# EMF and the role of increased charge in promoting disease and impairing tissue repair.

Gerald Goldberg, MD Author" Would you put your head in a microwave oven"

I am writing this article at this time to help the average reader focus on the process, by which emf and other toxins disrupt body functioning and the ways which the body uses to maintain balance and affect repair. I realize that the average reader does not have a vast understanding of anatomy or pathology, but the underlying process is quite simple to understand without a complex medical or scientific education. Injury produces a consistent set of responses, which are the same regardless of where they occur in the body. The body attempts to offset charge accumulation through a process of Fluid accumulation. Secondarily circulation and metabolism shut down. That is it. This is called an injury pattern and everyone has experienced it in his or her lives.

<u>Emf and radiation</u> produce similar sets of tissue injury. They both <u>increase</u> free radical damage or increase <u>charge generation at the cellular level</u>. This article also explains how <u>heavy metals</u>, <u>toxins and pesticides contribute</u> to a) <u>increasing injury</u> and b) <u>delaying tissue repair</u>.

The body has evolved mechanisms to damp down and balance excessive charge generation, free radical production etc, through the influx of water and the shutting off of cellular metabolism. This is called an injury patten. The body reflects the process and attempts to deal with it, not the terminology that physicians and scientists use.

The dilemma for the average reader is that when they are injured they seek validation or redress through a process they assume involves validation, through the recognition that they are injured. Most of the time they get stalled in a social process that rests on the laurels of debating and not one that takes responsibility that they are injured. In essence most individuals get frustrated because they are dealing with a failed social contract. Though we have been forewarned of the nature of the social contract, Baruch chapter 4, line 15, the ethical nature of it affects most of us.

The human body, relative to our state of conscious evolution, operates within a tight range of tolerances. The human body is a charge accumulator and has

developed an intricate and simple method of dealing with charge accumulation at any level of the body. If the amount of charge that accumulates is too great, than a pattern of injury results. The pattern of injury is the same throughout the body and reflects the same process; an over accumulation of charge and the attempt on the part of the body to limit it. The cells of the body are liked small batteries. If they heat up the body calls upon the nervous system and circulatory system to cool things off. Water accumulates at the site of injury and circulation shuts off.

All living systems including the planet counter charge accumulation through the formation of water!!! This very simple fact underlies the basis of our weather generation. The underlying principles are the same!!!

# Increased charge=increased damage=increased fluid retention !!!

Every cell of the body is covered with a thin film of water. The amount of fluid around each cell is regulated by an elastic membrane that separates it from the capillaries of the body. This membrane operates much like elastic stocking. It has the ability to stretch and allow more water in. In the brain this membrane is called the blood brain barrier. In the joints of the body it is called the synovial tissue, around the tissues of the body it is called the connective tissue. Regardless of its name it operates the same.

The barrier is a criss-crossing band of protein strands woven together much like our clothing. The exception being that the strands are elastic. Protein strands have the ability to hold charge. If the strands accumulate too much charge than they open which allows more water to flood into the area and decrease the charge. This is part of the basis for edema formation in injury.

The increased charge also tends to shut off nervous activity and cause blood vessels feeding that area to shut down.

So with any type of injury that involves increase charge accumulation we would expect to see the same set of response set up. That is water build up, decreased circulation and nervous functioning, along with decreased cellular metabolism. Tissues get boggy and they do not function, be it brain, muscle, joints, skin, or vital organs.

In addition to the direct effect of emf and radiation there are some other variables that contribute to increased responsiveness to emf and at the same time diminish the bodies capacity to repair itself.

### Heavy metals+EMF=Increased charge production

<u>HEAVY METALS</u> tend to <u>increase the formation of free radicals</u>, ions or charge. Amongst those studied, <u>barium</u> has been noted to be the <u>greatest promoter of free ion generation when interacting with emf</u>. This has been extensively studied by US atmospheric and ionospheric research. Additionally barium has the ability to block the potassium channels in cells, which impedes repolarization and shut down cells. The end result that barium toxicity can shut down the nervous system and impede muscular activity. Other metals, which are currently being used in atmospheric research, include aluminum and strontium.

Other heavy metals act in a similar fashion; amongst them are lead, mercury, cadmium, arsenic, titanium, chromium etc. Additionally these metals will cause spasm of blood vessels and impede the normal activity of enzymes in the body. Of note one of the ironies of eating highly processed foods is that it may selectively offset the accumulation of heavy metals in the body, providing some degree of protection. Though some processed foods could selectively favor the increase of some metals in the body, i.e. aluminum in baked goods.

It would be appropriate for anyone undergoing a physical examination to have the balance of metals evaluated in their bodies. Also provocative screenings would be useful in disclosing excess accumulation in body tissues. Also a screening of the local environment and food intake would be equally useful. In certain instances eating processed foods with select replacement would not necessarily be inappropriate. Overall an appropriate evaluation would include an evaluation of total minerals and metals and their contribution to free radical promotion in an emf environment. Overall total replacement in feeding might only worsen the oxidative condition of the individual or animal, if one did not take into account how much background radiation one was dealing with! The same holds true for a detoxification regimen!

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# Pesticides, nerve poisoning and blood vessel paralysis!!

Nerves and small blood vessels properly functioning are critical in limiting the amount of water that escapes into the body and than allowing the body to repair itself. Pesticides are essentially nerve poisons. They tend to selectively shut down nerves that relax the body. These are called parasympathetic nerves. If damaged they can cause an over accumulation of fluid or the decrease the ability

of blood vessels to relax and allow blood flow to resume going back into an injured part of the body. The blood vessels become paralyzed! They cannot relax and allow for blood flow to be restored healing injured tissues. This inability to relax smaller blood vessels is due to the spasm of the muscles in the vessels. This spasm could present as high blood pressure, asthma etcetera. The point is that the nerves affecting the muscles are affected and they cannot relax, that is they are paralyzed. This can be the end result of pesticide poisoning in conjunction with heavy metal toxicity. Both of which have an enhancing effect in promoting the injury pattern of emf and delaying the recovery phase of the illness.

This pattern of abnormal blood flow has been noted in radiation damage to the lungs. What the investigators noted was that the finer structures of the lung, the alveoli where air exchange occurs, were mostly undamaged. What seemed to have the most profound effect on lung function was that the smaller sized arteries going to the alveoli or air sacks were closed down. The blood vessels, which allowed for oxygen to enter the body were shut down or paralyzed. This alone accounted for a marked decrease, as much as fifty percent in lung capacity and the ability to do work. Simply stated you can suffocate if you shut down blood flow to the lung. This was the observation to this study, that radiation shut down blood flows to the lung and produced a similar effect to suffocation without affecting the air sacs themselves. This is the same pattern that one encounters on the organ level. Often it is the reduced blood flow and the inability of the body to restore blood flow that adds to organ dysfunction and disability.

### Got a hole-PATCH IT!!

Well what is the body to do? It notes that the membrane between blood vessels and tissues are leaking like a sieve. It has shut down the circulation to that area and shut off the cells metabolism. What else can it do? Well when you have a leak a common solution is to plug the leak or seal it. The body produces a local patch!! We all do it as part of problem solving, note anyone who repairs a ripped garment, or a pool liner or for that matter ask any submariner.

In essence the body attempts to seal itself by creating a patch. This patch is called by many names. Some patches are referred to as amyloid noted especially in Alzheimer's cases. Dementia or immune nephritis. The plague of patch can be made of ceramide or melanin going under the common name of age spots. In essence the body is using a waxy material to seal itself and offset further damage. This is particularly noticeable in aging thinning skin which is loosing its under layer of elastic tissue. Other attempts at repair involving the use of scarring or the production of scar tissue. This is noticeable to anyone who has

arthritis or presents in the connective tissues and muscles as that sense of increased stiffness as one tends to get older. The same effect is noticed in blood vessels which become inelastic with age and tend to become clogged with plague, ie thromboses. In essence as the body ages and looses the ability to hold fluid it tends to favor using substances which are less elastic but are more impervious to fluid shifts. This trend in aging represents the accumulative effect of damage to the body and its attempt to heal itself and offset charge accumulation and fluid retention.

Emf will increase charge production and accelerate aging and damage to the elastic tissues of the body. The effects of emf are enhanced by the presence of heavy metals and pesticides in the body. Emf will result in 1) increased fluid retention 2) blood vessel spasm and paralysis 3) decreased nerve functioning 4)decreased blood flow to tissues 5)increased formation of scarring and plague formation in the body 6)immune dysfunction 7)accelerated aging 8)decreased cell metabolism. All of this leads to severe impairment, dysfunctional and ultimately death.

Regardless of the debate the simple truth is that:

### An Unremitting Process reflects an unremitting cause!!!

Simultaneous Worldwide spread = new technology (EMF) = Causality

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