



Five Things Physicians and Patients Should Question

1 Don't use homeopathic medications, non-vitamin dietary supplements or herbal supplements as treatments for disease or preventive health measures.

Alternative therapies are often assumed safe and effective just because they are “natural.” There is a lack of stringent quality control of the ingredients present in many herbal and dietary supplements. Reliable evidence that these products are effective is often lacking, but substantial evidence exists that they may produce harm. Indirect health risks also occur when these products delay or replace more effective forms of treatment or when they compromise the efficacy of conventional medicines.

2 Don't administer a chelating agent prior to testing urine for metals, a practice referred to as “provoked” urine testing.

Metals are ubiquitous in the environment and all individuals are exposed to and store some quantity of metals in the body. These do not necessarily result in illness. Scientific studies demonstrate that administration of a chelating agent leads to increased excretion of various metals into the urine, even in healthy individuals without metal-related disease. These “provoked” or “challenge” tests of urine are not reliable means to diagnose metal poisoning and have been associated with harm.

3 Don't order heavy metal screening tests to assess non-specific symptoms in the absence of excessive exposure to metals.

Individuals are constantly exposed to metals in the environment and often have detectable levels without being poisoned. Indiscriminant testing leads to needless concern when a test returns outside of a “normal” range. Diagnosis of any metal poisoning requires an appropriate exposure history and clinical findings consistent with poisoning by that metal. A patient should only undergo specific metal testing if there is concern for a specific poisoning based on history and physical examination findings.

4 Don't recommend chelation except for documented metal intoxication which has been diagnosed using validated tests in appropriate biological samples.

Chelation does not improve objective outcomes in autism, cardiovascular disease or neurodegenerative conditions like Alzheimer's disease. Edetate disodium is not FDA-approved for any condition. Even when used for appropriately diagnosed metal intoxication, chelating drugs may have significant side effects, including dehydration, hypocalcemia, kidney injury, liver enzyme elevations, hypotension, allergic reactions and essential mineral deficiencies. Inappropriate chelation, which may cost hundreds to thousands of dollars, risks these harms, as well as neurodevelopmental toxicity, teratogenicity and death.

5 Don't remove mercury-containing dental amalgams.

Mercury-containing dental amalgams release small amounts of mercury. Randomized clinical trials demonstrate that the mercury present in amalgams does not produce illness. Removal of such amalgams is unnecessary, expensive and subjects the individual to absorption of greater doses of mercury than if left in place.

How This List Was Created

The American College of Medical Toxicology's (ACMT's) Board of Directors established a *Choosing Wisely*[®] work group to develop a list of items for the *Choosing Wisely* campaign. Members of the work group were chosen to represent various practice settings within the field of medical toxicology, including ambulatory, acute and population-based practice. Work group members included the President of the College, the Chair of the Practice Committee, the Chair of the Positions and Guidelines committee and other academic leaders within the medical toxicology community. All work group members also represented the American Academy of Clinical Toxicology (AACT). The work group developed a preliminary list of items that was disseminated to all members of ACMT and AACT for review, commentary and potential additions. Additional feedback was solicited from leaders within the field of medical toxicology, including several past-presidents of ACMT and credible, leading subject matter experts in those areas identified. The work group reviewed all responses, and narrowed the list to the final five items based on a review of scientific evidence, relevance to the specialty and greatest opportunity to improve care, reduce cost, and reduce harm to patients. The final list was approved by the ACMT Board of Directors and the AACT Board of Trustees.

The ACMT and AACT disclosure and conflict of interest policies can be found at www.acmt.net and www.clintox.org respectively.

Sources

- 1 Woodward KN. The potential impact of the use of the homeopathic and herbal medicines on monitoring the safety of prescription products. *Hum Exp Toxicol*. 2005;24:219–33.
Thompson E, Barron S, Spence D. A preliminary audit investigating remedy reactions including adverse events in routine homeopathic practice. *Homeopathy*. 2004;93:203–9.
De Smet PA. Health risks of herbal remedies. *Drug Saf*. 1995;13:81–93.
Farah MH, Edwards R, Lindquist M, Leon C, Shaw D. International monitoring of adverse health effects associated with herbal medicines. *Pharmacoepidemiol Drug Saf*. 2000;9(2):105–12.
Drew AK, Myers SP. Safety issues in herbal medicine: implications for the health professions. *Med J Aust*. 1997;166:538–41.
- 2 Charlton N, Wallace KL. American College of Medical Toxicology position statement on post-chelator challenge urinary metal testing. *American College of Medical Toxicology*; 2009 Jun [cited 2013 Apr 23]. Available from: http://www.acmt.net/cgi/page.cgi/zine_service.html?aid=2999&zine=show.
Risher JF, Amler SN. Mercury exposure: evaluation and intervention the inappropriate use of chelating agents in the diagnosis and treatment of putative mercury poisoning. *Neurotoxicology*. 2005 Aug;26(4):691–9.
- 3 McKay C, Holland M, Nelson L. A call to arms for medical toxicologists: the dose, not the detection, makes the poison. *Internet J Med Toxicol*. 2003;6(1):1.
Schober SE, Sinks TH, Jones RL, Bolger PM, McDowell M, Osterloh J, Garrett ES, Canady RA, Dillon CF, Sun Y, Joseph CB, Mahaffey KR. Blood mercury levels in US children and women of childbearing age, 1999-2000. *JAMA*. 2003;289(13):1667–74.
- 4 Nonstandard uses of chelation therapy. *Med Lett Drugs Ther*. 2010 Sep 20;52(1347):75–6.
Kosnett MJ. Chelation for heavy metals (arsenic, lead, and mercury): protective or perilous? *Clin Pharmacol Ther*. 2010 Sep;88(3):412–5.
Nissen SE. Concerns about reliability in the Trial to Assess Chelation Therapy (TACT). *JAMA*. 2013 Mar 27;309(12):1293–4.
Risher JF, Amler SN. Mercury exposure: evaluation and intervention the inappropriate use of chelating agents in the diagnosis and treatment of putative mercury poisoning. *Neurotoxicology*. 2005 Aug;26(4):691–9.
U.S. Food and Drug Administration. FDA warns marketers of unapproved 'chelation' drugs. *FDA Consumer Health Information*. 2010 October;1.
- 5 Bellinger DC, Trachtenberg F, Barregard L, Tavares M, Cernichiari E, Daniel D, McKinlay S. Neuropsychological and renal effects of dental amalgam in children. A randomized clinical trial. *JAMA*. 2006 Apr 19;295(15):1775–83.
Factor-Litvak P, Hasselgren G, Jacobs D, Begg M, Kline J, Geier J, Mervish N, Schoenholtz S, Graziano J. Mercury derived from dental amalgams and neuropsychologic function. *Environ Health Persp*. 2003 May;111(5):719–23.

About the ABIM Foundation

The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.

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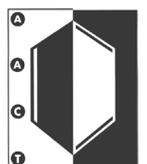


About the American College of Medical Toxicology and the American Academy of Clinical Toxicology

The American College of Medical Toxicology (ACMT) is an association of physicians with recognized expertise in the diagnosis, management and prevention of human poisoning and other adverse health effects due to medications, occupational and environmental toxins and biological agents. ACMT's mission is to advance quality care of poisoned patients and public health through physicians who specialize in consultative, emergency, environmental, forensic and occupational toxicology. ACMT values the importance of research and evidence based practice in combating human poisoning.



The American Academy of Clinical Toxicology (AACT) is a multidisciplinary organization uniting scientists and clinicians in the advancement of research, education, prevention and treatment of diseases caused by chemicals, drugs and toxins. AACT's mission is to promote the study of health effects of poisons, encourage the development of new therapies and treatment in clinical toxicology, and define the position of clinical toxicologists on toxicology-related issues.



For more information visit www.acmt.net and www.clintox.org.