

# **ACUPUNCTURE**

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Acupuncture is one of the oldest and most widely used methods of medical care. Over 1/3 of the entire world population receives some type of acupuncture treatment.

Acupuncture occupies a large part of oriental medicine, which also includes herbs, diet, massage, special exercises, bathing methods, and meditation. 90% of China's illnesses are treated totally or partially by acupuncture. We usually associate this practice with that country, as well as Japan, Taiwan, Korea, and Viet Nam. But acupuncture was also practiced by the ancient Egyptians. It is known among the Bantu people of Africa, the Inuits of the Arctic, and the South American Indians. And, perhaps most importantly, the European countries have researched and used it for hundreds of years.

A Dutch physician wrote the first western treatise on it after studying in China, Japan, and India. William Ten Ryn began practicing acupuncture in Holland and the term was added to the Oxford English Dictionary in 1683. A German doctor learned it in Japan and began researching in that country. It reached Great Britain in 1821.

Acupuncture became well practiced in France due to physicians like Rene Laennec, who popularized it. Doctor Laennec was the inventor of the stethoscope. The popularity of acupuncture in France continues to this day. Acupuncture came to the United States from France in 1825. Dr Franklin Bache, great grandson of Benjamin Franklin, was its leading advocate and researcher. At the end of that century it was included in the classic text *Practice of Medicine* (1897) by William Osler.

Interest in acupuncture was limited mostly to physicians here until President Nixon's visit to China in 1972. His personal physician, Dr Walter Tkach, was so impressed with the treatments he saw that the National Institutes of Health set up an ad hoc committee on acupuncture. An acupuncture research conference was held the following year and acupuncture was here to stay.

## **HOW DOES ACUPUNCTURE WORK?**

Traditional Oriental medicine sees the body as a reflection of nature, reacting to the same laws that govern the entire universe. These laws keep everything in balance. If the harmonious balance is upset, illness

results (just as on a global scale, dis-harmony causes earthquakes, floods, droughts, or even war).

The traditional physician's job, therefore, is to restore harmony within the body. He does this by observing and correcting energy patterns in the body. This energy is called *qi* in Chinese and is the concept hardest to understand by Westerners.

According to acupuncture theory, the body has an "electrical system" through which this *qi* flows. This bioelectrical energy is predictable in its workings. It flows through a series of circuits called *meridians* on which lie the acupuncture points. By stimulating the points with a needle (or other stimulation), the flow of energy can be turned up, turned down, or redirected as needed. This restores harmony to the system and health to the patient.

Thus, Eastern medicine has not been based on the identification of disease, as in the West. While Western medicine has concentrated on the resulting symptoms of disequilibrium in the body, Eastern medicine has specialized in correcting and preventing the disequilibrium or imbalance.

Prevention is the hallmark of Oriental medicine, as noted in this ancient proverb:

The superior doctor prevents illness  
The mediocre doctor treats imminent illness  
The inferior doctor treats actual illness

## **SCIENTIFIC VALIDATION**

This is going to get a little technical.

Scientific research on acupuncture in recent years has yielded much understanding of the role of the brain in explaining the pain-relieving and neuroregulatory effects of the ancient practice. Endogenous opioid-mediated mechanisms in the brain are used to explain the brilliant but mysterious successes of acupuncture treatment. Functional magnetic resonance imaging (fMRI) has been used to observe actions within the brain's "reward system" when needling is effectively done. Changes in neurotransmitter activity and blood flow to the nerves, muscles, and skin have been verified. Segments of the brain controlling vision, for example, have been seen to light up under fMRI when a point on the leg traditionally

corresponding to the eyes is stimulated. But these findings only partially explain the mechanism of acupuncture.

After much dismissal for decades by conventional physicians, science has verified that the points and meridians of acupuncture correspond to anatomical structures that have been observed with scientific instruments. Ions—electrically-charged particles—have been found to flow through ionic “stream beds” under the surface of the skin that coincide with the acupuncture meridians as long charted by the Chinese. These pathways of electrically-conductive fluid have tunnels that reach the surface of the skin, called Heine cylinders and which have been found to correspond with the acupuncture points. Ions and electrons seem to be part of the flow of bio-electrical energy, or qi as it has been historically described. Yet it is not purely electrical in nature.

Photosensitive equipment has revealed that the acupuncture points actually emit light. A photon-releasing phenomenon is therefore present, and part of the multi-faceted mechanism of the transmission of information along the meridians.

Since the major acupuncture points appear to have an effect on endocrine receptor sites, it is reasonable to conclude that part of what has been attributed to the mysterious and vague *qi* is a hormonal mechanism.

In short: The effects of acupuncture, and the nature of the communication system called meridians, consist at various times and locations in the body as neural, peri-neural, hormonal, photonic, and probably other mechanisms that in pre-scientific times were lumped together under the collective concept of *qi*.

There are various styles of acupuncture, with different emphasis and sometimes somewhat contradictory philosophies. The TCM or “Traditional Chinese Medicine” model from mainland China tends to predominate in the U.S. because it proliferated earlier and more aggressively than the others. I gravitated to a Japanese style of practice, but my early schooling was composed of Chinese/Vietnamese teachings for the classical training, and German teachings for the modern part of our school’s program. This was probably the first influence on my tendency to synthesize knowledge from many sources. There are many different ways to render acupuncture.

## **Manaka's "X-Signal"**

The communications carried along the classical meridian network have been referred to as the "X-Signal" by Dr. Yoshio Manaka, a medical doctor who became one of Japan's foremost acupuncture researchers. Dr. Manaka hypothesized that there is a subtle "signaling" system operating at large in nature, which accounts for the meridian and qi concepts that have been described by the Chinese for thousands of years. He theorized that this signaling system was the precursor of the more efficient and precise signaling systems of the nervous and endocrine systems, which developed later. The nervous system as we know it, which can be observed through evolution from lower-order to higher-order organisms, apparently replaced this primitive signaling system for the most part, because the neuro-endocrine system is a much more efficient signaling/regulatory control system.

Manaka proposed that the older, more primitive signaling system, while playing an important role in lower order organisms (and in embryological development) began over time to be a less obvious regulator in the physiology of higher order organisms. Not quite a vestigial system (in the category of the appendix or the tailbone), it is still very important physiologically, but its

operating levels are at such low levels of amplitude that it is barely perceptible. This makes it difficult to perceive, or to observe under experimental conditions. However, it is readily perceptible through its effects, for which the Chinese have been historically so talented in observing and cataloguing.

An acupuncture point may have very specific effects within this signaling system, acting to switch the signals on or off, increasing or decreasing the amplitude, and applying the signal to a specific anatomical structure from a specific point. Manaka looked to some of the newest scientific theories and models (chaos theory, complexity theory, quantum mechanics) to elucidate his X-Signal model .

## **Needling Effects**

Stimulating an acupuncture point can have three responses: A local reaction, a regional reaction, or a systemic or general reaction. Or, it may have no reaction at all, in which case the point chosen was not active at the time, was not accurately located, or insufficiently stimulated.



Local reactions change the electrical potential at the site of injury, modulating the presence of Substance P (the “pain chemical”) by way of the attraction of opioid peptides, bradykinin, serotonin, and proteolytic enzymes, which have an anti-inflammatory effect.

Regional reactions have long been explained as occurring because of changes in the *qi* flow along the meridian connecting the adjacent tissue to the point stimulated. Since this involves two to three dermatomes, we now know that this occurs through a reflex arc of the stimulated nerves.

Systemic reactions produce the visceral changes that are central to acupuncture’s ability to modify organic functioning, and this appears to occur through the central mechanism of homeostasis in the brain. Involved are cutaneo-visceral reflexes, viscerocutaneous reflexes, cutaneo-muscular reflexes, musculo-cutaneous reflexes, visceromuscular reflexes, Musculo-visceral reflexes, polysynaptic reflexes, and vegetative reflexes.

The neurochemical cascade caused by acupuncture, with brain neurotransmitter secretion, can account for the ability to modify acute and chronic pain, and also psychiatric conditions. To reduce the complex neurology

involved by referring to it under the umbrella term *qi*, or “energy”, is understandable considering the ancient history and cultural sources of the practice; however, this has been an impediment to its acceptance by establishment medicine—and also to its reliable usage.