Our Services – Acupuncture

**What is Acupuncture?**

*Our physiotherapist practices acupuncture for musculoskeletal and neural conditions based on traditional Chinese medicine principles, but is not a Traditional Chinese Medicine Acupuncturist.*

**Briefly:**

Acupuncture is a part of Traditional Chinese Medicine, which originated in China over 5,000 years ago. This ancient art of healing has become widely accepted throughout the western world over the past 30 years. Acupuncture is a natural therapy using solid needles to stimulate specific points in the body to effect circulation, pain, neural input among other things. This has several major benefits:

● Assists in the prevention of disease
● Treats both the symptoms and the cause of disease
● Offers a holistic approach that links body, mind and emotions
● Effectively treats many common ailments
● Can provide drug-free pain relief

 **How does it work?**
In Chinese Medicine the human body is likened to a highly complex electrical circuit, but instead of circulating electricity, the body circulates a specialised biological energy or life force called Qi (chi). The Qi flows through countless energy pathways called meridians throughout the body, linking and integrating the organs and tissues to make sure that they function to perfection. During physical or emotional stress, exposure to harsh weather or a prolonged unhealthy life-style, the balance and strength of Qi flowing through the meridians is disrupted, resulting in a discomfort or disease.

*Acupuncture is covered by many insurance companies similarly to physiotherapy. Please refer to the “Do I need a referral?” section under Physiotherapy*

**In Detail:**

(Source – Acupuncture Foundation of Canada Institute - What is Acupuncture, how does Acupuncture work? www.afcinstitute.com/Home/tabid/36/Default.aspx)

Acupuncture is an ancient form of Chinese medicine involving the insertion of solid acupuncture needles into the skin at specific points on the body to achieve a therapeutic effect. No drug is injected. The needles alone create the beneficial effects of acupuncture.

Acupuncture is used to encourage natural healing, improve mood and energy, reduce or relieve pain and improve function of affected areas of the body. It is safe and effective and is often successfully used as an alternative to medications or even surgery. Relief is often obtained with acupuncture when traditional medical therapy has failed.

Acupuncture needles are solid, usually stainless steel (they may also be gold or silver), and measure from 13-70 mm, although longer reusable ones up to about 150 mm in length can be purchased. The needles are very fine, flexible and rounded but sharp at the tip. They are ‘atraumatic’, meaning that they do not have a cutting edge like a hypodermic needle, which slices through tissue. Their design allows acupuncture needles to slide smoothly through tissues and makes them unlikely to cause bleeding or damage to underlying structures.

Acupuncture points (also referred to as ‘acupoints’) are places on the skin that have a lower resistance to the passage of electricity than the surrounding skin and are part of a network of points that were mapped centuries ago by the Chinese. Most are found along ‘meridians’ or ‘channels’ that are believed to be the pathways by which energy or Qi (pronounced ‘Chee’) flows through the body. Acupoints are located either by identifying anatomical landmarks or by the classical method (for example: “the point where the middle finger touches the thigh when standing at attention”).

A dull, heavy, or aching feeling often occurs when the needle is correctly placed. This is referred to as ‘de Qi’ and is considered by some traditional acupuncturists to be necessary for acupuncture to be effective. The experience of AFCI is that relief of pain can often be obtained without provoking the de Qi response. Recent fMRI studies indicate that there is a difference in the response of the brain to needling with and without the de Qi sensation[1](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=73).

The needles are left in place for 15-30 minutes, and the practitioner may manipulate the needles to strengthen or reduce the flow of Qi. Lifting, twisting, and rotating are some of the needling techniques a practitioner may use.

How does it work?

Traditional Concepts
Traditional Chinese Medicine is, fortunately, not based on science. It is based on a paradigm of balance in nature, a concept that has existed for millennia, originating in Taoism. The heart of the paradigm is the belief that there exists in nature and in the human body, energy, referred to as Qi (pronounced ‘chee’). In order to be healthy one must have sufficient Qi, it must be balanced and it must be free-flowing within the body in a pattern that is specific to the Qi related to each of several identified organs. Blood and body fluids ground and nourish Qi to create balance so Qi can move freely in the meridians.

Traditionally, acupuncture’s effects are explained by how it influences Qi. Qi is believed to flow through ‘meridians’ or ‘channels’ along with blood and body fluids. These meridians make up a conceptual network of pathways through the entire body. The word ‘meridian’ comes from the French translation of the Chinese term jing-luo, which means “to go through” and “something that connects or attaches”. According to TCM theory, Qi forms at conception and is maintained throughout life by the intake of food, water and air. Everything in nature is classified as being either yin (cold, female, dark, inside, etc) or yang (hot, male, light, outside. etc). Under healthy circumstances, the body maintains a state of balance (i.e. between yin and yang) when Qi is moving smoothly through the meridians.

If there is an imbalance in yin and yang or if the movement of Qi is deficient, obstructed, moving in the wrong direction, or in excess, the body may be in a diseased state or more susceptible to illness. In traditional approaches, acupuncture is used to stimulate points either along meridians or points that lie outside these pathways that may connect two meridians, to correct the imbalance. A traditional acupuncturist will diagnose and treat the ‘root’ and ‘branches’ or the underlying imbalance and symptoms of the disease or disorder. In this way, traditional acupuncture treats not only the symptoms, but addresses the root cause of the underlying problem and may also prevent further illness. For more detailed information on traditional acupuncture from a traditional Chinese Medicine perspective, please see the Traditional Chinese Medicine therapy review on CAMline. <http://www.camline.ca/>

The reason for stating at the outset that it is fortunate that TCM is not based on science is to acknowledge its value in solving health-related problems that confound modern medicine. Often modern medical knowledge with its emphasis on studying the minute details about a condition misses the big picture one sees when symptoms are viewed through the eyes of an individual with training in TCM concepts. Using that knowledge often leads to a successful outcome for an ill person that was impossible with western medicine.

Scientific Explanations
While the concept of Qi and meridians do not correlate directly with western science (i.e. meridians and Qi are conceptual explanations and are not directly related to either the cardiovascular or neurological systems), there is a correlation between acupuncture points and known neural structures. Several Canadian researchers played instrumental roles in describing and quantifying this fact.

Dr. Chan Gunn identified 70 acupuncture points in 1976 by locating them using an ohm-meter which measures skin resistance and classified them according to their relationship to known neural structures such as superficial nerves to the skin, nerve plexi (main junctions of nerves), points where segmental nerves coming off the spinal cord meet in the midline of the body, at the joining of muscles and tendons and at ‘motor points’.[5](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74) Motor points are not physical, anatomical structures; they are points on the skin where the lowest amount of current will cause a muscle to twitch.

It is possible to locate acupuncture points using an instrument like an ohm-meter, which measures skin resistance, because there is lower resistance to the passage of electricity at acupuncture points than in the surrounding skin. This has been shown in many studies. Perhaps the most interesting anecdote to illustrate this is found in a scholarly text co-authored in 1980 by Joseph Needham with Lu Gwei-Djen, Associate Director of the East Asian history of science library at Cambridge University. Needham witnessed Dr. Raymond Evans at the Toronto General Hospital locating acupuncture points using a Japanese Ryodoraku machine and was told by Dr. Evans that the effect is demonstrable on cadavers for up to five hours after death.[6](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)

Professor Ronald Melzack of McGill University published a paper in 1977 claiming that there is a 71% correlation between muscle trigger points (TrPs) and ‘acupuncture points for pain’.[7](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74) Trigger points are tender points in tissue that, when sensitive or ‘active’, cause pain in a pattern that is particular to each TrP.[8](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74) Tissues that can harbour TrPs include muscle, ligament, fascia, periosteum and skin. It is well known that needling of tender points with acupuncture needles can relieve pain at a distance. The Chinese refer to tender points as ‘Ah Shi’ points.

Studies using functional Magnetic Resonance Imaging (fMRI) have shown brain activity in the areas of the brain that control sight and sound in response to the insertion of acupuncture needles into points on the leg that have traditionally been associated with the eye and the ear. [9,10](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)  fMRI studies indicate that the effects on the brain of acupuncture needling involve many centres, including the limbic system.[11,12](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)

A vast body of scientific literature exists that supports the hypothesis that acupuncture needling induces a chain of events that results in the release into various parts of the nervous system of neurotransmitters and neurohormones that have widespread and measurable effects on pain. The first of these studies was published in 1976 by Professor Bruce Pomeranz at the University of Toronto showing that acupuncture induced analgesia in anesthetized cats that resulted in decreased activity in the spinothalamic tract of the spinal cord, The effects were reversible by naloxone, which blocks morphine. [13](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74) This implied that the effects were mediated by endogenous peptides, or ‘home-brewed narcotics’, as one writer described them.[14](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)

Endogenous peptides are what are popularly known as ‘endorphins’, a word that puts the concept that they are made endogenously, meaning by the body itself and not introduced from outside, together with the word ‘morphine’ to acknowledge that they share many effects with morphine. Probably best known for their possible link to ‘runner’s high’, endorphins clearly have a major role to play in the body’s handling of pain and are involved in addiction to heroin, morphine and other ‘opioids’, drugs that are derived from opium.

Since 1976, research has shown that acupuncture blocks pain transmission in the central nervous system by at least 3 different mechanisms. It is postulated that acupuncture needles stimulate type II and type III muscle afferent nerves or A delta fibers in the skin, sending signals to the anterolateral tract of the spinal cord. This blocks pain by releasing enkephalin and dynorphin, two of several peptides (chains of amino acids referred to generically as ‘endorphins’, as mentioned above). The released enkephalin and dynorphin prevent pain messages from ascending to the brain via the spinothalamic tract in the spinal cord.

Next, some impulses generated by the acupuncture stimulus reach the midbrain, the first part of the brain, just above the spinal cord. This causes a cascade of signals down the spinal cord via the dorsolateral tract, releasing norepinephrine and serotonin in the spinal cord. These neurotransmitters can inhibit pain in the spinal cord by blocking transmission of pain signals via the spinothalamic tract. Finally, other impulses from the acupuncture stimulus reach the pituitary-hypothalamic complex and cause the release of ß-endorphin into the bloodstream from the pituitary gland. This is accompanied by the release, on an equimolar basis, of adrenocorticotropic hormone (ACTH).[15](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)

There is some exciting research that shows what actually happens in tissues when an acupuncture needle is inserted and manipulated. This is a body of published work by Dr. Helene Langevin at the University of Vermont. To sum up her hypothesis, it is possible that the mechanical signal created by an acupuncture needle being rotated in the plane of loose connective tissue at an acupuncture point can be transduced into an electrical signal that is passed through the web of fibroblasts in the body’s connective tissue, that may correspond to the meridian system. This may explain remote effects of acupuncture.[16,17,18](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)

See <http://www.uvm.edu/annb/faculty/langevin/> for access to some of Dr. Langevin’s research papers.

The traditional understanding of acupuncture is that it creates balance in the body, expressed as the yin/yang relationship in traditional terms and by the term ‘homeostasis’ in western terms. A recent functional MRI study has shown that there is a different response by the brain when acupuncture is applied in individuals with carpal tunnel syndrome and in healthy control subjects, supporting the theory that acupuncture creates balance.[19](http://www.afcinstitute.com/LinkClick.aspx?link=230&tabid=74)