Overview of Acupuncture

Acupuncture is the practice of placing very thin needles through the skin in specific locations of the body for the purpose of healing and relief of symptoms. This practice is several thousand years old and is part of Traditional Chinese Medicine. While advocates have been successful at pushing acupuncture into the culture, the scientific medical community has still not accepted the practice as a legitimate scientific practice.

1. Acupuncture is a pre-scientific superstition

Proponents often cite acupuncture's ancient heritage as a virtue, but it is more of a vice. Acupuncture was developed in a pre-scientific culture, before anything significant was understood about biology, the normal functioning of the human body or disease pathology. The healing practices of the time were part of what is called philosophy-based medicine, to be distinguished from modern science-based medicine. Philosophy-based systems began with a set of ideas about health and illness and based their treatments on those ideas. The underlying assumptions and the practices derived from them were never subjected to controlled observation or anything that can reasonably be called a scientific process.

Acupuncture is based upon the Eastern philosophy of chi (also spelled qi), which is the Chinese term for the supposed life force or vital energy that animates living things. In Traditional Chinese Medicine (TCM) chi flows through pathways in the body known as meridians. Illness results from the flow of chi through the meridians being blocked, or by the two types of chi (yin and yang) being out of balance. Acupuncture is the practice of placing thin needles at acupuncture points, which are said to coincide with points at which meridians cross, to improve the flow and restore the balance of chi.

2. Acupuncture lacks a plausible mechanism

Centuries of advancement in our understanding of biology has made the notion of life energy unnecessary. Further, no one has been able to detect life energy or formulate a scientifically coherent theory as to what life energy is, where it comes from, and how it interacts with matter or other forms of energy. Within science, the vitalists lost the debate over a century ago. Without chi, there is no underlying basis for acupuncture as a medical intervention.

These potential mechanisms, while more plausible than the non-existent chi, remain speculative. Further, they would only explain the very non-specific effect of acupuncture causing a temporary mild reduction in pain (no better than rubbing your elbow after accidentally banging it against something hard). Such mechanisms could not account for any of the medical claims made for acupuncture, or the alleged existence of acupuncture points.

Further, it is misleading to say that such mechanisms could explain "acupuncture." Acupuncture is the needling of acupuncture points to affect the flow and balance of chi. Using needles to mechanically produce a temporary local counter-irritation effect is not

acupuncture – even though it may be an incidental consequence of this practice and may have contributed to its perceived effectiveness.

3. Claims for efficacy are often based upon a bait-and-switch deception

Science requires unambiguous definition of terms and concepts. If acupuncture is said to be something scientifically then it must have some specific and unique characteristics. In medicine that means it should have a specific mechanism of action – and it is that mechanism that we would call acupuncture.

Further, during a typical acupuncture treatment there are many other incidental effects that may occur. The atmosphere is often relaxing, and practitioners typically will palpate the "acupuncture points" prior to inserting the needles, for example. Practitioners also provide their kind attention, which has a positive psychological therapeutic value. There are therefore many nonspecific subjective effects that could lead to clients feeling better, making the actual insertion of needles an unnecessary component.

4. Clinical trials show that acupuncture does not work

. There is a surprisingly large published literature on the clinical effects of acupuncture. Most people are equally surprised to learn that the literature is essentially negative. It is important to evaluate the literature as a whole to see what pattern emerges. The pattern that does emerge is most consistent with a null effect – that acupuncture does not work.

Controlled clinical trials of actual acupuncture (uncontrolled trials should only be considered preliminary and are never definitive) typically have three arms: a control group with no intervention or standard treatment, a sham-acupuncture group (needles are placed but in the "wrong" locations or not deep enough), and a real acupuncture group. Most of such trials, for any intervention including pain, nausea, addiction, and others, show no difference between the sham-acupuncture group and the true acupuncture group. They typically do show improved outcome in both acupuncture groups over the no-intervention group, but this is typical of all clinical trials and is clearly due to placebo-type effects. Such comparisons should be considered unblinded because patients knew whether they were getting acupuncture (sham or real).

More recent trials have attempted to improve the blinded control of such trials by using acupuncture needles that are contained in an opaque sheath. The acupuncturist depresses a plunger, and neither they nor the patient knows if the needle is actually inserted. The pressure from the sheath itself would conceal any sensation from the needle going in. So far, such studies show no difference between those who received needle insertion and those who did not – supporting the conclusion that acupuncture has no detectable specific health effect.