



Handout #4 Fibromyalgia/Myofascial Pain Syndrome

Synapse: the functional membrane to membrane contact between one nerve cell and another nerve cell, receptor, or other cell. In most cases, impulses are carried across the synapse by a chemical transmitter "bridge".

Neurotransmitter: any specific chemical agent released by a presynaptic cell when activated, that causes the synapse to stimulate or inhibit the postsynaptic cell.

Serotonin: a vasoconstrictor (constricts blood vessels) liberated by blood platelets, that inhibits gastric secretions and stimulates smooth muscle. It is present in large amounts in some areas of the Central Nervous System.

Myofascia: the thin layer of connective tissue that covers, supports and connects the muscle cells, muscle fibers, and the whole muscles, as well as forming tendons and ligaments. It is the support network that gives the body its shape, and determines its flexibility.

Some times the start of FMS/MPS Complex creeps up on us. It can start with a chronic runny nose. With muscle tightening, normal fluid passages are constricted. Fluid backs up in the sinuses, causing constant post nasal drip, although the nose itself may be dry. Patients complain of unilateral sinus blockage, which changes from side to side as they turn in bed. The side they sleep on most often has the worst pattern of symptoms from post nasal drip. The SCM TrPs are sore on that side, and the scaleni, with a morning sore throat and digastric TrPs. From there, more TrPs develop in the referred pain region, and these go on to develop their own secondary TrPs. Sometimes this cascade can be avoided by using warm salt water as nose drops before bed, cleaning off the nasopharynx area and preventing post nasal drip.

Some FMS/MPS patients say their symptoms started after a severe cold or flu. Some feel that whiplash or other neck trauma triggered the problem. Both of these conditions have a commonality in neck congestion. Others have had their symptoms start in the hips, especially after a difficult pregnancy, or a fall. Others have body asymmetry that starts the Trigger Points, and eventually, if the patient has a FMS tendency, the chronic pain from MPS can trigger FMS.

FMS consists of several subsets, just as there are many forms of arthritis. There seems to be a genetic predisposition. Many FMS patients have multiple environmental sensitivities.

To understand FMS/MPS complex, look at the big picture. Neurotransmitter activity determines the plasticity of the tissues. Most of the body's processes rely on the



appropriate movement of fluids through the system. In FMS/MPS, connective tissues become stiffened, shortened and tightened. We know growth hormone has a powerful effect on connective tissue. It directly stimulates the production of fibroblasts and mast cells, ground substance and collagen fibers. It's significant in wound healing, where rapid production of collagen fibers by many fibroblasts is necessary for repair. But growth hormone is released during delta-level sleep,

People with FMS often have the alpha-delta sleep anomaly. The patient with Fibromyalgia never enjoys uninterrupted delta level sleep. The body can't repair itself, because repair occurs during delta sleep. Connective chemistry monitors inflammatory response, and its fluids deliver antibodies and white blood cells to fight infection. All of these are disrupted in FMS. Immune killer cells are present in the normal amounts in FMS, but many are dormant.

So much of the psychological and physical sense of continuity and security depends upon our ability to repeat appropriate and predictable actions. Spindle reflex arcs keep muscles constantly informed as to what they're doing, so that the action can be modified. In FMS, most of the required muscle tension of the body is improperly controlled by the higher brain centers. Others think nothing of picking up a glass of water, and bringing it to the lips. They know how much contractile effort and speed it will take to do this smoothly. FMers have muscular "incompetence in the absence of proper sensory feedback". The thumb grasps with too little pressure. The wrist muscle lets go when flexed. The economy of effort is not there. To sit, walk, and stand, the entire musculature must feel its own activity.

FMS patients are usually burdened with a long history of undiagnosed illness. They suffer from loss of self-esteem. Their condition is invisible, so friends and family don't believe them when they say they hurt. Yet FMS amplifies the slightest pain. Skin tissue scars and tears easily.

Fibromyalgia can trigger Myofascial Pain Syndrome. Acute pain from FMS creates a muscle contraction, "guarding" around the tender points. This impairs circulation and neural transmission through the area. This effects not only the muscles, but the surrounding organs. A muscle in a state of sustained tension is working, thus its need for nutrition and oxygen is high. At the same time, the sustained contraction reduces circulation in the area by squeezing the small arteries and capillaries which give the working cells fuel and oxygen. Chronic muscle tension and contracture creates an area of heightened metabolism and ischemia and buildup of toxic waste—a Trigger Point. The contracting muscles produce increased waste products and demand increased nutrients from capillaries that are less and less able to handle them. This causes more contraction. This results in rigid muscles until the Trigger Points are defused and the perpetuating factors resolved.