

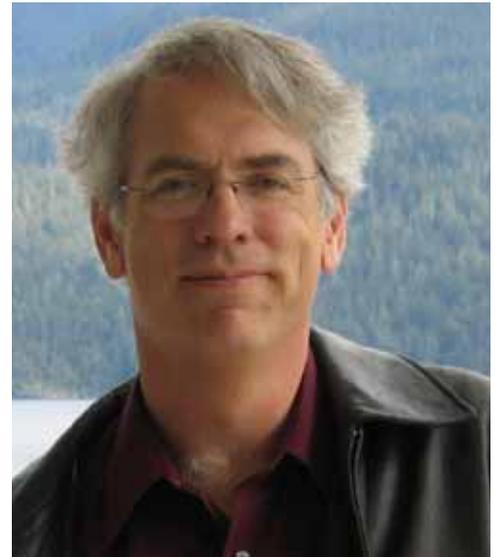
Working with Energy Medicine Skeptics (part 1)

By David Barnett, BA, BS, MS

[Ed Note: This is the first part of a two-part series on how to explain Healing Touch to others whose backgrounds may include traditional western medicine, science, engineering and other disciplines that lead to a natural skepticism in this area.]

For many involved in Healing Touch, it can be quite intimidating to try to defend the concept of energy medicine when speaking to people who come from more traditional scientific backgrounds. Being an engineer, I am particularly sensitive to the biases held by the “hard science” folks. People in general, regardless of training, find it easier to categorize data into a few boxes and to approach life with simple rules and truisms. For example, Joe doesn’t necessarily know how electricity truly works but Joe can count on the fact that when he flips a light switch, the light comes on. In the few instances when this doesn’t work, the cause can be quickly determined.

This mindset makes it difficult to promote Healing Touch as a therapeutic system when one runs into somebody who decides to challenge all notions of this approach. In this article, the differences between physical science experiments and life science experiments are highlighted with the focus on understanding how life science testing works. By the end of this article, you will have an understanding of the process



used in studies so that you can defend this approach when discussing Healing Touch validation.

James Randi (“The Amazing Randi”) is probably one of the best known skeptics of the paranormal and he delights in exposing frauds. This is a good starting point for demonstrating a major flaw in the skeptics’ approach. When somebody agrees to demonstrate a particular skill, he/she faces a group of people who are decidedly biased and unfriendly. The examiners expect to win and so they apply the following success criteria...the phenomenon must work 100% of the time and on demand.

This sounds a lot like the light bulb analogy above. Using this approach, I, “The Amazing Dave,” have heard that there is something called a homerun in baseball. For example, I may go to a Rockies game and there are no homeruns that day. Therefore I falsely conclude that it is impossible and publish many press releases to this effect. What is the flaw? Mr. Randi is applying typical physics criteria to a life science phenomenon. This is a critical distinction and all of his supporters seem to overlook this.

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Here's a quick quiz to reinforce this...Is cyanide poisonous? Have you ever accidentally eaten an apple seed? Are you still alive? (Apple seeds contain cyanide!) How can this be since cyanide is a poison? Obviously, it is the amount that is critical. Poisons have a rating of LD_{xx} where the xx is the percentage of a large group of lab animals or "average" people who die at a particular dosage. So how is it that I can give the same dosage of a poison to 100 mice and only 50 die? And what's more, I cannot identify any significant differences between the two groups to give me a predictor for which animals will survive. This is the crux of life science experimentation - to determine if there is a treatment effect and how strong it is. Drugs are rated similarly where an effective dosage (ED_{xx}) is determined and may also be based on sex and body mass.

Drugs are quirky things. If I give aspirin to 100 people with headaches, not all will get relief. However, enough people get either complete relief or some relief that I will continue to offer it to the public because the odds are that one will get better. Most drugs are this way. They offer measurable benefits to a large enough percentage of a group to justify making it available. So, how is this determination made?

A well-designed experiment basically asks if there is a statistically significant (versus a simple yes/no physics criterion) effect in a group pre- and post-treatment. In some experiments, there is a matched control and treatment group and again, the researcher looks for a statistically significant difference between the two groups.

Let's take a look at how an experiment design works. We start with a question such as: Does Healing Touch

decrease weight gain in a high-caloric environment? Mice would make good test subjects since we can control their environment and don't have to worry about them sneaking out for beer and pizza during the study! We formulate what is called a null hypothesis H₀. This statement basically says that there is no treatment effect: Healing Touch does not lower weight gain for test subjects in a high-caloric environment.

The alternative hypothesis is H₁ and might be worded as follows: In test subjects exposed to Healing Touch, there is less weight gain in test subjects. Based on standard experiment design, what is implied in these statements is that a test statistic will be used to see if the difference in what is being measured in the two groups is significant. For example, if the average weight of a mouse in the control group at the end of the study period is 50 grams and the average for the Healing Touch group is 47.8 grams, is that enough of a difference to conclude that Healing Touch had a significant effect?

There are additional factors to consider here. For all statistics, there is strength in numbers. The more test subjects used, the stronger the result. When reading a study, the α (Greek alpha) level, i.e. $\alpha = .05$ or similar, is frequently mentioned. This is very important in checking how much confidence to place in the results. The α value is the probability that the significant results one achieved were purely a chance result. For example, $\alpha = .05$ is equivalent to the fraction 1/20. If we rejected the null hypothesis in our experiment (Aha, there is an effect!), there is a one in twenty probability that the results obtained in rejecting the null hypothesis and accepting the alternative hypothesis were a result of chance.

A better level (more confidence) would be $\alpha = .01$ which implies that there is only a 1 in 100 chance that the null hypothesis would be rejected due to chance. We could also use $\alpha = .001$ for a 1 in 1000 chance. The α level relates to making a Type 1 error. A Type 1 error occurs when we

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erroneously conclude there is an effect.

What other factors affect experiment design? In many cases, it is best to have either a blind or double-blind study. In the previous example, if the person who takes care of the mice knows which group is getting the Healing Touch treatment, he or she might decide that it is unfair and they somehow help the control group (vitamins in the water, putting in more exercise wheels, etc.) So this person should not know which group is the control group. An even better study is when the experimenter does not know which group is the control i.e. a third party manages the process of Healing Touch treatment for the group of mice to be treated and no other persons on the experiment team are privy to this information. Then the experimenters can make their measurements and observations without any bias towards either group of mice.

Let's assume Healing Touch showed a statistically significant effect on the weight gain of the treatment group. Here are some revealing observations. The experiment outcome is based on the average weight of each of the two groups. Individual results may vary (as they say in commercials). There will be a significant range of weights in each group of mice. Even with a positive outcome, we cannot conclude that using Healing Touch on a mouse will always result in less weight gain in this situation and we certainly cannot conclude that the same difference in weight will always occur. Again, there is strength in numbers.

Another critical part of experiment design is the control of extraneous factors. In lab animals, that is pretty straightforward. We control their food, water, temperature, cleaning, humidity, exercise, etc. People are another story. It is very difficult to design experiments around human subjects because of their variability, lack of environmental control, the ethical problem of placing some people in a control group even though they could benefit from being in the treatment group, etc. A second problem in designing energy medicine experiments is that we cannot objectively

measure the "amount" of treatment so we don't know if everyone is getting the same amount. The next challenge is usually identifying a secondary measurement for the effect or outcome. It is hard to find a group of people who would all agree to be injured in some fashion (a small cut or burn) so that the group could be divided in half to observe the effect of Healing Touch treatments on wound recovery rates. When talking about aches, pains, and headaches, the measurement of the level becomes very subjective and usually relies on scales. Again, there is not an objective measurement system for this so it is difficult to design a robust experiment.

Let's summarize the above material:

- Physical sciences are blessed with extremely high repeatability whereas life sciences rely on statistical descriptions to determine the presence of an effect.
- The experiment process begins with a question or problem.
- Two hypotheses, the null (there is no effect) and the alternative (there is an effect) are created.
- A test statistic is created (beyond the scope of this article) that determines if the average value of a measurement of a test group changes enough to warrant rejecting the null hypothesis. An alpha level is selected (also called the confidence factor). As alpha drops in value, the likelihood of chance factors causing rejection of the null hypothesis is minimized.
- The experiment is run and data is collected.
- The statistical test is performed on the data. The determination is made whether or not the null hypothesis (no effect) should be rejected. If it is rejected, we conclude that there is a treatment effect.

Based on the above, it should be much easier to arm yourself with reading articles about experimental studies concerning Healing Touch and other integrative health modalities. Summaries of studies on Healing Touch can be found by clicking on RESEARCH & HEALTHCARE at the website <http://www.healingtouchinternational.org>. The following

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comes from this site (http://www1.healingtouchinternational.org/index.php?option=com_content&task=view&id=57&Itemid=131#POST-OPERATIVE%20RECOVERY) and provides a good example to dissect for the relevant information:

"The Effect of Relaxation (Healing Touch) Touch on the Recovery Level of Post-anesthesia Abdominal Hysterectomy Patients, Maria Adela Concepcion Silva, PhD, RN, CHTI

This study evaluated the effects of Healing Touch on the amount of narcotic analgesic self-administered postoperatively, the frequency of bowel program treatments and medications administered to patients with abdominal hysterectomies. Sixty preoperative patients were randomly assigned to one of three groups: Healing Touch, back massage, and no treatment. The results indicated that the Healing Touch subjects had a significantly higher level of recovery than the two controls on lung, gastro-intestinal, and activity status. Reduction of systolic and diastolic blood pressures and pulse rate were statistically significant for the Healing Touch group and the amount of narcotic analgesia and bowel treatments were less in this group as well."

Let us look at this example and review the study information. The basic question is, "Does Healing Touch have a significantly positive effect post-surgically for abdominal hysterectomy patients?" What are the measurements that would indicate an effect(s)? The amount of self-administered narcotics can be measured, frequency of bowel program treatments and medications are also measurable. How many test subjects? Sixty is pretty good for a study using human test subjects. How were the subjects divided? Healing Touch, control (no treatment) and back massage (it's possible that people do better with attention regardless of whether it is Healing Touch, sham Healing Touch or massage). Additional measures were added because these patients were available for follow-up. Look for the key words "statistically significant." They are there. (Note: The original study would need to be read to find the

type of statistic and the alpha level for reaching this conclusion.)

This is phase 1 in guiding you to know how to constructively deal with skeptics. You now have the basics on how life science experimentation is carried out and why it truly is an inexact science. In next month's article, I will provide a variety of examples from many areas that will be entertaining, intriguing and very supportive in helping you to educate others about energy medicine and Healing Touch. **E**

David's Bio:

Dave is an honest-to-goodness rocket scientist and still enjoys the surprise on people's faces in Healing Touch classes. He lives with his wife, Cindy, in Littleton, CO where they enjoy being first-time grandparents. Dave has been involved with alternative healing since the early 1980's (Therapeutic Touch) and has worked in many modalities. Most recently, Dave has become a Psych-K practitioner and finds that this is very complementary to Healing Touch. Dave recently completed Level 4 and is working towards Level 5 and certification.

Dave works with clients in both the Denver and Ft. Collins areas. He networks with several groups and is working on developing a free clinic within a local psychiatric nursing home. His expertise includes ongoing work in being a medical intuitive and extensive experience in distance healing using all modalities.

Dave continues with his work in aerospace consulting for the US Air Force and his previous employer, Lockheed Martin and he is also an adjunct professor in engineering and computer science at a local university. His other interests include creating bronze sculptures, wood turning and woodwork, and scuba diving. www.holisticbeliefs.com