

Allergy Testing...No Easy Answers

Allergies present many diagnostic and treatment challenges, whether using conventional or alternative measures, or both. Several papers published in peer-reviewed publications have uniformly concluded that unconventional allergy tests fail to correctly identify and distinguish between allergic and non-allergic individuals.¹ However, even results from conventional testing methods frequently fail to correlate with one another. In one study, the sensitivities of ELISA testing compared to intradermal tests varied between 19.3 and 77.1%, while their specificities varied between 64.2 and 96.6%.²

Over the past several decades, consumer acceptance of alternative procedures to diagnose allergy has grown, although the mainstream medical community often offers resistance. Even in the mid-1900's, the founder and first editor of the *Journal of Immunology*, Arthur F. Coca, MD, faced rejection from his peers after he disclosed to the medical community his own alternative means of allergy diagnosis – identifying increased heart rates in allergic patients following offending allergen exposure. In his lay publication *The Pulse Test*, Coca retorts to his colleagues, “History teaches that a revolutionary idea is apt to find its most difficult resistance in a static ignorance ensconced in the seats of *power*. And it is there that outmoded opinions and practices with majority support are conscientiously maintained till nature vacates the seats and progress resumes its march.”³ Like Coca's pulse test, numerous other alternative allergy-testing inventions have simultaneously faced rejection from the mainstream medical community but received a warm welcome in alternative circles. Even today, both human and veterinary alternative websites still advocate Coca's pulse test, along with other paranormal practices.

Alternative approaches became particularly popular for human allergy testing and treatment because conventional methods can be time-consuming, invasive, or incomplete. A 2002 German study reported in *Allergy* found that the majority of individuals surveyed reported subjective improvements, although research supporting alternative approaches to allergy testing and treatment contradicts this assessment.⁴ After evaluating the out-of-pocket expenses paid for this type of care, the authors concluded that, “Alternative medicine for allergies should be recognized as a considerable cost burden for society and the

¹ Niggemann B and Gruber C. Unproven diagnostic procedures in IgE-mediated allergic diseases. [Review]. *Allergy*. 2004;59:806-808.

² Foster AP, Littlewood JD, Webb P, et al. Comparison of intradermal and serum testing for allergen-specific IgE using a Fcepsilon R1alpha-based assay in atopic dogs in the UK. *Veterinary Immunology and Immunopathology*. 2003;93:51-60.

³ Coca AF. *The Pulse Test: The Secret of Building Your Basic Health*. New York: Lyle Stuart, 1956, p. 188.

⁴ Shafer T, Riehle A, Wichmann H-E, and Ring J. Alternative medicine in allergies – prevalence, patterns of use, and costs. *Allergy*. 2002;57:694-700.

individual patient. Implications for public health should also be discussed in context with the limited evidence of efficacy.”

Clients whose animals suffer from allergies can be similarly drawn to unconventional testing methods, though the research and rationality of alternative approaches can then become even more difficult to find. For example, certain tests such as applied kinesiology (AK) require verbal communication and specific physical responses from the patient. In lieu of verbal exchange with animal patients, practitioners will employ the client as a patient “surrogate”, testing the client on behalf of their companion animal, and making treatment decisions for the animal based on the client’s responses. Allergy testing with AK involves having the client (or other surrogate) hold a container of potential allergens in one hand while the examiner presses down on the client’s contralateral outstretched arm. The surrogate touches and/or thinks about the animal patient during the process. A decrease in the surrogate’s resistance to the examiner’s pressure supposedly indicates that the animal is allergic to the substance in the bottle. Unfortunately, the test-retest reliability of kinesiology for allergy testing proved to be no better than random guessing.^{5 6} Other names for applied kinesiology (AK) include contact reflex analysis (CRA) and Nambudripad’s Allergy Elimination Technique (NAET).

Another alternative allergy testing procedure making its way into veterinary medicine is pet hair analysis. For allergies, practitioners employing hair analysis to screen for allergies claim that an excess or deficiency of certain heavy metals or elements play a role in developing intolerance. However, no evidence has demonstrated that substances found in the hair can be linked to allergic disease in humans or animals.⁷ In fact, one controlled trial illustrated that the hair analysis test results were completely random, while variability among different laboratories approached one hundred percent.⁸

Many alternative allergy testing procedures rely on assessing electricity-like “energy flow” through acupuncture points. The flawed notion that acupuncture works by moving invisible energy along invisible meridians originated during the 1900’s when a French diplomate mistranslated the Chinese word “Qi” into “energy”, rather than realizing that the ancients were referring to dissolved gases and nutrients traveling inside blood vessels, not “meridians”. Allergy tests relying

⁵ Ludtke R, Kunz B, Seeber N, and Ring J. Test-retest-reliability and validity of the kinesiology muscle test. *Complementary Therapies in Medicine*. 2001;9:141-145.

⁶ Stachle HJ, Koch MJ, and Pioch T. Double-blind study on materials testing with applied kinesiology. *J Dent Res*. 2005;84(11):1066-1069.

⁷ Senna G, Passalacqua G, Lombardi C, and Antonicelli L. Position paper: controversial and unproven diagnostic procedures for food allergy. *European Annals of Allergy and Clinical Immunology*. 2004;36(4):139-145.

⁸ Sethi TJ, Lessof MH, Kemeny DM et al. How reliable are commercial allergy tests? *Lancet*. 1987;101:92-94. Cited in Passalacqua G, Compalati E, Schiappoli M, and Senna G. Complementary and alternative medicine for the treatment and diagnosis of asthma and allergic diseases. *Monaldi Arch Chest Dis*. 2005;63:1, 47-54.

on the energy-meridian concept gauge electrical skin resistance at certain acupuncture points and then compile these results into a skin conductance graph listing the values across meridians. Inferences regarding health status and vulnerabilities follow. In humans, electrodermal testing machines have failed to distinguish between allergic and non-allergic individuals.^{9 10 11} Even two subsequent measurements on the same subject yielded different results.¹² Furthermore, when practitioners apply tests involving electrical conductivity of human skin to non-human skin, the already large variability in measurements grows considerably.

Bioresonance machines work on a different principle. According to bioresonance device manufacturers, humans and animals, as well as allergens, emit electromagnetic waves, which fall into “good” or “bad” categories. Supposedly, only bioresonance machines are capable of detecting these waves. Bioresonance machines reportedly “rehabilitate” the corrupted wave patterns emitted by the patient and return them to the source. In so doing, allergies should disappear. However, two controlled studies failed to demonstrate value in diagnosing or treating patients with allergic disease.¹³

In conclusion, a wide array of unproven allergy diagnostic procedures exists. Many defy rational and scientific mechanisms, and none demonstrate reliability over conventional methods.

⁹ Lewith GT, Kenyon JN, Broomfield J, et al. Is electrodermal testing as effective as skin prick tests for diagnosing allergies? A double blind, randomized block design study. *BMJ*. 2001;322:131-134.

¹⁰ Lewith GT. Can we evaluate electrodermal testing? *Complementary Therapies in Medicine*. 2003;11:115-117.

¹¹ Semizzi M, Senna G, Crivellaro M et al. A double-blind, placebo-controlled study on the diagnostic accuracy of an electrodermal test in allergic subjects. *Clin Exp Allergy*. 2002;32:928-932.

¹² Semizzi M, Senna G, Crivellaro M et al. A double-blind, placebo-controlled study on the diagnostic accuracy of an electrodermal test in allergic subjects. *Clin Exp Allergy*. 2002;32:928-932.

¹³ Wuthrich B. Unproven techniques in allergy diagnosis. *J Invest Allergol Clin Immunol*. 2005;15(2):86-90.