

How Bowen Works

Little explanation has been forthcoming regarding the ability for Bowen to consistently produce wondrous results and as Taylor suggests 'even by the uninstructed'. Explanations of energy and abstract concepts may hold appeal for the 'novice' and scientifically uninitiated, however the true art of any healer is in one's ability to balance the laws of nature with the laws of love. This article will demonstrate the laws of nature, which apply to Bowen, as taught by the *School of Fascial Kinetics* (Russell Sturgess) and practised at *Choose Your Paradise*, Centre of Holistic Healing for Body | Mind | Soul. Throughout this paper I will explain the relationship of Bowen to fascia and its effect on many organ systems. As Juhan suggests, 'The entire connective tissue system is large enough, complex enough and sophisticated enough ... and important enough to our survival to be regarded as one of the vital organs of the body. Indeed few vital organs fulfil as many necessary functions.'⁽¹⁾

Fascial Anatomy

Fascia is part of the Connective Tissue. Connective Tissue is one of four tissue types found in the body (the other three include Nerve, Muscle and Epithelium). The diversity of Connective Tissue is evident in the variety of components that make up the different forms of this tissue.

Essentially there are three forms including *fluid*, *structural* and Connective Tissue *proper*. Fluid CT (Connective Tissue) is evident in forms of blood, lymph and mucous. Structural CT is visible in the forms of bone and cartilage. CT Proper is displayed in regular and irregular forms. The **regular form** as the name suggests lays down collagen fibre in parallel to form **Tendons and Ligaments**. Conversely the **irregular form** (once again as the name suggests) lays its fibres down in both a dense and loose 3D-lattice type structure to form **Deep** (dense) and **Superficial** (loose) **Fascia**. It is in this irregular Connective Tissue that the dynamic effects of Bowen are made manifest.

Fascia is made up of two environments, the more commonly known is the cellular

environment. (The root of modern medicines' concept of disease being a disturbance in the structure of the cell is attributed to Virchow's⁽²⁾ 1848 cellular theory). There are several cells commonly found in this tissue whose function leads to an understanding of the vital role Fascia plays in body homeostasis. These cells include: Standard Cells (which produce fibre and ground substance); Macrophages (which cleanup and protect); Mast Cells (which produce Heparin, Histamine and Serotonin); Adipocytes (fat cells); Lymphocytes (immune function) and Melanocytes (pigment). Regarding the over-balanced importance placed on cells, Pischinger says, "Strictly speaking the cell concept is only a morphological abstraction. Seen biologically, it cannot be accepted without the *vital environment* of the cell."⁽³⁾ (italics added).

Fascias' other environment is called the matrix, which makes up the extra-cellular environment or '*vital environment*' as described by Pischinger. The matrix consists of three substances; fibre, ground substance and water. The properties of these three substances relate to each other in such a way so as to maintain the cellular homeostasis.

Having determined the roles of the cells previously, we conclude that healthy cell function means sustained tissue repair and growth, immune function and mechanical support (through lubrication and hydrostatic pressure). Exploring the properties of fibre and ground substance helps to explain how and why Bowen can achieve what it does through stimulating fascia. In the presence of Vitamin C, amino acids (proline, lysine and glycine) are synthesized into a molecule called pro-collagen. Being electrically unstable, the pro-collagen will only reach a degree of stability when it attaches to two other pro-collagen. As a triple helix, this new molecular formation is called a tropo-collagen than on egestion (leaving the cell) becomes known as a collagen molecule. On expulsion from the cell, the collagen molecules begin to join together to form collagen fibrils through a process called, 'hydrogen ionisation bonding'. This mechanism becomes fundamental

to the formation of fibres and bundles, which besides arranging bridges between the collagen molecules, also acts in binding water, supplementing the role of the GAGs and PGs. It is the structural forms of these collagen bundles which when bound together form the fascial sheets with potential tensile strength of over 2000 psi.

Cavities form between the fibres of the bundles (which is where hydroxylapatite crystals begin ossification processes in states of dehydration) and bundles maintain a critical inter-fibre distance from each other, which reduces the incidence of 'gluing' together of the bundles. This is achieved through the correct hydration of the collagen as well as the ground substance. Any compromise of the 'critical inter-fibre distance', especially through dehydration means that the bundles draw closer together at which point the hydrogen bridging takes over causing a 'gluing' effect to the fascia. The initial attraction is a hydrostatic bond which given time, becomes covalent making the correction to the tissue much more difficult.

Typically this gluing is identified as 'valleys' on the surface of the skin. Ida Rolf suggested that anytime one could identify a valley on the skin surface, this was an indication of the underlying fascia being blued and dehydrated. This is observed in weight lifters who compete in body building competitions where several days before a competition they greatly reduce their water intake causing this shrinkage of the fascia, giving more clearly defined form to their muscles. Many times a state of constant dehydration can be seen in so called elite athletes. This is generally an indication of insufficient water intake, especially during training. In a hydrostatic bond, movement and activity causing a flushing of the fascia is generally enough to disturb this type of bond. If covalent however, a more specific force or acid is needed to break apart the bond.

Dehydration of the matrix can be caused by stress, both physical and emotional, which includes smoking, consuming dead foods, and drinking of alcohol and caffeine, as well as being

exposed to high temperatures eg. sun-baking and sunburn. Most obvious is insufficient water consumption. Trauma and pathological disease can also be causes of dehydration.

A clinical extension of this information suggest that those clients who don't drink sufficient water, smoke or drink excessive alcohol will not respond as favourably as someone who does the opposite to those actions.

The capacity for fascia to move between being glued or more fluid is referred to as 'Thixotropy'. In applying the Bowen Move, the transverse push and pull action on the fascia aptly separates the bundles reducing the gluing effect by allowing re-hydration of the ground substance helping to restore the 'critical inter-fibre distance' between the bundles Thixotropy. The direction for moving the fascia medially is justified in this theory, "...the dorsal and ventral fascia of the trunk migrate laterally under stress or from injury."⁽⁴⁾

Restoring the critical inter-fibre distance is one of the important steps to normalizing the thixotropic state of the fascia. However, maintaining that critical distance requires changes in the hydration of the collagen and ground substance.

Fascial Physiology

The ground substance is a part of the matrix and is what fills the space outside of the cells and fibre. It is into this ground substance that the capillaries feed and draw the nutrients and waste, and it is from this ground substance that the lymphatic also draws fluids and waste. The matrix is the medium through which cells are able to communicate with each other, and as we will explore further on, it is the pathway of the meridians and the conduit of the fluids and Qi, which are supplied throughout the body. Some authors have even described the fascia as the 'skin of the spirit', the place of transformation, and the medium through which the body and spirit communicate, as Juhan suggests, an essential organ of the body.

The body re-organises sugar substrates into eight essential monosaccharides which cells

synthesize into glycoproteins (which attach to the cell wall known as Glycocalyx), and glycosaminoglycans (GAGs) to which Proteoglycans (PGs) are attached (in the case of hyaluronic acid) by link proteins. Due to a negative charge, the PGs stretch, as do the polysaccharide chains that are stretched away from the PGs, a little like a bottlebrush. PGs are able to store all four nutritional substances (carbohydrates with oxygen esters ("fatty acids"), and water in the outstretched arms of the polysaccharides) water being the most important nutritional substance. When water becomes reduced in quantity due to dehydration, the brush like shape of the PGs fold in, which produces compromises to the 'critical inter-fibre distance' and reduced transit routes in the extracellular matrix.

The consistency of the ground substance is similar to maple syrup, being a liquid crystal. And like any fluid state crystals, when more dehydrated a solid crystal structure develops, causing a stiffer and more resistant nature to the tissue. Besides the gluing of the tissue due to the collagen bundles compressing together, the immune function, neuro-transmitters and nutritional and waste transit routes all become compromised. This could explain chronic disease states like Ross River Virus, EB Virus, CFS, arthritis to name a few.

However, organic crystalline structures have the capacity to generate and conduct electrical fields. "The more hydrated the tissue the better it performs its electrical duties. These duties include the ionic bonding and transfer of nutrients, and wastes and the conducting of neural transmissions. Tissue under stress from injury, load or lack of movement dehydrates. Applying pressure to any crystalline lattice increases its electrical potential, attracting water molecules, thus re-hydrating the area. This is the **piezoelectric effect** of manual connective tissue treatment."⁽⁵⁾ Shea goes onto explain that correct vectors (a vector is a factor of force and angle) must be applied in order to create the piezoelectric effect. This is achieved through the Bowen move. The move pulls the 'stuck' fibres apart and the compression re-hydrates the ground substance,

through the piezoelectric effect. As the tissue begins to re-hydrate the thixotropic state of the ground substance normalizes and both the 'critical inter-fibre distance' is restored and the cellular transit routes are re-established. Changes in hydration are evidenced in the sort of reaction clients experience after or during their treatments. Thirst, frequent urination, perspiration, flooding menses and diarrhoea are typical. The more common is frequent urination, which occurs for two reasons – firstly to remove excess fluid, but mainly to remove the excess waste, which has built up in the extracellular environment. Of course having to be filtered by the liver and kidneys, it is not uncommon for headaches to also accompany such treatment.

Fascia and Body Mechanics

Juhan suggests that 'all of the connective tissues – together with the fluids they contain – aid the weight bearing capabilities of the spine.'⁽⁶⁾ Imagine the body with all the bones, muscles and organs removed but the entire fascia intact and water pressurized. It would stand erect with the shape of the body sustained by the pressure of the water against the fascia. This is exactly the same kind of pressure that holds a flower stem up straight, and exactly the same kind of forces that erect a penis when its corpus cavernosum is distended with blood. (It's interesting to note that Viagra has been shown to work as effectively on both flowers and penises in helping to maintain erection, maybe the same could be achieved for the back.)

What this means in terms of mechanics is that correction of fascial function may be helpful in body mechanics. This is evidenced by the fact that most clients will experience significant mechanical relief immediately upon receiving a Bowen treatment. The theory suggests that the *hydrostatic pressure* of the connective tissue is responsible for approximately 80% of body mechanical stability. 'It is the network of connective tissue – the pressurized water bags and the tension cables – and not the bones, that bears most of the structural responsibility for stable, upright posture and graceful carriage.'⁽⁷⁾ Clinical observation is that 80% of the musculo-skeletal

problems which manifest in clients has to do with fascial disturbance and not the musculo-skeletal system. The symptoms evident in the same are just that, symptoms and the place to look for the cause of disease is in the fascia of the body. If this holds true then 20% of musculo-skeletal problems will require other forms of therapy, Bowen will not be able to address them all.

For the other 80%, Bowen is empirically proving more than adequate to restore normal mechanics in both an efficient and non-invasive way. This is why conditions like Degenerative Disc Disease respond so well to this type of treatment. The fascial theory suggests that the reason why the discs develop problems in the first place is because the weight bearing which is normally borne by the 'Hydrostatic Pressure' of the connective tissue has been compromised. The weight bearing is now mostly on the discs which were never designed to take that much weight. As such the discs begin to become degenerative. In applying Bowen, the fascia integrity is restored, meaning that the 'Hydrostatic Pressure' is returned to normal so that the weight bearing is now borne by the fascia and not the disc. This relieves the irritation to the disc reducing the pain and discomfort, allowing better mechanics. The degree of restored mechanics will be determined by the degree of injury to the disc. Nutritional supplementation may help reduce the symptoms of wear and tear, but even if there is not healing to the damaged area, there is still going to be an improvement in mechanics because the weight bearing is now carried by the fascial structure.

Air pressure supports the function of hydrostatic pressure in the body that is highlighted when the body undergoes changes in pressure when environmental high and low pressure systems are manifest in the weather. A possible reason for people feeling old musculo-skeletal aches and pains is as the air pressure drops with the inclement weather, the hydrostatic pressure of the body becomes compromised. The weight bearing transfers from the fascial system to the musculo-skeletal system, which is generally where

the 'old' injury exists in the form of scar tissue. So just before rain, the old injuries become irritated.

Changes in thixotropy bring about changes in the hydrostatic pressure which in turn effects the **tensegrity** between the muscles and bones and the connective tissue. Regarding the same Juhan says,

'This principle of tensegrity describes precisely the relationship between the connective tissues, the muscles and the skeleton. There is not a single horizontal surface anywhere in the skeleton that provides a stable base for anything to be stacked upon it. Our design was not conceived by a stonemason. Weight applied to any bone would cause it to slight right off its joints if it were not for the tensional balances that hold it in place and control its pivoting. Like the beams in a simple tensegrity structure, our bones act more as spacers than as compressional members; more weight is actually borne by the connective system of cables than by the bony beams.

This naturally makes the proper adjustments of length and tension in the connective tissues a matter of extreme significance in the distribution of gravitational forces throughout the body. A cable that is too tight in the lower back has great consequences for the structural integrity of the entire mast of the spine.' (8)

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- (1) Job's Body. 1987 Deane Juhan pp86-87.
 - (2) "The reason for Virchow's cellular paradigm being so successful in modern medicine is that particularly in acute diseases and those caused by microorganisms, there are individual causes that can be objectivised, and can be eliminated or repaired immediately. However in the current situation of increasing chronic disease and tumors, this

hardly ever successful.” A. Pischinger MD.
Matrix and Matrix Regulation 1990 pg14.

- (3) A Pischinger, Matrix and Matrix Regulation 1990 Pg13.
- (4) Michael J. Shea Ph.D. Myofascial Release 1995 Pg9.
- (5) Myofascial Release Michael J. Shea Ph.D. 1995 Pg 34-35.
- (6) Job’s Body, Deane Juhan 1987 Pg81.
- (7) Job’s Body, Deane Juhan 1987 Pg 83.

