

Better estrogen-testing methods needed to improve patient care

March 5 2013

In a Position Statement unveiled today, The Endocrine Society advocates that all methods for measuring estrogens, which play a crucial role in human biology, be made traceable to a common standard.

In addition to the well-known role of estrogens in [sexual development](#), these hormones, particularly estradiol, have a significant impact on the health of the skin, blood vessels, bones, muscle, kidney, liver, digestive system, brain, lung and pancreas. Studies have linked changes in estradiol levels to [coronary artery disease](#), stroke and [breast cancer](#).

"Estradiol levels need to be accurately, precisely and consistently measured to provide the proper care for patients from the cradle to the grave," said the statement's lead author, William Rosner, MD, of Columbia University. "[Health care providers](#) rely on estradiol testing to diagnose and help treat a variety of conditions, including infertility, osteoporosis and breast cancer. Current testing methods need to evolve to meet patients' needs."

The statement identifies a number of issues with the current testing methods used for a typical patient's care. Most of the tests used in the clinical setting cannot detect the low estradiol concentrations found in men, children, [menopausal women](#) and [breast cancer patients](#) taking drugs that decrease estradiol levels. In addition, other compounds in the body can interfere with the testing, leading to results that can be 10 times the true estradiol level. Quality assessments have found large variations in measurements performed by different laboratories or with different

pieces of equipment. Accurate results are needed so that diagnoses are not missed, and patients and health care providers can make informed decisions about treatment options.

In addition, current testing methods limit the ability to generalize results from any given study to the population at large. Furthermore, in the current environment, data from different studies often cannot be compared because measurements and standards were not uniform.

Although a "gold standard" estradiol testing method using mass spectrometry exists, its cost and complexity have discouraged many clinical and research laboratories from implementing this approach.

"The Endocrine Society calls for physicians, members of the research community, government agencies, patient advocates and insurers to collaborate to make accurate testing more accessible," Rosner said.

Recommendations in the statement include:

- The development of a universally recognized estradiol standard to which all measurements can be traced;
- The development of estradiol reference ranges specific for age, gender and stage of reproductive development, including puberty/adolescence, menstrual cycle and menopause;
- A wider recognition among physicians, laboratory staff and researchers that low estradiol values in men, children and menopausal women obtained using current clinical testing methods are likely to be untrustworthy; and
- The creation of new methods capable of accurately and precisely measuring small concentrations of estradiol in routine clinical specimens. Until such methods are available, a system needs to be implemented to continuously evaluate existing testing and

facilitate the improvement of estradiol measurements.

Other authors of the statement include: Susan Hankinson of the University of Massachusetts, Amherst; Patrick Sluss of Massachusetts General Hospital; Hubert Vesper of the U.S. Centers for Disease Control and Prevention; and Margaret Wierman of the University of Colorado School of Medicine.

The statement, "Challenges to the Measurement of Estradiol: An Endocrine Society Position Statement," appears in the April 2013 issue of the *Journal of Clinical Endocrinology and Metabolism*.

Provided by The Endocrine Society

Citation: Better estrogen-testing methods needed to improve patient care (2013, March 5) retrieved 24 April 2024 from <https://medicalxpress.com/news/2013-03-estrogen-testing-methods-patient.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.