

An Even Closer Look at Therapeutic Touch

To the Editor.—As a clinician, I am surprised that THE JOURNAL elected to address the important and controversial issue of Therapeutic Touch (TT) with such a simpleminded, methodologically flawed, and irrelevant study. The experiments described are an artificial demonstration that some number of self-described mystics were unable to “sense the field” of the primary investigator’s 9-year-old daughter.¹ This hardly demonstrates or debunks the efficacy of TT. The vaguely described recruitment method does not ensure or even suggest that the subjects being tested were actually skilled practitioners. More important, the experiments described are not relevant to the clinical issue supposedly being researched. Therapeutic Touch is not a parlor trick and should not be investigated as such. Rather, it is a therapeutic technique that may be discovered to require active involvement by a genuinely ill patient, as the authors themselves convolutedly acknowledge in their citation of Krieger’s work. Thus, to demonstrate a child’s participation in a magic trick hardly represents an investigation of a clinical phenomenon. It is not yet clear if TT will be proven to be effective and for which, if any, indications. A serious and appropriately designed clinical study is needed to determine its efficacy, not an elementary-school science project.

Andrew Freinkel, MD
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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—Bias occurs when researchers take a holistic process, such as TT,¹ extract 1 aspect of the process, and measure it in a separate situation. When the experiment fails to prove what the researchers hypothesized, they then declare the whole process worthless. The fact that this declaration was derived from a sample size of 21 further validates bias on the part of the researchers and the editors. Furthermore, to dismiss large volumes of research, including double-blind studies, as incompetent research means the authors never thoroughly evaluated or considered the merit of the articles listed as references. Moreover, I care very little whether a practitioner can feel energetic exchange successfully in a contrived situation such as the experiment set up when I see outcomes that the TT process as a whole works. Much about the mechanisms of energetic transfer and healing is not understood. To take 1 reductionistic experiment and make sweeping statements is an irresponsible research process. Encouraging further reasonable research into some of these mechanisms would be a positive outcome to this negative experience. Finally, the authors’ statement, “The American Holistic Nursing Association offers certification in ‘healing touch,’ a TT variant” is incorrect. The certifying body is Healing Touch International, Inc, with headquarters in Lakewood, Colo. Healing Touch is a continuing education certificate program endorsed by American Holistic Nurses’ Association.

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—Members of the greater Kansas City chapter of Nurse Healers—Professional Associates are disappointed in the authors’ use of a child’s fourth-grade science project to support an anti-TT crusade.¹ To describe this child’s homework as “research” is without foundation since it clearly fails to meet the criteria of randomization, control, and valid intervention. The “researcher’s” qualifications to conduct research and those of her mother are nonexistent. Flagrant violations against TT include the fact that “sensing” an energy field is not TT but rather a nonessential element in the 5-step process; inclusion of many misrepresentations of cited sources; use of inflammatory language that indicates significant author bias; and bias introduced by the child conducting the project being involved in the actual trials.

As health care professionals, we welcome healthy skepticism, as long as it is born of honesty and integrity. In fact, many

TT practitioners start as skeptics but are compelled to continue TT after observing many individuals who benefit. Some patients acknowledge pain relief. Others experience relaxation, accelerated wound healing, and emotional reintegration. Through rigorous research, which does not include elementary-school science projects, we may one day gain a more thorough understanding of TT. It is unfortunate that *JAMA* would publish articles that deliberately fragment the TT process to achieve erroneous results to further the authors' own biases. Therapeutic Touch practitioners, health care professionals, and the public deserve better.

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Julia Hagemaster, PhD, ARNP

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—Ms Rosa and colleagues¹ claim that “the definitive test of TT is not a clinical trial of its alleged therapeutic effects, but a test of whether practitioners can perceive HEFs [human energy fields].” The definitive test of a healing practice is whether healing takes place, not whether the practitioners have a flawless grasp of the natural forces at work.

If TT practitioners predicted their success in a study like this one, then the test shows only that the TT practitioners do not have an accurate grasp on the healing processes at work, if any. Perhaps intention of the patient matters quite a lot,

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even though this is discounted by the practitioners themselves. Perhaps a TT practitioner must intend to heal as opposed to intend to choose a left or right hand.

The authors' sweeping pronouncement that “the claims of TT are groundless and that further professional use is unjustified is not appropriate.” Such is evidence of a personal and not entirely objective agenda, no doubt consistent with that of Quackwatch Inc, the Questionable Nurse Practices Task Force, the National Council Against Health Fraud, Inc, and the National Therapeutic Touch Study Group. One would expect medical professionals to be more concerned with whether real healing occurs.

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—Research design flaws in the study by Ms Rosa and colleagues¹ are disturbing given the serious nature of study results and the suggestion that TT should no longer be offered to patients. First, the authors are not neutral and unbiased, nor is the senior author representative of nurse scientists with advanced degrees currently conducting research.

Second, it is questionable whether the sampling methods provided a representative sample. “Searching advertisements” to obtain a sample is purposive and limits generalizability. In addition, the authors did not specify what is meant by “following other leads” in recruiting participants. Apparent failure of the participants to question explication of test procedures from a 9-year-old child suggests lack of sophistication. Third, no rationale is provided for conducting 2 series of tests, and the criteria that guided this design are not mentioned. Moreover, during the first testing period, there was a lack of equivalency in both the time frames used to assess practitioners and the settings in which data were collected. The impact of videotaping during the second testing period, a complaint registered by several participants, is not addressed. Fourth, the subtle demand characteristic of the procedure for testing the hypothesis that practitioners should be able to perceive the HEF of the experimenter 100% of the time was not representative of the patient-practitioner interaction and glosses over the fact

that practitioners generally use both hands to assess the HEF. In the interest of scientific exploration of the efficacy of TT and its mechanism of action and the advancement of quality patient care, which is never mentioned in the article, we should be cautious in following the recommendations of the authors to discard an intervention that many patients throughout several decades tell us "works."²

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

2. Mulloney SS, Wells-Federman C. Therapeutic touch: a healing modality. *J Cardiovasc Nurs*. 1996;10:27-49.

To the Editor.—I critiqued the study on TT₁ and was amazed that a research study with so many flaws could be published. First, the authors list 129 references of which approximately only 50 are primary research studies. Of these studies, the majority are master's theses or dissertations from the 1980s, and only 9 references are reports of quantitative studies from the 1990s. A closer look at the methods is even more alarming. Possible confounders include the wide range of experience of the 21 practitioners, demographic characteristics of the participants, and lack of evidence of the depth of their training in TT. Although the subject was able to "center," the researcher, a young girl who simply held her hand over the upturned palm of the practitioner, violated the entire premise of TT. The procedure was conducted in different settings with no control of environmental conditions. Even though the trials were repeated, the subjects did not change, thus claims of power based on possible repetitions of error are inappropriate. The true numbers in groups are 15 and 13, thus making a type II error highly probable with a study power of less than 30%. Another concern is whether participants signed informed consent documents or at least were truly informed as to the nature of this study and that publication of its results would be sought beyond a report to the fourth-grade teacher.

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—No study, including the one on TT,₁ can prove the nonexistence of a phenomenon. The null hypothesis is a useful methodologic convention fabricated for the purpose of avoiding experimental error. Proper use of hypothesis testing contradicts this article's "unrefuted evidence that the claims of TT are groundless and that further professional use is unjustified." The only conclusion is that, under the conditions of the experiment, a possible truth had not been discovered (a type I or a error—rejecting a hypothesis that actually is true). Second, the experimental conditions did not approximate the technique of TT as it is practiced. Touch therapists repeatedly move their hands over the patient with special attention given to perceived problem regions. In this study, a static condition was evaluated, eliminating the movement component that maybe critical. Similarly, a type I hypothesis testing error would result when evaluating modern security sensors. Under static conditions, these sensors would detect human presence 0% of the time. The 100% success rate expected in this study was far too stringent. There are few, if any, conventional medical tests, evaluations, or therapeutics this successful. Unconventional therapies should be scrutinized by the same high but not untenable standards used for evaluating conventional modalities. An unreasonably strict experimental outcome practically ensures a type I error. The research recommendations should include further study, and the practice recommendations should await a preponderance of accumulated evidence.

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—The hypothesis tested by Ms Rosa and colleagues₁

was not directly related to the authors' conclusions, and the methods of analysis and their interpretations were not always appropriate.

First, the hypothesis tested whether the TT practitioners could detect which of their hands was being hovered over by the investigator. Because practitioners were not instructed to perform TT on the investigator, the hypothesis cannot test the effectiveness of TT. If TT works well in properly designed blinded clinical trials, then whether practitioners can detect an HF under conditions of this study does not seem relevant. Second, the study was designed using the binomial distribution. However, it was analyzed using the *t* distribution, although the data do not appear to be approximately normally distributed and are not continuous. Even so, Table 2 shows that for the initial test the alternative hypothesis that $\mu = 6.67$ was barely rejected at the .05 level of significance.

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The authors state that "the odds of getting 8 of 10 trials correct by chance alone is 45 of 1024 ($P = .04$)." This is the probability of getting exactly 8 of 10 trials correct. The probability of getting 8 or more correct answers of 10 is 56 of 1024 (5.5%). More important, if the true probability of a successful prediction were 0.67 (considered by this article to be a positive trial), then the probability of 0 to 4 successes in 10 trials would be 0.07, and the probability of 0 to 5 successes in 10 trials would be 0.21. Neither are less than 0.05. Therefore, this study is not definitive proof that the true probability of success of the practitioners is no better than 0.67.

Figure 2 in the article includes a frequency distribution of 28 TT practitioners' scores, although only 21 unique practitioners were tested. More than half the original 15 practitioners did not participate in the follow-up test, but no reason was given for their absence. The mean of the initial test was 4.67; that of the follow-up test was smaller, 4.08. The authors state that although several practitioners complained about the presence of the television crew during the follow-up test, this was irrelevant. Further research, preferably properly designed blinded clinical trials, is required to prove or disprove the effectiveness of TT.

J. Lynn Palmer, PhD
M. D. Anderson Cancer Center
Houston, Tex

1. Rose L, Rose E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

To the Editor.—As a physician, I remain skeptical about TT as an effective technique. As a scientist, I appreciate the efforts by Ms Rosa and colleagues to ascertain the validity of some fundamental claims of TT practitioners. But as a medical historian, I think it is essential to remember that many interventions now universally regarded as useful were originally proposed at a time when their fundamental basis was not only unknown, but in some cases unknowable. To consider only a single example, when Ignaz Semmelweis proposed handwashing as an intervention to combat disease transmission in the mid-1800s, there was no consistent theory of disease causation by microorganisms, and there did not exist the technological processes necessary to demonstrate the existence of those microorganisms now considered a major cause of human disease. Nonetheless, handwashing was perceived to have an effect on human disease. Similarly, when we wish to definitively assess the efficacy of a therapeutic intervention today, we must await studies of its effectiveness (or lack thereof) in treatment, whether or not we can demonstrate a theoretical basis for its effect.

Joel D. Howell, MD, PhD
University of Michigan
Ann Arbor

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To the Editor.—In describing the theoretical background of TT, Ms Rosa and colleagues note the similarity to the "animal

magnetism" healing techniques of the controversial 18th-century physician Franz Anton Mesmer. Indeed, Mesmer's mysterious and magical cures gained such notoriety in Paris that in 1784, King Louis XVI appointed a blue-ribbon panel from the prestigious French Academy of Sciences to formally evaluate this "magnetism." The panel, which included such well-known scientists as Lavoisier, Guillotin, and Benjamin Franklin, verified that some patients indeed had benefited, but they dismissed this as having something to do with the "imagination," and concluded that "magnetism" was not a real phenomenon.

² Unfortunately, this prestigious panel missed the opportunity to gain further understanding of the potential of the patient-physician relationship, the power of suggestion, and recognition of the closely related power of the placebo effect.³

Ms Rosa and colleagues have elegantly refuted the original theoretical basis for TT (with its "human energy field"), but as in Mesmer's case, this does not mean TT cannot be helpful to patients. Therapeutic Touch provides a structure that many ill patients enjoy: a caring individual with positive intentions devotes exclusive attention to the patient in need. Based on the current popularity of alternative medicine therapies,⁴ TT is likely to resonate with the belief systems of many patients. Particularly if TT is practiced only on willing patients by volunteers who charge no fees, there should be no adverse effects.

If we acknowledge that the interaction between individuals can be a powerful force, then TT can offer an appropriate structure to harness its positive potential to provide some psychological comfort to ill patients.

Jon Streltzer, MD

John A. Burns School of Medicine
Honolulu, Hawaii

1. Rosa L, Rosa E, Sarnar L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

2. Zweig S. *Mental Healers*. New York, NY: Frederick Ungar Publishing Co; 1962: 60-67.

3. Straus JL, Cavanaugh SA. Placebo effects. *Psychosomatics*. 1996;37:315-326.

4. Eisenberg DM, Davis RB, Ettner SL, et al. Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. *JAMA*. 1998;280: 1569-1575.

To the Editor.—The conclusion of Ms Rosa and colleagues¹ that "further professional use [of TT] is unjustified" should be more subtle. Despite the current vogue for evidence-based medicine, clinicians use many modalities that have not been validated in double-blind studies. Sometimes higher standards are demanded of innocuous alternative therapies than potentially dangerous but accepted conventional ones. Should treatments that have no pernicious effects (eg, TT) be expected to meet the standards demanded of potentially harmful biochemical or surgical interventions?

At the very least, TT offers the patient the full and unhurried attention of a caregiver. Such attention is rare in our health care system and may be of value even if it only works through an enhancing placebo effect. As with any unproven therapy, it is neither unreasonable nor unethical to recommend or offer TT to a patient who is informed of its limitations. Nevertheless, I agree that the study by Rosa et al makes a powerful argument against third-party reimbursement for TT and suggest that practitioners should inform the patient that its efficacy has not been established by modern scientific methods.

Arnold J. Blank, MD

Queens-Long Island Medical Group
Astoria, NY

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To the Editor.—The experiment by Ms Rosa and colleagues¹ does more than demonstrate that the practitioners of TT are unable to sense the HEF. It also shows that they genuinely believe they can. The practitioners would not have allowed themselves to be tested otherwise. Their public responses to the article indicate that they will continue to believe they can and will be wary of future critical investigators of any age. Of course, none of us can easily divorce our personal experience from our accustomed interpretation of that experience. The practitioners feel good about their practice. Their patients—those with

a healthy placebo response—say they feel better and pay practitioners for their services or have someone else pay them. The naturopathic mycologist tests for yeast, the colonic irrigator irrigates, the chelator chelates, and the therapeutic toucher “touches.” When their single method fails, so do they. Sad as this may be, it is no excuse for medical and nursing

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schools to lend their imprimatur to unproved methods, unless, of course, they are under critical investigation, preferably by

9-year-old girls.

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1. Rosa L, Rosa E, Sarner L, Barrett S. A close look at Therapeutic Touch. *JAMA*. 1998;279:1005-1010.

In Reply.—Advocates of TT postulate that an HEF exists.

Can such an entity be measured or perceived? Do any well designed studies show a beneficial effect against any health problem? Our article addressed all of these points. If TT practitioners could sense an HEF, they should be able to sense whether they are near an experimenter's hand. None of the tested practitioners demonstrated such ability. None objected to the study's design before they were tested. Proponents still offer no alternative testable hypothesis or protocol. Nor have any stepped forward to attempt to demonstrate the existence of an HEF, even though a million-dollar reward is available.¹ Dolores Krieger, PhD, RN, the founder of TT, has stated repeatedly that its practitioners sense an energy field. In 1987, she wrote, "In Therapeutic Touch, assessment involves the use of the hands in a sensitive search of the healee's energy field, for indications of energy imbalance. Actually, the received impression is really an extension of the sense of touch as we usually think of it."² We leave it to *JAMA* readers to decide for themselves whether it is possible to manipulate an "energy field" with their hands if they cannot tell where it is. Ms Collins asserts that 21 practitioners were too few to yield valid results. However, our power analysis showed that this number was more than adequate to test our simple hypothesis. Therapeutic Touch proponents never have objectively demonstrated that they can detect an HEF. Unless they do, it is reasonable to assume that none exists.

Dr Schmidt suggests that our test subjects might not have been sufficiently skilled. That would be impossible to determine because TT has no accepted standards of training or practice. We approached every practitioner we could identify in our (Colorado) community. Nearly all agreed to be tested, and none was reliably able to detect the location of Emily's hand.³ We see no reason to believe that they were less competent than practitioners elsewhere.

Dr. Palmer is correct that the probability of getting 8 or more correct is slightly higher than the probability of getting exactly 8 correct. However, this point does not affect the interpretation of the test data. Her discussion of the "true probability of a successful prediction" being 0.67 is disposed of by our power analysis, which she does not contradict. Moreover, TT postulates that an HEF can be sensed and manipulated for therapeutic benefit. All of our subjects claimed to do this routinely. For this to be true, the detection rate would have to be 100%. Our study centered on the performance of 28 subjects, not 280 independent trials. Since a normal distribution was expected under the null hypothesis, we believe the *t*-distribution was the appropriate analytic tool. Our final conclusion was not based solely on the hypothesis that practitioners would detect the experimenter's "energy field." It also took into account—based on our literature analysis—that TT has never been shown to "work well in properly designed trials." All 15 original participants were invited to be retested. Seven said they were unable to attend on the specific day. Only 1 said she didn't feel she could perform "on camera." No complaints were made about the presence of TV cameras before or during testing.

Dr Blank argues that TT might have merit because it is physically harmless, might exert a useful placebo effect, and offers "the full and unhurried attention of a caregiver." We believe it is inherently harmful to misrepresent placebos as effective treatment. Moreover, there are much better ways for nurses and clinicians to provide beneficial attention to patients. Dr Ireland expresses concern about discarding an intervention that many patients say works. Anecdotal evidence is not sufficient to determine whether something works. Our extensive literature search found no evidence that TT provides any health benefit. Therapeutic Touch proponents still have not

stated any grounds on which their claims may be considered valid, nor have they presented any reasonable justification for TT's continued professional use.

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1. Special announcement. James Randi Educational Foundation. The Psychic Challenge. Available at: <http://www.randi.org/jr/4198announce.html>. Accessed October 21, 1998.

2. Krieger D. *Living the Therapeutic Touch: Healing as a Lifestyle*. New York, NY: Dodd Mead; 1987:25.

3. Barrett S. Therapeutic touch study data [Quackwatch Web site]. Available at: [http://www.quackwatch.com/01QuackeryRelated Topics/ttdata.html](http://www.quackwatch.com/01QuackeryRelated%20Topics/ttdata.html). Accessed April 13, 1998.