For example:

- If during the initial chelation treatment, DMPS is administered first, the second chelator can be administered after 45 min. If it is given sooner, the metal binding does not happen optimally.
- If at the next treatment session, the application of chelators is reversed i.e. DMPS is 2nd in the treatment protocol, the mercury binding will be affected.

■ Miscellaneous Samples

As is outlined in our laboratory schedule we test a variety of samples such as biopsy tissues, pharmaceuticals, nutritional supplements, powders or liquids of sorts. For most of these, reference ranges are not provided by the appropriate agencies such as FDA (US Food and Drug Administration), meaning we have to list test values without reference ranges.

The charge for testing does not include interpretation of results or literature searches. If you need either one, please contact our office personnel beforehand.

Our laboratory catalog:

<https://microtraceminerals.com/en/laboratory-catalog>

Medical Workshops and Conferences

■ International Conferences & Workshops 2019

If you are interested in workshops on environmental issues, chelation, laboratory testing or metal toxicology, check our website:

<https://microtraceminerals.com/en/workshops>

■ Webinars

At present, no current webinars, if you are interested, please contact us.

For registration and further information, please visit:

<https://www.edudip.com/academy/e.blaurock-busch>

Thank you for your attention. Let us know if you have questions.

And all the best

Your

E. Blaurock-Busch and Team