

DMSA Chelation Therapy in Dentistry

Received.....10/1/99 Scientific Review.....2/16/99 IAOMT Board Review.....3/30/00 Reevaluation.....9/01/00	<h3 style="margin: 0;">Scientific Review Biological Support</h3>	Approval Provisional Approval No Opinion No Approval.....3/30/99
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Explanation of IAOMT position: It is important that the IAOMT be very clear that this product is not to be used by dentist unless thoroughly evaluated by your licensing governing body with written verification. It is here for information purposes only. Note that it has **No Approval.**

Besides the need for better long-term studies, the scientifically unanswered question that: DMSA passes through the “blood/brain barrier” and “actually opens it up”. No science has been found to support or deny this notion. However, if this is true, then extreme caution should be used, especially in neurologically compromised patients, for any osmotic gradient will pass mercury into neurological tissues compounding the problems.

Name of Scientific Review: DMSA (meso-2,3-dimercaptosuccinic acid) Chelation Therapy in Dentistry
Alternative name(s) of Scientific Review: Mercury Detoxification Using DMSA (meso-2,3-dimercaptosuccinic acid) Chelation Therapy in Dentistry
This Scientific Review is related to: Dentistry
This Scientific Review is a: Product & Procedure
Do you have a vested financial interest in this Scientific Review? No
Purpose of the Scientific Review: To clarify the role of DMSA as a pharmaceutical elimination technique in mercury detoxification. To provide information to aid the dentist in advising patients and other health care practitioners of treatment for mercury toxicity during and following the removal of mercury amalgam dental restorations.
Scientific Review History: A wide range of techniques is currently being used to reduce the patient’s body burden of mercury. Of the many techniques, medications (supplements, herbal, homeopathic remedies, chemicals) and methods, to date, none have emerged as the “treatment of choice.” The use of DMSA as an antioxidant is advocated as part of a more comprehensive support program because of its effectiveness and limited number of side effects.
Briefly describe the Scientific Review: The use of prescribed DMSA as part of a detoxification program following the removal of mercury amalgam dental restorations.
A <u>specifically</u>, by outline if appropriate, describe the Scientific Review: See “Appendix A” summary. For the complete text of “Appendix A” contact the applicant.
Manufacturer(s), Distributor(s), or Publisher: Available by prescription as generic “Succimer” or trade name “Chemet” from McNeil Laboratories, but can be manufactured in compounding pharmacies in specific dosages.
Scientific Literature: For the complete text of “Appendix B” contact the applicant.
Legal Aspects of this Scientific Review: The application of the drug and procedure or the use of DMSA may be beyond the “practice of dentistry” in some legal jurisdictions. This means that administering this compound to your patients for the express purpose reducing their mercury burden may imply the “practice of medicine.” The intention of this Scientific Review is to provide background information for dentist to aid them in communicating with the physician of record, advice on patient protection and detoxification <u>during and following</u> the removal of mercury amalgam dental restorations.

Appendix A

The use of DMSA in a Mercury Antitoxic Program: a summary

There is a growing awareness among health care practitioners and researchers that dental mercury amalgam fillings release a significant amount of mercury. Enough mercury is released to potentially cause health problems, especially in susceptible individuals. Research demonstrates that mercury vapor is continuously released from the amalgam fillings in measurable quantities from the placement (acute) and through the restorations life (chronic).

An indication of mercury exposure risk (Mercury Vapor Risk Factor Analysis, IAOMT SOC) and burden of body tissues can be acquired by hair analysis, urine (provocative IV dose of DMPS or oral DMSA).

What is DMSA? DMSA is an abbreviation for meso-2,3-dimercaptosuccinic acid. It is a FDA approved drug marketed as "Chemet" (succimer) by McNeil Laboratories for the treatment of lead toxicity in children.

How is DMSA administered? Orally

What is the correct dosage? The usual prescription is 25 capsules (specially compounded capsules 500mg each) to be taken one capsule at a time, 3 times a week for 2 months. Chemet is dispensed in 100 mg capsules so the dosage must be adjusted appropriately.

Recent information from Doctor's Data Inc. suggests that DMSA gives better yields for the provoked urine toxic elements challenge than DMPS if given at 30 mg/kg followed by a 6 hour urine collection (J. Nutr. Envir. Med. (1998)8. 219-231) Doctor's Data then describes the protocol for DMSA therapy as follows:

Two week cycle; 3 days on DMSA (10mg/kg, in divided doses, i.e., t.i.d.). 11 days off drug. Supplement I.V. and/or orally 24-48 hours after last dose (essential elements, SH-containing amino acids, DMSA depletes cysteine). As with any chelating/complexing agent, do not co-administer minerals 24 hours prior to or during drug administration. Re-challenge with I.V. DMPS as described after about every 5 cycles of oral DMSA to monitor progress.

How is DMSA metabolized? About 20% of the administered dose is recovered in the urine. Maximum excretion of DMPS occurred in the 2-4 hour urine specimen.

How safe is DMPS? Adverse reactions are occasional dizziness and weakness plus more rare abdominal distress, gas or pain.

When is the best time to remove mercury amalgam fillings? All mercury should be removed prior to administration of DMSA including those under crowns and onlays.

Why should DMSA be used instead of DMPS? DMSA is approved by the US FDA

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