

# Controversial Diagnostic and Therapeutic Procedures in Allergy

Mitchell R. Lester, MD

Fairfield County Allergy, Asthma, and Immunology Associates

New England Society of Allergy

April 9, 2010

## Disclosure



I have no potentially relevant financial interests, conflicts of interest, or other affiliations with any corporate organizations relevant to the subject of my presentation.

WIZARD OF ID by Brant Parker and Johnny Hart



## Disclosures

However, most or all of what I discuss will be off-label, because most or all of what I discuss is not FDA approved.

(Editorial comment)→



## Learning Objectives

At the conclusion of this CME activity, the participant will be able to:

1. Describe some common unproven procedures used for the diagnosis and management of allergic disease.
2. Describe the data refuting the use of various diagnostic and therapeutic procedures used for allergic diseases.
3. Differentiate between and recognize the importance of data versus testimonials when evaluating the utility of various diagnostic and therapeutic procedures used for allergic diseases.

## Definitions

**Controversial:** Relating to discussion marked by expression of opposing views, debatable.

**Unscientific:** Contrary to scientific evidence.

**Unproven:** Lacking proof of validity by well designed studies.

**Inappropriate:** Methods that are capable of detecting or treating something, but are misused.

## Definitions

**Quack:** A pretender to medical skill; a charlatan; one who talks pretentiously without sound knowledge of the subject discussed.

**Fraud:** An intentional perversion of truth for gain.

The FDA defines health fraud as the promotion, for profit, of a medical remedy known to be false or unproven.

## Methods

- |             |                           |
|-------------|---------------------------|
| 1. Theory   | SOURCES                   |
| 2. Methods  | Google Search             |
| 3. Claims   | Literature                |
| 4. Critique | Quackwatch<br>Quackometer |

## www.quackwatch.org



“Your Guide to Quackery, Health Fraud, and Intelligent Decisions”

Operated by Stephen Barrett, MD

“Quackwatch, Inc.... is a nonprofit corporation whose purpose is to combat health-related frauds, myths, fads, fallacies, and misconduct.”

## www.quackometer.net

The web is full of pages supporting dubious medical claims and inflated capabilities for cures.

The Quackometer is a project based around the automation of debunking quack medicine on the web. It is an experiment to see if it is easy to spot quack web sites just from the language they use.

## Quackometer

The Canard is the internationally recognized SI unit for quackery.

Control sites:

[www.aaai.org](http://www.aaai.org)

[www.aaaai.org](http://www.aaaai.org)

[www.aap.org](http://www.aap.org)

[www.newenglandsocietyofallergy.org](http://www.newenglandsocietyofallergy.org)

ALL RECEIVED 0 BLACK CANARDS



## Canard

$\backslash k\acute{e}-'n\grave{a}rd\ \ n$  [F, lit., duck fr. MF *vendre des canards à moitié* to cheat, lit., to sell half-ducks] : a false or unfounded report or story; esp: a fabricated report

-Webster's Seventh New Collegiate Dictionary

## Remember....

“You should duck an unfounded rumor.”

-Sherwin D. Lester, 1971

## Topics I will cover

Diagnostic	Therapeutic
Hair analysis	Rotation diets
IgG RASTs	Provocation-Neutralization
Applied Kinesiology	Acupuncture
Provocation-Neutralization	BioSET™
Electrodermal testing	
Iridology	

## Topics I will not cover

Diagnostic	Therapeutic
Body fluid and tissue analysis	SLIT
Breath analysis for chemicals	Probiotics
WBC Cytotoxicity	Herbal/Dietary
...and anything else you can think of.	Buteyko Breathing
	Chelation
	Homeopathy
	Chiropractic
	Urine autoinjection

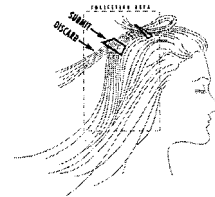
## Hair analysis

**Background and Theory:** The content of multiple minerals in human hair specimens can predict nutritional or trace element abnormalities.

Hair element analysis can assist the physician with an early diagnosis of physiological disorders associated with aberrations in essential and toxic element metabolism.

## Hair analysis

**Method:** First 1 ½ inches of hair closest to the scalp analyzed by atomic emission or mass spectroscopy for element determination.



## Hair analysis claims

[www.hairanalysisprogram.com/](http://www.hairanalysisprogram.com/): "A hair analysis determines exactly what chemicals are inside of you, including radiation, heavy metals such as mercury, food chemicals such as aspartame, pesticides and more! Generic medical lab tests don't identify deep tissue toxins or nutrient depletions. The hair analysis is the BEST tool out there. Having an analysis performed is one of the most accurate ways of detecting toxic metals within your tissues and determining your vitamin and nutrient imbalances."

And, the Quackometer says: 7 black canards



## Hair analysis claims

[www.hairanalysisitest.com/](http://www.hairanalysisitest.com/): "Results from our hair analysis test can help answer questions about various conditions like attention deficit syndrome (ADD or ADHD), hyperactivity, fibromyalgia, depression, eczema, anxiety, insomnia, autism, Alzheimer's, Parkinson's, multiple sclerosis and more."

And, the Quackometer says: "... heavily laden with loosely defined terms ... It is full of scientific jargon that is out of place and probably doesn't know the meaning of any of the terms. ... should be treated with a suspicious mind. It also looks like this site is trying to sell stuff. Buyer Beware!"



## Hair analysis claims

[www.nutritional-healing.com.au/content/](http://www.nutritional-healing.com.au/content/); This site has disclaimers: "The usefulness of hair mineral analysis is highly dependent on the quality of interpretation. There is considerable controversy over the best way to interpret hair analysis. Hair analysis readings should not be interpreted like a blood test. Hair results should be viewed cautiously and results not viewed as certainties...Analytical techniques of hair composition have been considerably improved since hair analysis was first introduced in 1969. Most of the research quoted by critics of hair analysis are from the 70's and does not take into account the complex nature of hair analysis interpretation described on this page."

Nonetheless, the Quackometer says:



## Hair analysis critique

1985: Hair from 2 healthy teens/13 commercial labs.

- Results varied between labs on same samples (lack accuracy and precision).
- Labs disagreed about normal or safe levels of minerals.
- Computerized reports contained voluminous bizarre frightening interpretations.

1987: Nine fish-allergic and 9 control subjects.

- Blood, skin, and hair testing (in duplicate).
- 0 of 5 labs were able to diagnose fish allergy and all also reported many allergies in non-allergic subjects.
- Labs provided inconsistent results on duplicate samples from the same subject.

JAMA 1985, Lancet 1987

## Hair analysis critique

1997: A 2-year study of students exposed to fumes from metal welding.

- Hair analysis did not consistently reflect blood levels of 11 heavy metals.

2001: One healthy donor/6 labs.

- Labs reported a wide spread of reference ranges.
- Measured results varied greatly between labs.
- Number of common elements in, above, or below the reference range varied greatly.
- Labs that found deficiencies ALL recommended buying their vitamin or mineral supplements.

Bottom Line: Hair analysis is worthless for assessing nutritional status or as a basis for dietary or supplement recommendations.

Sci Total Environ 1997, JAMA 2001

**“This is important information for people who care about facts.”**

*Jeffrey Drazen, MD  
Editor, NEJM*

## Food Specific IgG

**Background and theory:** 20% of people believe they have food-related disease.

- Proponents claim IgG can identify delayed or hidden food allergies (react hours or days later).
- Speculation that higher IgG is secondary to greater gut permeability, greater passage of antigen into circulation.

**Method:** IgG or IgG<sub>4</sub> RAST or ELISA, sometimes with food immune complex assays.

## Food Specific IgG claims

- Various web sites claim IgG antibodies can identify food intolerances that cause or contribute to CFS, HA, ADHD, IBS, arthritis, “sinus”, difficulty concentrating, and almost any somatic or mental complaint.
- Results sometimes used to recommend rotation diets.
- On the Quackometer, the sites tend to have fewer canards, because the test itself has reproducibility.

## Food Specific IgG claims

[www.foodallergytest.org/](http://www.foodallergytest.org/) "Research has shown that around 60% of the US population suffers from food reactions that are causing health challenges...Some food allergy symptoms may be depression, schizophrenia, anxiety, insomnia, fear, headaches, aggression, lack of focus, attention deficit & behavior problems, increased thoughts, pain or hyperactivity...A person may *think* they feel better when they eat the problem foods since the food is releasing endorphins. When they stop eating the problem food(s) they may experience a withdrawal effect for 4-5 days. After that period, symptoms like *pain, fatigue, brain fog, hyperactive or even anxiety are reduced or even eliminated.*" (5 Canards)

## Food Specific IgG claims

[www.alcat.com/](http://www.alcat.com/) "Click on any of the links below to learn more about some common symptoms of food and chemical sensitivity/intolerance: Migraine headaches, Chronic Fatigue, Irritable Bowel Syndrome, ADHD, Eczema and other skin disorders, Asthma and other respiratory disorders, Weight gain and obesity, Arthritis, Fibromyalgia". (4 canards)

150 Food Panel, 10 Food Additives/10 Food Colorings Panel, 10 Antibiotics/10 Anti-Inflammatory Agents Panel, 20 Pharmacologic Agents Panel, 10 Environmental Chemicals Panel, 20 Molds Panel.  
List Price: ~~\$4,260.00~~  
Pre-Pay Price: \$999.00

## WBC cytotoxicity claims

[www.alcat.com/clinical\\_info.php](http://www.alcat.com/clinical_info.php) (4 canards)

Same site--same claims--same battery of tests--same cost as food-specific IgG RASTS.

BUT...

"The ALCAT Test differs from other food allergy or intolerance tests as it accurately and objectively measures leukocyte cellular reactivity in whole blood, which is a final common pathway of all mechanisms. The test utilizes electronic, state of the art, hematological instrumentation....In fact, high food specific IgG titers are indicative only of exposure, not necessarily intolerance."

№	Наименование	Результат	Интерпретация
1149	Свиное / свинина	1.60	0 Серьезная реакция
1151	Макачки / Щучья рыба	4.17	0 Серьезная реакция
1157	Треска / Камбала	5.97	0 Серьезная реакция

1149	Свиное / свинина	1.60	0 Серьезная реакция
1151	Макачки / Щучья рыба	4.17	0 Серьезная реакция
1157	Треска / Камбала	5.97	0 Серьезная реакция
1152	Свиное / свинина	1.60	0 Серьезная реакция
1153	Свиное / свинина	1.60	0 Серьезная реакция
1154	Свиное / свинина	1.60	0 Серьезная реакция
1155	Свиное / свинина	1.60	0 Серьезная реакция
1156	Свиное / свинина	1.60	0 Серьезная реакция
1158	Свиное / свинина	1.60	0 Серьезная реакция
1159	Свиное / свинина	1.60	0 Серьезная реакция
1160	Свиное / свинина	1.60	0 Серьезная реакция
1161	Свиное / свинина	1.60	0 Серьезная реакция
1162	Свиное / свинина	1.60	0 Серьезная реакция
1163	Свиное / свинина	1.60	0 Серьезная реакция
1164	Свиное / свинина	1.60	0 Серьезная реакция
1165	Свиное / свинина	1.60	0 Серьезная реакция
1166	Свиное / свинина	1.60	0 Серьезная реакция
1167	Свиное / свинина	1.60	0 Серьезная реакция
1168	Свиное / свинина	1.60	0 Серьезная реакция
1169	Свиное / свинина	1.60	0 Серьезная реакция
1170	Свиное / свинина	1.60	0 Серьезная реакция

## Food Specific IgG critique

- Dietary protein is taken up in healthy people without deleterious effects. IgG, IgG<sub>4</sub>, immune complexes and IgA are produced normally (mostly intra-luminal).
- IgG and IgA production are normal physiologic responses to food. They are higher in CMA IgE positive patients, but are found in milk-tolerant people with a great overlap in titers between the groups.
- In PN and CMA patients, IgG and immune complex levels are not different from controls. In controls, the level of IgG to food correlates with foods regularly ingested.

Allergy 2000 and 2004, Curr Op All Clin Immunol 2003 and 2004

## Food Specific IgG critique

- Food-specific IgG does not correlate with DBPC food challenges.
- In the 1960's, detectable IgG to milk (by hemagglutinin) was found in 50% of blood donors. By RIA, found in 75% of kids and 8-25% of adults. Declines over first decade in most healthy, but less so in allergic children.

Biosci Biotechnol Biochem 2001, JPGN 2000

## Food Specific IgG critique

**Bottom Line:** The appearance of serum antibodies to dietary antigens is a normal physiologic response after the ingestion of food. Because IgG antibodies to common foods can be detected in health and disease, measurement of food-specific IgG is of no clinical relevance and should not be part of the diagnostic work up of food allergy.

Possible exceptions? Heiner's syndrome (food-induced pulmonary hemosiderosis) and IBS.

**“When the facts get in the way of our beliefs, our brains are marvelously adept at dispensing with the facts.”**

*John Tierney  
New York Times  
September 7, 2009*

## Rotation diets

**Background and theory:** The patient is allergic/intolerant to most or all foods and eating the same food too often increases sensitivity or reactions to those foods and other allergens. Diets help avoid cumulative food reactions.

**Methods:** Foods are organized into biological groups. Patient may eat all members of a group on a specified day. Each day allows any amount of several different groups on a 4-7 day rotation. Foods to which patient is sensitive are eliminated. Diet often based on IgG RASTs; common for the lab to provide the diet as part of its fee.

## Rotation diet claims

[www.specialfoods.com/](http://www.specialfoods.com/) “In five short weeks you can be symptom free from... CFS, fibromyalgia, environmental hypersensitivities, food allergy/intolerance, autism, asthma, seizures, migraine headaches, eczema, irritable bowel, ADD, bipolar disorder, mind fog, throat tightening, a wide variety of digestive difficulties, candidiasis, congestion, underweight, low muscle tone, severe pain, anxiety, and a wide variety of altered temperament, moods, and cognitive ability.”

## Rotation diet claims

[www.food-allergy.org/](http://www.food-allergy.org/) “Weight tends to normalize when food allergies are controlled and allergic cravings and food addictions are eliminated. If your weight is not beginning to normalize after several months on a rotation diet that eliminates ALL of your problem foods, you should be evaluated for thyroid or other metabolic problems.”

[www.parentsofallergicchildren.org/](http://www.parentsofallergicchildren.org/) “The ability for the immune system to repair itself...to prevent new food allergies from developing ...to minimize even inhalant allergies, chemical sensitivities, and chronic infections...most easily mastered, most cost-effective approach to...overcoming allergic symptoms.”

## Rotation diet critique

- Does not seem practical. No objective evidence to support its use. No trials ever done.
- Irrational from an immunologic standpoint.
- 1998 study showed difficulty in adherence and patients often did not follow it strictly.
- Nutrition is a concern.

## Applied Kinesiology (Muscle response testing)

Theory: An allergic reaction, especially to a food causes weakening of skeletal musculature. Every organ dysfunction is accompanied by a specific muscle weakness, which enables diseases to be diagnosed through muscle-testing procedures.

AK can diagnose IgE or non-IgE intolerances to food or environmental allergens based on positive or negative energy balances that manifest as muscle weakness.

**“Everyone is entitled to his own opinion, but not his own facts.”**

*-Daniel Patrick Moynihan*

## Applied Kinesiology

Methods: Technician subjectively tests muscle strength in an extremity before and after exposing patient to allergen. Allergen placed in sealed glass vial on patient's skin or clothing or patient holds bottle in one hand. A positive test is indicated by decrease in muscle power in contra-lateral arm.



## Applied kinesiology claims

[www.icak.com/](http://www.icak.com/) (International College of Applied Kinesiology) (9 canards): “AK uses the Triad of Health. That is, chemical, mental and structural factors that balance the major health categories. The Triad of Health is interactive and all sides must be evaluated for the underlying cause of a problem. A health problem on one side of the triad can affect the other sides.”

[www.kinesiology.net/](http://www.kinesiology.net/) “When properly performed, applied kinesiology can provide valuable insights into physiologic dysfunction..... Achieve homeostasis of endocrine, immune, digestive, and other visceral function.” (10 canards: “This web site has more quackery than my village pond”).

## Applied kinesiology critique

- 20 patients (blinded) tested twice: Number of concordant results within duplicates was similar as what would be expected by chance.
- Review of 20 studies on AK: None fulfilled basic research criteria, so no valid conclusions could be drawn.
- No inter-tester reliability and no correlation with specific IgE, IgG, or lactose hydrogen breath test.
- 3 AK practitioners/11 patients: Significantly different assessments. Diagnoses of nutritional deficiencies did not correspond to the nutrient levels obtain by blood serum analysis. Responses to various foods did not significantly differ from responses to placebos.

BMJ 1988, Curr Op All Clin Immunol 2003, J Am Dietetic Assoc 1998

## Applied kinesiology critique

- 4 AK practitioners/7 patients sensitive to wasp venom. Altogether, 140 muscle tests were done (venom vs. saline placebo). The practitioners were unable to identify which bottles contained venom.

Bottom Line: Muscle response appears to be a random phenomenon. Suggestion can influence the outcome of muscle-testing. There is no physiologic rationale for this test and no proof of its efficacy. Still widely used because of simplicity. Patients are influenced by the believability (salesmanship) of the practitioner and accept test results.

Compl Ther 2001, Curr Op All Clin Immunol 2003 and 2004, J Manip Physiol Ther 1994, J Prosthetic Dent 1981

**“I am always entranced when intelligent people become mesmerized by an idea that is patently stupid.”**

**William G. Plested III, MD**  
President, American Medical Association

*American Medical News. 2007;50(7):24-5.*

## Provocation-Neutralization

**Theory:** Extremely small quantities of allergens can cause the immediate disappearance or “neutralization” of ongoing symptoms.

**Methods:** Patient is given test dose of food, chemical, hormone, or allergenic extract by ID, SC, or SL. Positive responses are interpreted either by subjective symptom provocation or objective SC whealing.

Any reported symptom for 10 minutes is considered a positive test. Symptoms may be drowsiness, dry mouth, HA, inability to concentrate, weakness, constitutional, etc.

## Provocation-Neutralization

**Methods:** A progressive series of lower concentrations is administered until a dose is reached at which the patient reports no symptoms and there is no wheal. This amount is considered the “neutralizing dose”.

The patient is given a personalized cocktail of his/her neutralizing concentrations sublingually a couple of times weekly or up to three times a day. “Neutralizing vaccines only take a few days or weeks to work and the success rate is very high”.

Tests with: foods, inhalants, chemicals such as formaldehyde, phenol, ethanol, hormones. Some clinical ecologists test with “extracts” of air, water, saline, auto exhaust fumes, chlorine, gasoline, others.

## Provocation-Neutralization claims

[www.drshraeder.com/](http://www.drshraeder.com/) (8 canards): Rhinitis, perennial, Rhinitis, seasonal, seasonal, Nasal polyps, Allergic conjunctivitis— not eczema of the eyelids, Asthma, Repeated chest infections, Chronic sinusitis, *documented* by X-ray, Chronic face ache/sinus pain, not proven by X-ray or negative X-rays, Secretory otitis media (“glue ear”), Repeated ear infections, Immediate food allergy, Food (or food chemical) allergy or intolerance/adverse response, Chemical or fume intolerance, Migraine/severe headaches, Headaches, other, Eczema, “Dermatitis”, Contact dermatitis, Urticaria, Angioedema, Mental confusion (brain “fog,” “fog,” confusion, etc.), Hyperactivity, ADD, ADHD, PDD, Epilepsy (any type), Rheumatoid arthritis, Osteo-arthritis or joint pains: non-specific, Muscle pains, Ulcerative colitis, Crohn’s disease, “Irritable bowel”, “spastic colon” or chronic diarrhea, Constipation), Gut “fermentation” (bloating after most meals, especially sugar), Chronic anal irritation/itch, Chronic vaginal symptoms, Urinary tract symptoms, CFIDS, CFS or ME (history of *definite sudden viral onset*, healthy prior), Chronic fatigue, not of sudden post-viral onset but of gradual onset. “Candida”, Hyperventilation complex, Multiple complaints. Plugged ears, Pruritis, Depression, Insomnia, Vulvodynia, Anosmia, Emotional/Behavior problems, interstitial cystitis, Post nasal drip, Chronic cough, Asthma, seasonal, Ankylosing spondylitis, Dermatographia, Autism, Hypertension, Diabetes, Sjogren’s Syndrome, Meniere’s Disease, Psoriasis, Anaphylaxis due food, Idiopathic anaphylaxis, Tourette’s, Multiple sclerosis, Pre-menstrual syndrome, Non-allergic conjunctivitis, Raynaud’s, Reactive arthritis (autoimmune, non-RA), Pharyngitis, Laryngitis

## Provocation-Neutralization critique

Supportive literature is descriptive and anecdotal.

Five clinical ecologists/61 patients/5 common food allergens or saline (open, then blinded).

- Provocation: Extracts were correctly identified in 24 of 34 trials (70.6%).
- Neutralization: Placebo relieved symptoms in 28 of 40 trials (70%), indicating that symptom relief was not related to any allergy-causing substance in the extracts.

JAMA 1971

## Provocation-Neutralization critique

Study funded by proponent groups; seven clinical ecologists treating 18 patients.

- Patients received 3 injections of suspected food extracts and 9 of normal saline.
- In non-blinded tests, patients consistently reported symptoms when exposed to food extracts and no symptoms when given saline injections.
- Under double-blind conditions, they developed symptoms with 16 (27%) food extract injections and 44 (24%) placebo injections. All seven patients who were “neutralized” during the experiment had equivalent responses to extracts and saline.

Arch Otolaryngol 1972

### THAT'S LIFE by Mike Twoby

© 1991 Mike Twoby. Drawn by Mike Twoby. Photo: Chris.



"I'd like you to eliminate dairy, wheat, and caffeine—and those brown shoes have got to go, too."

## Acupuncture

**Background and theory:** There are more than 2,000 acupuncture points on the human body that connect with 12 main and 8 secondary pathways (meridians).

Meridians conduct energy (qi) throughout the body. Qi regulates spiritual, emotional, mental, and physical balance and is influenced by the opposing forces of yin and yang.

## Acupuncture

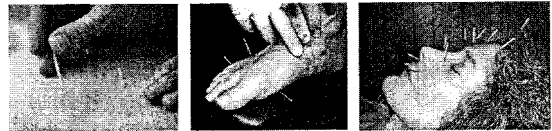
According to traditional Chinese medicine, when yin and yang are balanced, they work together with the natural flow of qi to help the body achieve and maintain health.

Acupuncture balances yin and yang, keeping the normal flow of energy unblocked, and maintaining or restoring health to the body and mind.



## Acupuncture

**Method:** Traditional acupuncture involves the insertion of stainless steel needles into various body areas. Needles are manipulated by hand or with low frequency current to produce greater stimulation.



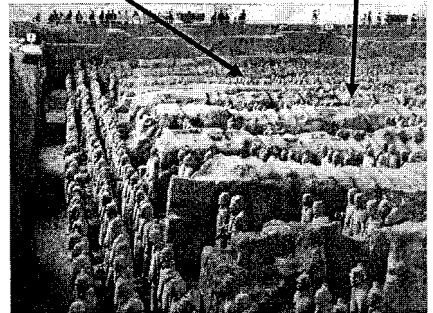
## Acupuncture claims

[www.boxboroacupuncture.com](http://www.boxboroacupuncture.com): "Pain relief - Neuromuscular, skeletal; Chronic and acute conditions; Illness prevention; Skin Conditions (eczema, psoriasis, acne); Blood Pressure regulation; High Cholesterol; OB/GYN Issues – PMS, Menopausal Symptoms, Fibroids, Infertility; Asthma; Headaches and Migraines; Sinusitis; Fibromyalgia; Chronic Fatigue Syndrome; Candidiasis; Ear Infections; Attention Deficit Disorder." (10 canards)

[www.acuhealingworks.com](http://www.acuhealingworks.com): "Reduce stress, anxiety, insomnia, depression; stop infections (colds, sinusitis, bronchitis, cystitis, acne, many others...); treat acute or chronic pain; help allergies, asthma, reflux, indigestion, irritable bowels, headache, gallbladder dysfunction; eczema; psoriasis; menopause symptoms; PMS; infertility; eye and ear issues; addictions (smoking, drugs...); high cholesterol; high blood pressure; and a host of other complaints." (10 canards)

Fidgety??

Picking at zits??



## Acupuncture critique (asthma)

1991: Review 13 studies in asthma.

- 4/6 DB were negative; 6/7 SB were positive.
- All with methodological problems.
- $\beta$ -agonist unequivocally better, when used.

WHO: More recent studies (better quality) fail to provide efficacy in asthma.

2004 Cochrane review:

- 11 studies/324 participants.
- Overall inadequate quality and poor reporting.
- Acupuncture not effective for asthma.

Thorax 1991, WHO 2002, Cochrane Database Syst Rev 2004

## Acupuncture critique (rhinitis)

- Majority of studies (often Chinese) not randomized or controlled, only descriptive.
- No protective effect in challenge chamber (good design).
- 1996: Well-controlled study found no difference in symptoms or medication use as compared to sham acupuncture.
- 2004: Improved symptom scores in 3-month follow-up, but no difference in use of rescue medication as compared to sham acupuncture.

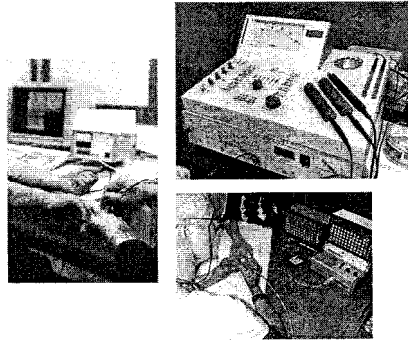
WHO 2002, Wien Med Wochenschr 1998, Acupunc Med 1996, Pediatrics 2004

## Electrodermal testing

**Background and theory:** Based on the theory that allergens produce a change in the electrical impedance of the skin when placed in an electrical circuit.

**Method:** Patient holds an electrode connected by circuit to a probe held by the examiner. Allergen is in a sealed glass vial in contact with an aluminum plate that is inserted in to the circuit between the skin and galvanometer. Examiner touches probe to an acupuncture point on the patient's skin. Computer then prints list of allergies.

## Electrodermal testing



## Electrodermal testing claims

Capital University of Integrated Medicine, a non-accredited postgraduate school, offered a three-day course in "Electro Dermal Resistance Analysis."

The course was to provide "assessment of health and the treatment of imbalances of the immune system through the resistance characteristics of specific acupuncture meridians on the body" and how to "locate the systemic roots of immune system weakness and to provide stimulation to strengthen the weakness."

## Electrodermal testing claims

- Detection of allergies, sensitivities, nutrient deficiencies, energetically weak organs, and toxicities
- Measures disturbances in the body's flow of "electro-magnetic energy" along acupuncture meridians.
- However, only the moisture of the skin and how hard the probe is pressed against the patient's skin affect the voltage. Poor reproducibility.

Clin Exp All 2002

## Electrodermal testing critique

Vegatest device compared to conventional skin-prick testing.

- 30 volunteers, half of whom had previously reacted positively to cat or dust mite.
- Each was tested with 6 items by each of 3 operators in 3 separate sessions to assess consistency and reproducibility.
- Conclusion: Vegatesting does not correlate with skin prick testing and so should not be used to diagnose these allergies. *BMJ 2001*

Bottom line: There are no data to indicate validity of this test.



## BioSET™

(Bioenergetic Sensitivity & Enzyme Therapy)

A “therapeutic” off shoot of electrodermal testing and acupuncture.

A system of diagnosis and treatment based on the notion that allergies are caused by “energy blockage” that can be diagnosed with muscle-testing and permanently cured with acupressure and/or acupuncture treatments.

## BioSET™ claims

[www.chesapeakeholistic.com/allergy.html](http://www.chesapeakeholistic.com/allergy.html)  
[www.ctchiropractice.com](http://www.ctchiropractice.com) (8 canards each)

“BioSET is a system that prevents and treats numerous health issues. Allergy treatment, nutrition, enzyme therapy, and detoxification are combined to remove stresses on the immune system and restore health and natural vitality.”

“Virtually any symptoms can be the result of a blockage caused by an allergen.”

## BioSET™ claims

BioSET™ Effectively Treats:

Allergies and Sensitivities	Environmental & chemical sensitivities
Anxiety & Depression	Food allergies and sensitivities
Arthritis/Rheumatoid Arthritis	Fibromyalgia
Asthma	Gastric Reflux and digestive disorders
ADD/ADHD	Headaches And Migraines
Autism	Herpes
Bronchitis/other respiratory disorders	Infertility
Candida	Interstitial Cystitis
Cardiovascular Disorders	Lupus
Chemical Sensitivities	Many childhood diseases
Childhood Illnesses	Menopause Syndrome
Chronic Fatigue Syndrome	Obesity
Colitis	PMS
Crohn's Disease	Sinus Conditions
Dysmenorrhea / Amenorrhea	Thyroid Disorder
Ear Infections	Vaccination Reactions
Eczema And Other Skin Problems	

## BioSET™ critique

- The tests upon which the therapy is based and the therapies are invalid.
- There is no scientific rationale for its claims.
- There are no data, only testimonials.
- Virtually every website and practitioner will sell you its vitamins, supplements, dietary plans, etc.

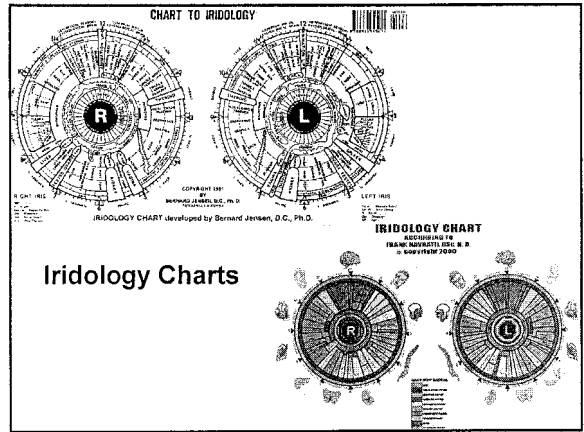
“The plural of anecdote is not data.”

-Len Bielory, MD

## Iridology

**Background/Theory:** Each area of the body is represented by a corresponding area in the iris of the eye. The iris contains nerve fibers connected to various parts of the body through a previously unknown nerve pathway in the cranial nerves. A person's state of health and disease can be diagnosed from the color, texture, and location of various pigment flecks in the eye.

**Methods:** Iridology charts vary in the location and interpretation of their iris signs. Some iridologists use a computer to help them analyze eye photographs and select the products they recommend.



Iridology Charts

## Iridology claims

[www.iridology.com/main.html](http://www.iridology.com/main.html) (7 canards) "An iridologist can tell an individual his/her inherited and acquired tendencies towards health and disease, his current condition in general, and the state of every organ in particular....Iridology cannot detect a specific disease, but, can tell an individual if they have over or under activity in specific areas of the body."

[www.iridologynow.sandycarter.com/](http://www.iridologynow.sandycarter.com/) (5 canards) Depending on the color, markings, and ring types "Severe inflammation, hyperactivity, irritation, over-reaction, chronic inflammations, loss of function and functional scarring, metabolism, body fluid, gall bladder disease, calcium deposits and laying down of blood fat, cholesterol level, hypertension, sluggish metabolism, blood pressure, circulation to the brain, mental functions."

## Iridology critique

1979: 3 iridologists given photos of 143 patients' irises (48 with renal disease):

- Could not identify which were not normal. One ID'ed 88% of normal as not; one ID'ed 74% of abnormal as normal.

1988: 5 iridologists/stereoscopic slides of the right iris of 78 people, half with gallbladder disease.

- None could ID the patients with gallbladder disease. They did not agree with each other.

1998: Science writer asked 2 iridologists to assess his health and to match slides he prepared of 8 people with known illness. Both scored very poorly.

JAMA 1979, BMJ 1988, Compl Ther Med 1998

## Iridology critique

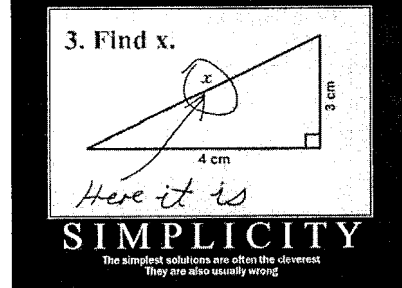
1980: Iridologist/3 tests:

1. Photos of 15 patients with 33 health problems.
  - Did not correctly diagnose any problems and made 60 incorrect diagnoses.
  - In three cases he named a part of the body that had past trouble.
2. Four healthy people photographed when well and ill.
  - Large number of incorrect diagnoses from the initial photographs.
  - Unable to identify any organ that underwent a change.
3. Compared iris photographs of person taken two minutes apart: 5 incorrect diagnoses for the first and 4 different incorrect ones for the second set.

Austr J Optom 1981

## Occam's razor is not always correct

The simplest solution to a problem might not be best....



## Most recent summary statement

The Australasian Society of Clinical Immunology and Allergy updated its position statement on more than 25 nonstandard allergy techniques.

Topics include inappropriate testing, inappropriate use of conventional testing, inappropriate use of conventional treatments, and unorthodox treatments.

[www.allergy.org.au/pospapers/unorthodox.htm](http://www.allergy.org.au/pospapers/unorthodox.htm)

**“I’d like to say something profound, but I’ve run out of everything, even cliches.”**

*-David Cone  
July 20, 1999*