

# The “Q” -- Detoxification

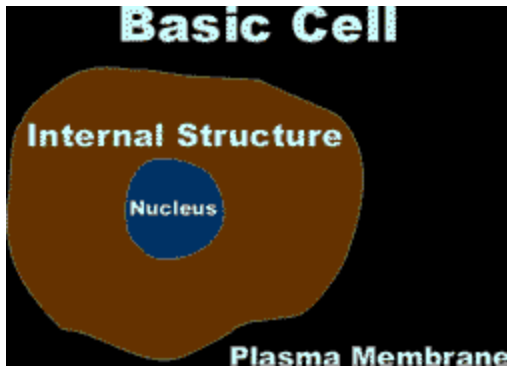
## Detoxification of the Body

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Our bodies are constantly under attack from environmental factors. Toxins are becoming a big issue of importance as our environment becomes more polluted. Most of us understand that there are pollutants in the air we breathe, the food we eat and the water we drink and the level and types of toxins that now surround us are far too great to list. Some of them occur naturally but most are man-made and it is these toxins that are causing the most concern. The thought of so many heavy metals now showing up in the food is a concern for most everyone however the real threat comes from all the artificial compounds that are being widely used without almost any understanding of the danger they represent to the human body. Of all the substances we are constantly threatened by it is the silent action of synthetic hormones that can cause serious damage to the genetics of the individual without them being aware of what's happening.

There is now a way we can start to combat these problems through awareness and with a little help from technology. The Bio-Electric field Enhancer (BEFE Unit) is the first step. It is technology creating the problem so technology can help control and then start to reverse it.

To understand how the BEFE Unit assists the body to detoxify itself we need to understand a little about how the body functions and in particular how our cells work.

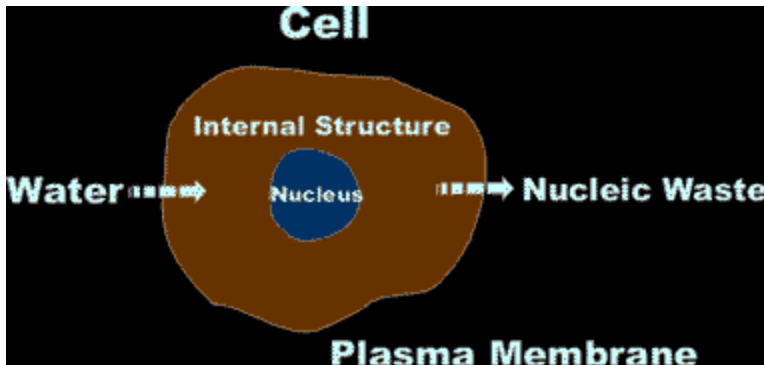


### The Basic Cell

While there are many cells in our body that perform different functions and have different internal structures they all have some basic function similarities. All our cells need water to survive and work and they all have 3 basic components (excluding red blood cells that eject their nucleus). These components are the Nucleus, the internal structure and the plasma membrane. Each of these components when combined performs specific functions. Even though they may perform different specific functions they all intake water, metabolize it and eject a waste product called nucleic acid. This waste product is

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then dealt with by the body’s main cleaning systems the liver and the kidneys. This flow through system is very important and when something goes wrong, like the cell becoming clogged with toxins, problems begin to occur.



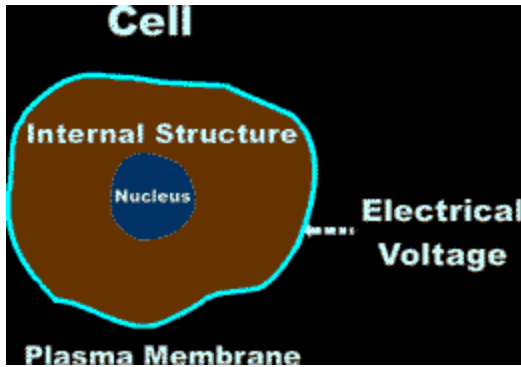
When the cell is functioning correctly it has a good flow of liquid (water) going through it. The liquid has two ways to enter and leave the cell structure. The outer membrane or plasma membrane is a selectively permeable barrier meaning that it allows some substances to pass while excluding others.

When a substance can penetrate the plasma membrane without any energy input from the cell, it is called passive transport. When the cell must provide metabolic energy the process is called active transport. The movement of water into the cell is an example of passive transport while movement of amino acids and most ions across the membrane is active transport.

### The Plasma Membrane

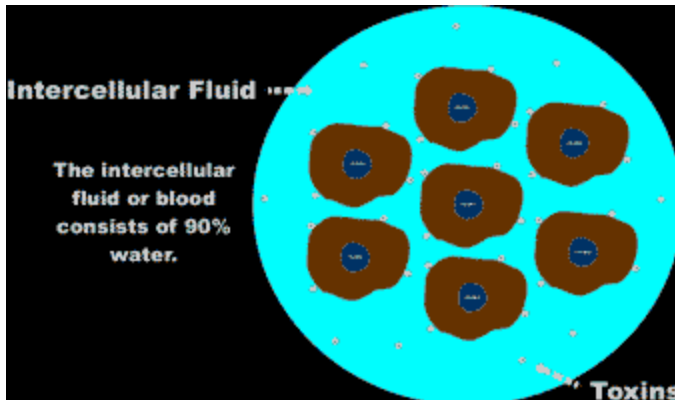
The plasma membrane as well as being selectively permeable has another very important function. It maintains a potential voltage difference between the internal structure of the cell and the intercellular fluid. Scientists are just now starting to realize the importance of the voltage that exists on the membrane itself. Its electrical value plays a part in helping the membrane be selectively permeable. If this voltage drops too low it contributes to loss of cell integrity. What is important here is that it has been scientifically proven that an unhealthy cell has a very poor membrane voltage.

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There are a lot of things that can start to go wrong when we exert an outside influence on the cell such as a toxin. Our bodies are more than capable of withstanding low levels of toxins but when these levels rise too high, a chain of events start to take place and the integrity of the cell is compromised. The integrity of the cell can be affected from both the outside or the inside and the toxins that cause the problem do not need to come from an external source because the cell itself produces a waste product that could be considered as a toxin. As we have already said the body has a natural defense mechanism for removing toxins from the system. In the average individual these systems are functioning correctly but under load the system can break down and result in a toxin build up. For most people the threat of toxin build up is not from having the cleaning system not operating correctly but from the type of toxins we are now exposed too. Some toxins do not remain in the intercellular fluid and become attached to the cell membrane, and, if the body is operating below 100% problems can occur.

The numbers of problems that can occur from Toxification are many and the number of ways that the problems start is also great. There are however a few basic causes that we can address to understand how the body becomes toxic and how we can resolve the problem by helping the body cope using its natural processes.



We are going to examine 3 basic ways the body becomes toxic in relation to the effect it has on the cell:

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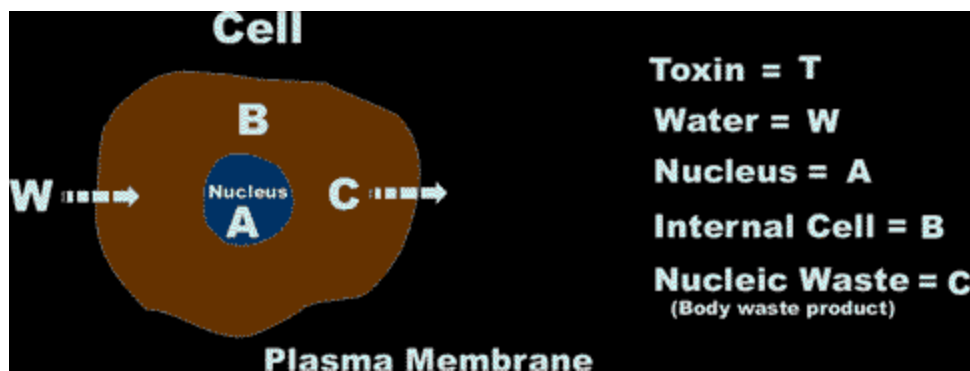
1. Toxicification by natural waste product, that is build up of nucleic waste from the cell itself.
2. Toxicification by low level artificial toxins - manmade compounds.
3. Toxicification causing genetic alteration - genetically engineered materials.

It should be noted that although these processes are explained individually they can and do all occur simultaneously.

### 1. Toxicification by natural waste product.

Toxicification by natural waste product is where the body accumulates a build up of the natural waste product from the cell, nucleic waste. This can occur two ways.

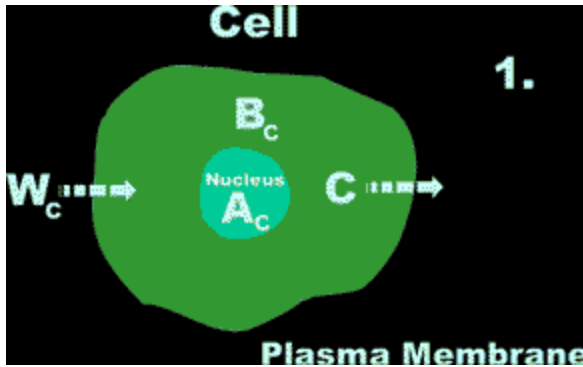
1. Liver and Kidney function are low and are not extracting all of the waste out of the intercellular fluid (blood).
2. Toxin build up on the plasma membrane restricting all of the waste product from leaving the interior of the cell. In the diagram below the basic function of the cell is illustrated. It goes like this: W or water enters the cell via passive transport. W then reacts with the Internal structure B and the Nucleus A. The product of the reaction between W, A and B is Nucleic waste C. The cell is very efficient when functioning fully and reacts all the W on a 1:1 basis meaning all of the W is used with an equal amount of C being produced.



### Low Liver and Kidney Function.

When liver and kidney function is low the intercellular fluid becomes contaminated with waste product. What happens then is instead of just W entering the cell, the W becomes Wc meaning a combination of W and C. This causes changes in the reaction inside the cell. Now there is a Wc, Ac, Bc reaction which is not how the cell is supposed to work. The cell is no longer operating efficiently and the metabolic energy being used is wasteful.

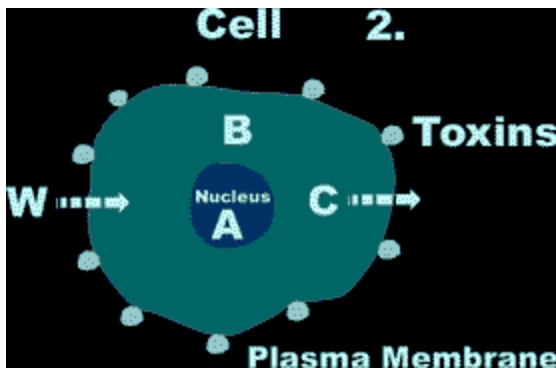
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### External Toxin Build Up

External toxin build up is when toxins begin to accumulate on the outside of the cell. One of the causes of this is when the membrane voltage is poor the toxins can stick to the membrane. This deprives the cell of the natural flow of W into it and also restricts the exit of the nucleic waste. Once again cell function is compromised so the cell can no longer function correctly. The process is cyclic, the more the toxins build up the less efficient the cell becomes and the longer this goes on the harder it is to reverse the process. There are two processes the body uses to solve this problem.

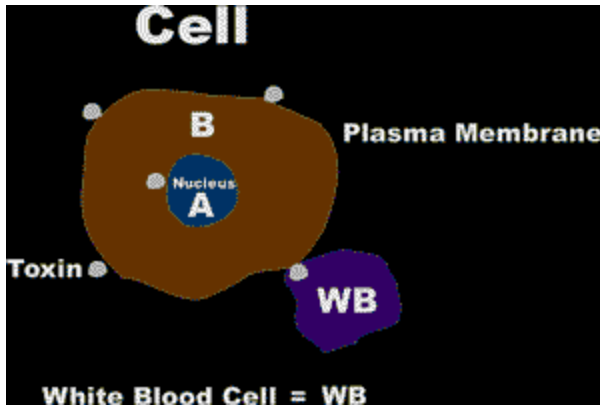
1. Receiving from external sources what is required to raise the membrane voltage
2. The white blood cells.



### 2. Toxification by low level artificial toxins

Toxification by low level artificial toxins is where a toxin has managed to penetrate the cell membrane and enter into the internal structure. Toxins can achieve this in times of low cell integrity. White blood cells play a part in this operation. One of the things white blood cells do is clean the toxins off of the plasma membrane of the cells. White blood cells damage the membrane during the process of removal leaving it temporarily vulnerable. Once a toxin has entered into the internal structure of the cell it causes problems. To eject the toxin the cell requires metabolic energy to perform active transport, that is, the cell needs to use its own energy to eject the invader. If the cell does not have the spare energy to do this a build up can start.

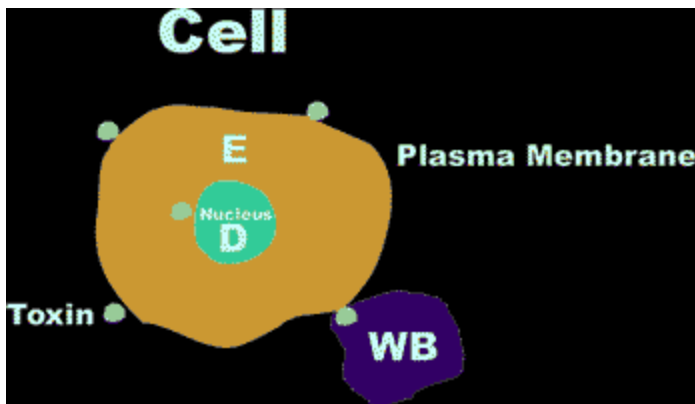
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The white blood cells clean the cells in the body. When a white blood cell removes a toxin from the outer surface of the cell it causes some damage. If the cell can not repair in time it is vulnerable and toxins can enter into the cell.

### 3. Toxification causing genetic alteration

Toxification causing genetic alteration is the most serious form of cellular contamination that you may be subjected to. We have already looked at toxins entering a cell and causing problems but what if that toxin was an artificial hormone or carcinogenic substance? The problem now becomes a major issue because if the potential of the toxin is that it can alter the coding of the cell it will do so. When this happens what you end up with is the nucleus and the internal structure incorporating the extra coding resulting in a new nucleus D and a new internal structure E. This is a serious problem and it happens without you even knowing. A lot of the time it takes years before the effect becomes visible to the individual. These types of toxins lead to cancer and genetic disorders. Toxification of this nature is difficult to correct but not impossible.

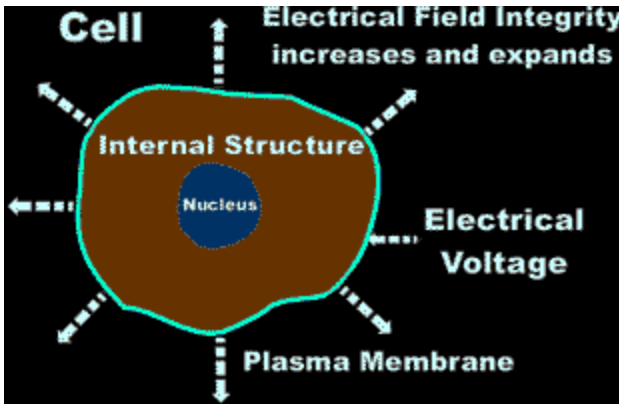


Some of the effects of this type of toxin contamination are already becoming evident in the western world where the use of genetic substances and hormones have been in use without public knowledge for some time now. It has become scientific reality that the new genetic pattern is passed on to the siblings from the parents.

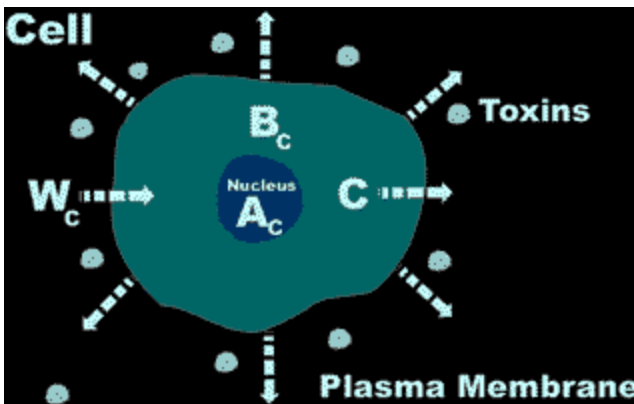
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## What Bio-Electric Field Enhancement does to your Cells

The Bio-Electric Field Enhancer does as the name suggests, it enhances the Bio-Electrics of your cells. As discussed earlier the cells in your body contain an electric charge. This charge is not like the electricity you are familiar with like that is used in your home. The first thing the unit does is to increase the charge on the plasma membrane surrounding the cell. This applies to all cells throughout the body. This also has an effect on the internal structure of the cell as well because the electrical energy being supplied to the cell is compatible with the metabolic energy of the cell. This effectively increases the available metabolic energy the cell can function with. Once this is achieved a number of things start to happen.



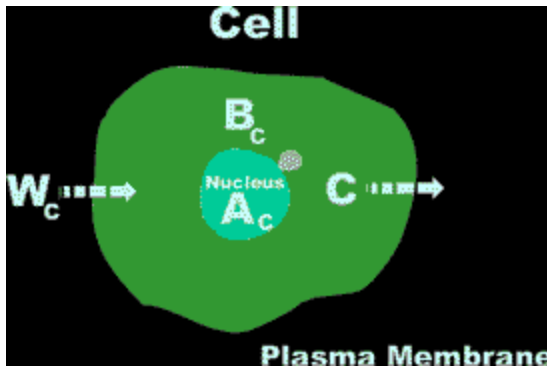
By increasing the electrical value of the cell membrane we also increase the value of the electrical field that results from the electrical potential on the cell membrane itself. Boosting and extending this field to the proper parameters effects the toxins that have attached themselves to the cell membrane. It also helps restore integrity to the actual membrane itself so that the function of being selectively permeable is restored to proper operation. Restoring proper cell function increases the body's ability to start to process the toxins properly again. The liver and kidney start to remove more of the toxins reducing the load on the rest of the systems.



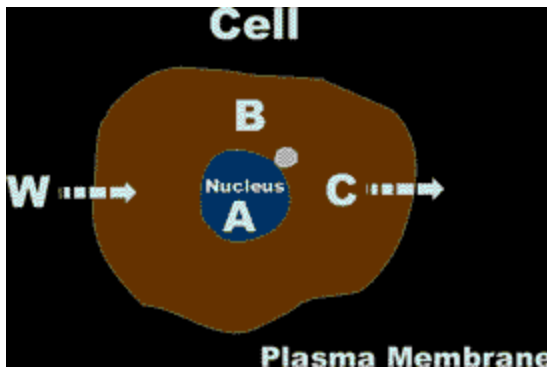
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Once the toxins are detached from the cell membrane they are once again free to be moved by the intercellular fluid. The body’s natural processes with the extra resources take over and remove the toxin through normal systems. This also has the effect of once again letting clean W (intercellular Fluid) flow correctly through the membrane.

With the clean W now flowing through the system the cells can start to re-balance the internal levels of W and C. The clean intercellular fluid begins to restore the action of the nucleus (A) and the internal structure (B). The effect on A and B that is causing the cell to function as  $A_c$  and  $B_c$  balances so that the  $A_c + B_c$  return to the proper AB function. In effect the cell has become cleansed with the added benefit of the extra metabolic energy.

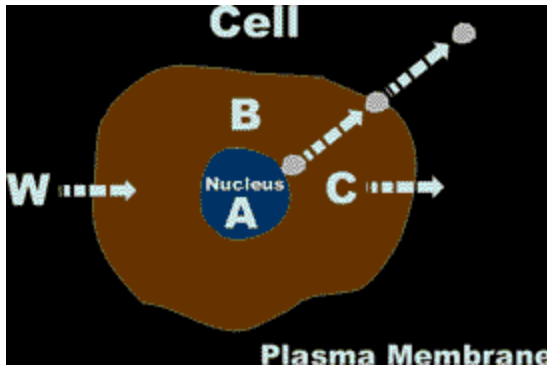


The Cell and the intercellular fluid are now restored to normal function except the metabolic energy now available to the cell is greater.



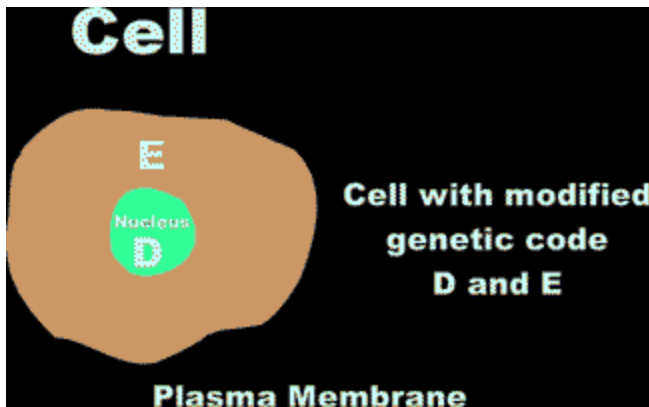
With the cell in a much healthier state and now having an increased metabolic level of energy it can begin to do its proper function. Toxins that have entered the cell during its poor health can now start to be purged or actively transported from the internal structure. The extra energy now available makes this process possible again. These processes can only be possible because of the energy input to the cell from the Bio-Electric Field enhancement Unit.

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### The Genetic Problem

Toxification of a cell at the genetic level means that the cell is not longer functioning as it was intended too. The effect that the toxin has had on the cell in this case is that it has caused a coding change to the cell itself. What you end up with is a modified cell that would be different to the original. If the Nucleus and the internal structure were considered as A and B then the modified cell would have a nucleus and internal structure of D and E. Fortunately for us the alteration of the genetic coding in the cell is far more difficult than we are led to believe. To understand how the code can be restored we need to understand what the code is and how it was altered in the first instance.



The human genetic coding is currently called DNA or deoxyribonucleic acid. As the name suggests DNA is a form of nucleic acid. This is currently the theory and the question that should be asked is, is deoxyribonucleic acid really our genetic coding or is it a waste product produced as a result of the coding itself? The fact is deoxyribonucleic acid or DNA is the waste product produced by the cell as a result of the genetic coding of the cell. What scientists have discovered is a crude way of fingerprinting the body's primary excretion fluid. The coding itself until now has remained somewhat of a mystery. Before we go into the genetic coding itself lets summarize the basic DNA theory.

It is believed that DNA is housed within the nucleus of the cell. The following is an extract from Encyclopaedia Britannica describing the nucleus of the cell and its function.

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### **The Nucleus**

The nucleus is the information center of the cell in all higher organisms. It is separated from the cytoplasm by the nuclear envelope, and it houses the double-stranded, spiral shaped deoxyribonucleic acid (DNA) molecules, which contain the genetic information necessary for the cell to retain its unique character as it grows and divides.

The presence of a nucleus distinguishes the eukaryotic cells of multicellular organisms from the prokaryotic, one-celled organisms, such as bacteria. In contrast to the higher organisms, bacteria do not have nuclei, so that their DNA is maintained in the same compartment as the other cellular structures.

The primary synthesis function of the nucleus is the expression of selected subsets of the genetic information encoded in the DNA double helix. Each subset of a DNA chain, called a gene, codes for the construction of a specific protein out of a chain of amino acids. Information in DNA is not decoded directly into proteins, however. First it is transcribed, or copied, into a range of messenger ribonucleic acid (mRNA) molecules, each of which encodes the information for one protein (or more than one protein in bacteria). The mRNA molecules are then transported through the nuclear envelope into the cytoplasm, where they are translated, serving as templates for the synthesis of specific proteins.

The nucleus must not only synthesize the mRNA for many thousands of proteins, but must also regulate the amounts synthesized and supplied to the cytoplasm. Furthermore, the amounts of each type of mRNA supplied to the cytoplasm must be regulated differently in each type of cell. In addition to mRNA, the nucleus synthesizes and exports other classes of RNA involved in the mechanisms of protein

So clearly the DNA is supposedly contained within the nucleus. An interesting point at this stage is that DNA samples taken from the body are usually hair, skin or blood, which are processed to attain a DNA fingerprint. While this may not sound unusual, technically it is interesting because if your sample was blood which contains mostly red blood cells and intercellular fluid it would be a strange way to get a DNA sample since red blood cell do not contain a nucleus where the DNA is housed.

### **Electricity and the Immune System**

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The body's dependence on electrical charges has never really been in dispute but scientists are now starting to understand the vital roles it plays in the various systems in the body. The following discovery by a team of scientists in Geneva provides more essential information on the electrical activity in our immune system.

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Geneva discovery: white cells produce electricity

A medical team at Geneva's University Hospital has discovered that white blood cells can produce electricity - which will help research understand better how the human body fights microbes.

Until Dr. Jacques Schrenzel, Dr. Karl-Heinz Krause and their colleagues at the hospital's infectious diseases division unraveled the mystery, it was not known how the cells generate the toxic oxygen radical superoxide which is the body's lethal weapon against invading bacteria and fungi.

In Nature, the Geneva team reported it had identified an enzyme (NADPH oxidase) which generates electron currents through cellular membranes. The currents, identical to those, which light an electric bulb, but ten billion times smaller, convert oxygen to the microbe-killing superoxide.

This discovery made by the Geneva medical team helps to explain why the BEFE unit aids healing and has the potential to eliminate bacteria and fungi infections. Because the BEFE unit increases the potential voltage in the cell membrane the potential of the immune system can be substantially enhanced. This effect produced by the BEFE Unit also aids in prevention by maintaining the effectiveness of the cellular function.