As the premier scholarly publication of the osteopathic medical profession, JAOA — The Journal of the American Osteopathic Association encourages osteopathic physicians, faculty members and students at colleges of osteopathic medicine, and others within the healthcare professions to submit comments related to articles published in the JAOA and the mission of the osteopathic medical profession. The JAOA’s editors are particularly interested in letters that discuss recently published original research.

Letters to the editor are considered for publication in the JAOA with the understanding that they have not been published elsewhere and that they are not simultaneously under consideration by any other publication. Although the JAOA welcomes letters to the editor, readers should be aware that these contributions have a lower publication priority than other submissions. As a consequence, letters are published only when space allows.

All accepted letters to the editor are subject to editing and abridgement. Letter writers may be asked to provide JAOA staff with photocopies of referenced material so that the references themselves and statements cited may be verified.

Do not be concerned if receiving an e-mail noting that your letter has been considered but not accepted. As the premier scholarly publication of the osteopathic medical profession, JAOA — The Journal of the American Osteopathic Association encourages osteopathic physicians, faculty members and students at colleges of osteopathic medicine, and others within the healthcare professions to submit comments related to articles published in the JAOA and the mission of the osteopathic medical profession. The JAOA’s editors are particularly interested in letters that discuss recently published original research.

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Readers are encouraged to prepare letters electronically in Microsoft Word for Windows (.doc) or in plain (.txt) or rich text (.rtf) format. The JAOA prefers that readers e-mail letters to jaoa@osteopathic.org. Mailed letters should be addressed to Gilbert E. D’Alonzo, Jr, DO, Editor in Chief, American Osteopathic Association, 142 E Ontario St, Chicago, IL 60611-2864. Mailed submissions and supporting materials will not be returned unless letter writers provide self-addressed, stamped envelopes with their submissions.

Letter writers must include their full professional title(s) and affiliation(s), complete preferred mailing address, day and evening telephone numbers, and preferred fax number and e-mail address. In addition, writers are responsible for disclosing financial associations and other conflicts of interest. No unsigned letters will be considered for publication.

Although the JAOA cannot acknowledge the receipt of letters, a JAOA staff member will notify writers whose letters have been accepted for publication.

All osteopathic physicians who have letters published in the JAOA receive continuing medical education (CME) credit for their contributions. Writers of original letters receive 5 hours of AOA Category 1-B CME credit. Authors of published articles who respond to letters about their research receive 3 hours of Category 1-B CME credit for their responses.

### Does Prenatal Ultrasound Increase Risk of Autism?

**To the Editor:**

Autism spectrum disorders have become more common every year for the past several decades. The Autism Society of America states the following:

In February 2007, the Centers for Disease Control and Prevention issued their ADDM [Autism and Developmental Disabilities Monitoring] autism prevalence report. The report, which looked at a sample of 8 year olds in 2000 and 2002, concluded that the prevalence of autism had risen to 1 in every 150 American children, and almost 1 in 94 boys.

Many lay people still believe that vaccines—especially the measles, mumps, and rubella vaccine and vaccines with mercury-containing preservatives—have contributed to the increased rate of autism, despite the lack of scientific evidence to support such a notion.

We owe it to our patients to show them that medical research is actively searching for factors that may truly be contributing to the increased rate of this devastating disease.

As the National Institute of Neurological Disorders and Stroke reports:

Scientists aren’t certain what causes autism, but it’s likely that both genetics and environment play a role. … Studies of people with autism have found irregularities in several regions of the brain. … These abnormalities suggest that autism could result from the disruption of normal brain development early in fetal development caused by defects in genes that control brain growth and that regulate how neurons communicate with each other.

It occurred to me—as an osteopathic family physician who practiced obstetrics for many years—that during my more than 30-year career, the use of prenatal ultrasonography has also ballooned.

When I was an intern, ultrasonography was being promoted to evaluate fetal maturity when mothers had unclear delivery dates. Ultrasonography was also used to assess unexpected fundal height growth, possibility of multiple births, and high-risk pregnancies. Today, it is typical for women with normal pregnancies to have multiple ultrasonographic examinations.

Early in my career, osteopathic physicians were warned of the potential health risk of the heat generated by ultrasonography. In fact, today, ultrasonography is used as a treatment modality in physical therapy, delivering deep heat to muscles and other solid tissue.

Perhaps we have not considered fully the fact that liquid—such as amniotic fluid—absorbs more heat energy than does solid tissue.

The developing fetal brain is known to be sensitive to a number of “environmental stressors,” including alcohol and various drugs. Is it possible that the amount of heat generated by multiple
ultrasonographic examinations somehow lowers the threshold in fetuses that are at increased genetic risk of autism and related neurologic disease?

I am not in a position to conduct research into such a possible connection, and I am also well aware of potential roadblocks to conducting such research—not the least of which is a fear-based reluctance among clinicians in a litigious society to give up the “safety” of the current standard of care.

Nevertheless, in light of the huge social and financial impact that autism has on individuals, families, and communities, a research project investigating this possible correlation has the potential to be a hugely valuable endeavor.

I envision the following kinds of studies:

- a study comparing the incidence of autism in populations that use little technology (eg, at-home births, people in underdeveloped countries) versus a university patient population that uses ultrasound examinations at the standard (ie, typically high) rate
- a prospective multiyear study evaluating two patient populations, one with unlimited use of ultrasound examination and the other with this technology limited to high-risk pregnancies

I would like to challenge the osteopathic medical research community—particularly DOs in obstetrics—to take on this research project for the benefit of our patients.

This pursuit has numerous potential clinical implications for the osteopathic medical profession’s public health efforts.

If any readers see the value in this course of action, I invite you to contact me. I would like to be involved in the project in any way that I can.

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References

