



INFINITY
Medicina Regenerativa

**REGENERATIVE
CELLULAR TREATMENT
GUIDEBOOK**

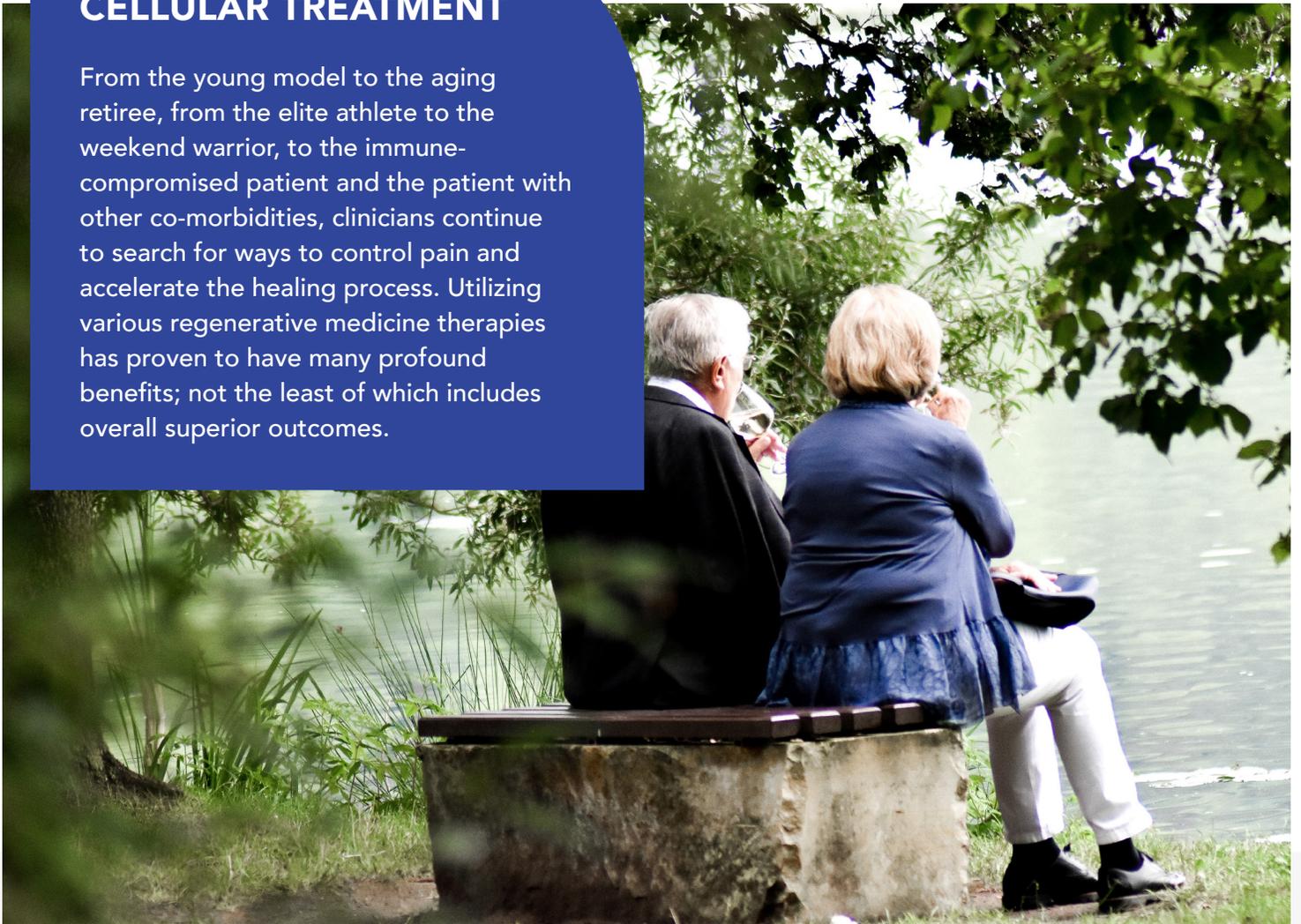
OUR MISSION

Our mission is to provide patients from all over the world access to healthcare that will help them live a better quality of life without drugs and surgery.



REGENERATIVE CELLULAR TREATMENT

From the young model to the aging retiree, from the elite athlete to the weekend warrior, to the immune-compromised patient and the patient with other co-morbidities, clinicians continue to search for ways to control pain and accelerate the healing process. Utilizing various regenerative medicine therapies has proven to have many profound benefits; not the least of which includes overall superior outcomes.



Dawning on the horizon of medical advancements these therapies hold the strong healing potential whose benefits have the power to span disciplines as diverse as hair restoration and orthopedics. These therapies harness the power and versatility of the human body to regenerate damaged skin, accelerate healing, reactivate hair follicles, heal wounds, and alleviate pain.

Many people have heard of the usefulness of stem cell therapy but there's so much more to regenerative medicine than just stem cells whose outcome is very dependent on the age of the patient they are being harvested from.

Equally important are components such as collagen, cytokines, proteins, growth factors ... the list goes on.

There are many educational books written on the uses and the value of regenerative medicine therapy. We have compiled information from books, videos, and studies that would take months and months for you to read. We have saved you the time and headache and have put together what we feel is the most important data. When you get done reading this document, you will have a better understanding on how regenerative medicine works, how it helps grow your body, repairs your body, and maintains life.

WHAT IS REGENERATIVE MEDICINE?

Regenerative medicine is a form of tissue engineering and molecular biology which deals with “the process of replacing, engineering or regenerating human cells, tissues or organs to restore or establish normal function.” When injured or invaded by disease, our bodies have the innate response to heal and defend.

Harnessing and enhancing the body’s own regenerative powers is a medical practice at the frontier of present-day advancements whose properties can seem miraculous to those who benefit from them. The miracle, however, is the result of scientific exploration that has begun to unlock and utilize the body’s extraordinary ability to heal and restore itself.



WHERE DO STEM CELLS COME FROM?

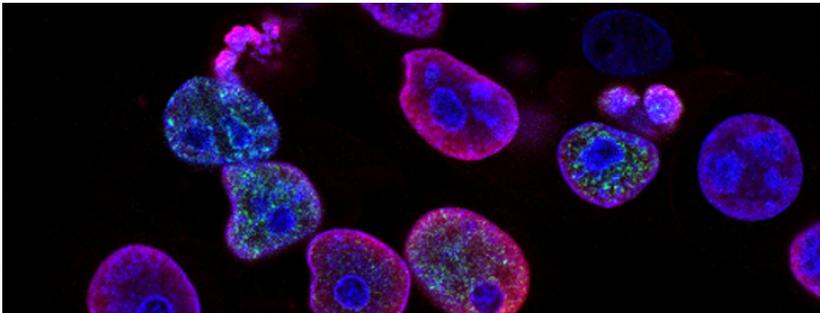
There are currently two different ways that people are getting regenerative treatments in the United States.

AUTOLOGOUS, which means it comes directly from the patient being treated

ALLOGENEIC, meaning the product is donated from a donor of the same species (in this case another human).

WHERE DO STEM CELLS COME FROM?

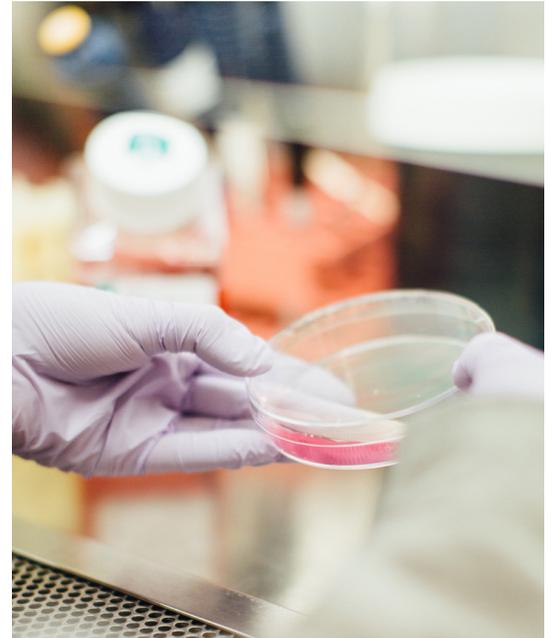
Our current focus is on products derived from perinatal tissue. These products are obtained from healthy, carefully screened mothers at the time of scheduled cesarean section. The consent is obtained at approximately the eighth month of pregnancy and the criteria for donation is established by the Food and Drug Administration, the Center for Disease Control and the American Association of Tissue Banks. The criteria includes a thorough medical and social screening and a complete panel of serological testing to ensure the donor is free from transmissible diseases. At the time of birth, a trained technician will be present and will collect the amniotic fluid, placenta, and umbilical cord which are then sent to the processing facility; where they will be cultured, processed, and retested prior to release for clinical use. From this cesarean recovery we are able to obtain our products, all for homologous¹ use.



The FDA's position is that if you are going to use these types of tissues, then they must be minimally manipulated. What that means is that when the lab is processing these tissues they are not allowed to change anything. They cannot change, add or subtract from the tissue and it has to be

used as it is found. The tissue is found with many different things in it. There are MSC's, growth factors, cytokines, chemokines, and other things that are good for healing. In this tissue there is also a lot of other cellular debris that is not needed.

1. **Homologous** - similar in position, structure, and evolutionary origin but not necessarily in function.



The point here is that usually there are only up to maybe a few million MSC's per CC. If you are reading this you or a loved one probably has a type of condition that would require numerous MSC's in the hundreds of millions. Not several million. Since the labs within the United States are not able to manipulate these tissues they are also not able to produce a product specifically for IV treatments. The FDA's position is that doctors should not be using these tissues for systemic treatments or for treating the central nervous system (CNS). Not being able to treat these types of conditions also leaves out the possibility of receiving IV treatments with stem cell within the United States.

WHAT MAKES US DIFFERENT?



Our lab and clinic operate outside of the United States and we have the ability to separate the MSC's from the other things found in the tissue. We then are able to allow them to do what they do naturally which is proliferate. To proliferate means to make new ones or to double. We allow them to keep

doubling until the number of the MSC's reach a count that will have the best chance to help your body overcome whatever condition or problem you have. We also do more quality control than is mandated by the FDA. This ensures that the product you receive is healthy and safe.

OUR QUALITY CONTROL CONSISTS OF:



We do genetic testing for any potential defects from donor



We meet and exceed FDA requirements



Our treatments have enough cells to make a therapeutic change

UMBILICAL CORD STEM CELLS

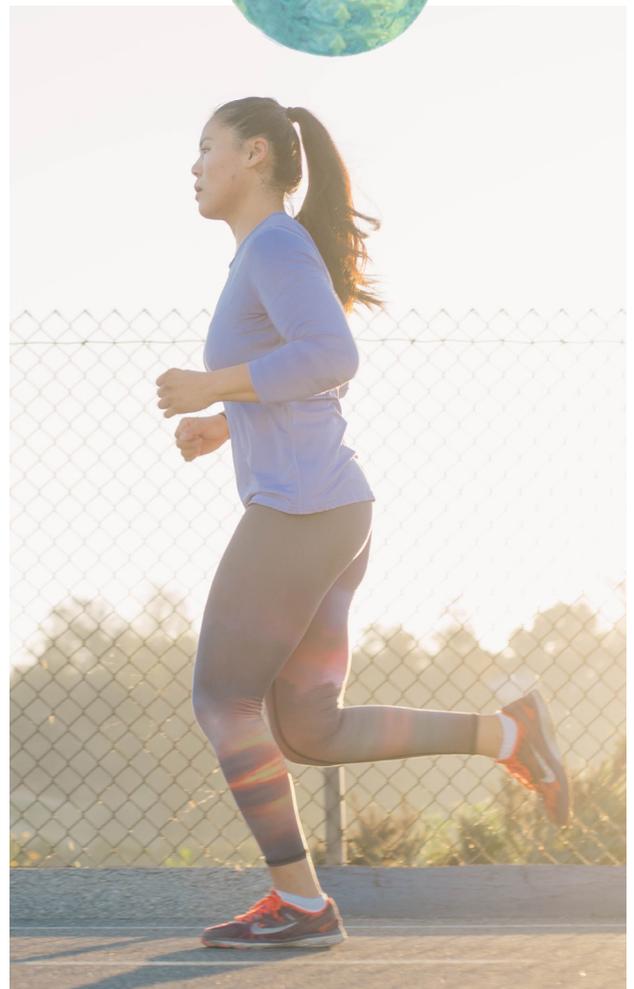
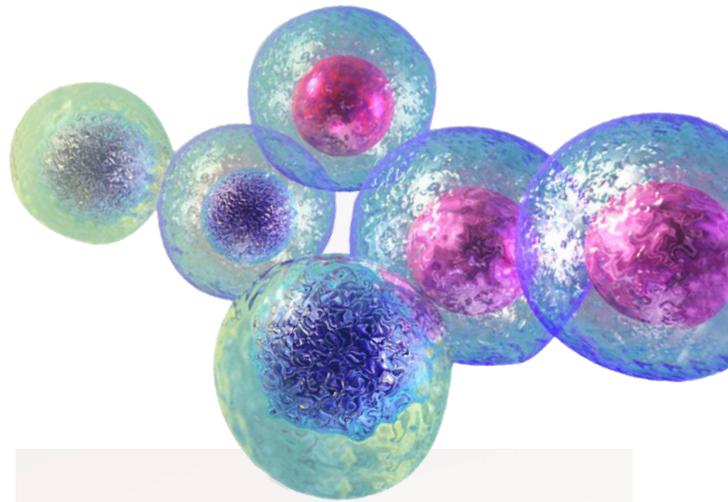


In this section we are going to focus on the products from the Wharton's Jelly of the umbilical cord, REGENER8

REGENER8: derived from the Wharton's Jelly, and is concentrated with Mesenchymal Stem Cells also called MSC's.

MSC's are multipotent stromal cells that can differentiate into a variety of cells types making them ideal for procedures ranging from sports injuries, orthopedic conditions, sexual health, anti-aging, etc. MSC's are also non-tumorigenic meaning they are NOT capable of enhancing existing tumors or forming new tumors. MSC's found in perinatal tissue are also immuno-privileged meaning they do not elicit a T cell response.

Since MSC's do not trigger an immune response and are tolerated by the immune system, they are able to continue to work with the other components enhancing the body's natural ability to heal itself. Every minute of every hour of every day for four to eight months the cells are working to help the body heal itself. There are many functions that these cells perform. Four of the most important functions are they control inflammation, modulate the immune system, stimulate regeneration and reduce scarring.



OUR BODIES ARE A STEM CELLS ATM

When we are born, we have around 1 cell in every 10,000 cells (Dr. Caplan study of cells in bone marrow). As we age the percentage of MSC's to other cells decrease.

When we reach 50, we have 1 viable cell for every 400,000 other cells. If MSC's are part of what helps our body heal itself and we have 40 times less cells when we are 50 compared to when we were born, then we basically have 40 times less potential to heal, fix or repair ourselves.

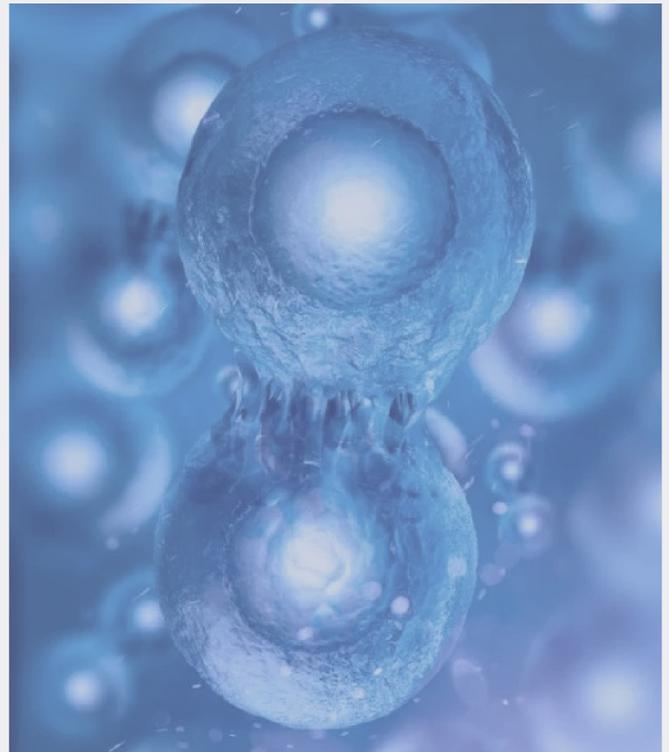
When we are 80, we have around 1 MSC to every 2,000,000 cells. That means the body has 200 times less ability to regenerate or repair itself.

A good way to look at it is when we are born, we all get an inheritance or an account of some sorts of these cells. So, the minute we are born we have highest concentration of these cells. This is when our account has the highest balance we will ever have. Right away we start to withdraw or use up our balance. We use these cells to grow our body, repair it, fix it, and to maintain it. By the time we reach our skeletal maturity (it takes a lot to grow a body) in our late teens or early twenty's we have used up around 90 percent of our inheritance or our stem cell account balance. We live the rest of our lives living off of the remaining 10 percent.

We need those cells to heal, repair, and regenerate things when we get injured. We also need those cells to just maintain our bodies. As we continue to age and use up these resources, it becomes harder and harder for our body to fix injuries, repair itself, and even maintain itself. This may very well be why the aging process accelerates as we get older. There is a lot less aging from a 30 years span between 20 years old to 50 years old compared to 50 years old to 80 years old. As we deplete our account our body cannot keep up with the demands put on it. We simply do not have enough in our account and we lose the ability to heal, repair, and regenerate.

There is another way we deplete our account balance. Many MSC's exist in tissues as a dormant cell form known as pericytes. These pericytes attach and live on our outer capillaries. They can remain there for long periods of time. When we have an injury or need them, they detach and go to the area needed.

As we age, we lose some of our vascularity. As we lose our vascularity, we lose the place for this



pericytes to attach to. Also, as we lose vascularity, we lose our blood supply to different parts of our body. It is the blood that brings nutrients and other healing and growth factors to the site of the injury. The less blood supply we have the harder it is to heal and repair. It's like cutting down a forest and wondering where all of the animals are. MSC'S are also noted for promoting angiogenesis. Meaning they can help to enhance the blood supply or blood vessel formation which is vital in the healing process.

YOUR AGE AFFECTS YOUR ABILITY TO MAKE STEM CELLS



As we age, and our bodies slow down so do our stem cells. i.e., it takes longer for one cell to become two cells (or divide/multiply). As a fetus it takes around 20-24 hours for a cell to become another. Around the age of 60-65 years old the doubling time (one cell to become two cells) is every 60 hours.

Now that may not seem like that big of a deal. This is kind of like compounding interest. You may have heard of how a penny that doubles every day for a month becomes millions of dollars. It starts out slow day one, 1 penny, day two, 2 pennies, day three, 4 pennies and so on and so on. By the end of the month its going from \$200,000.00 one day \$400,000.00 the next day and \$800,000.00 the next day to \$1,600,000.00 and so on. These cells do the same thing.

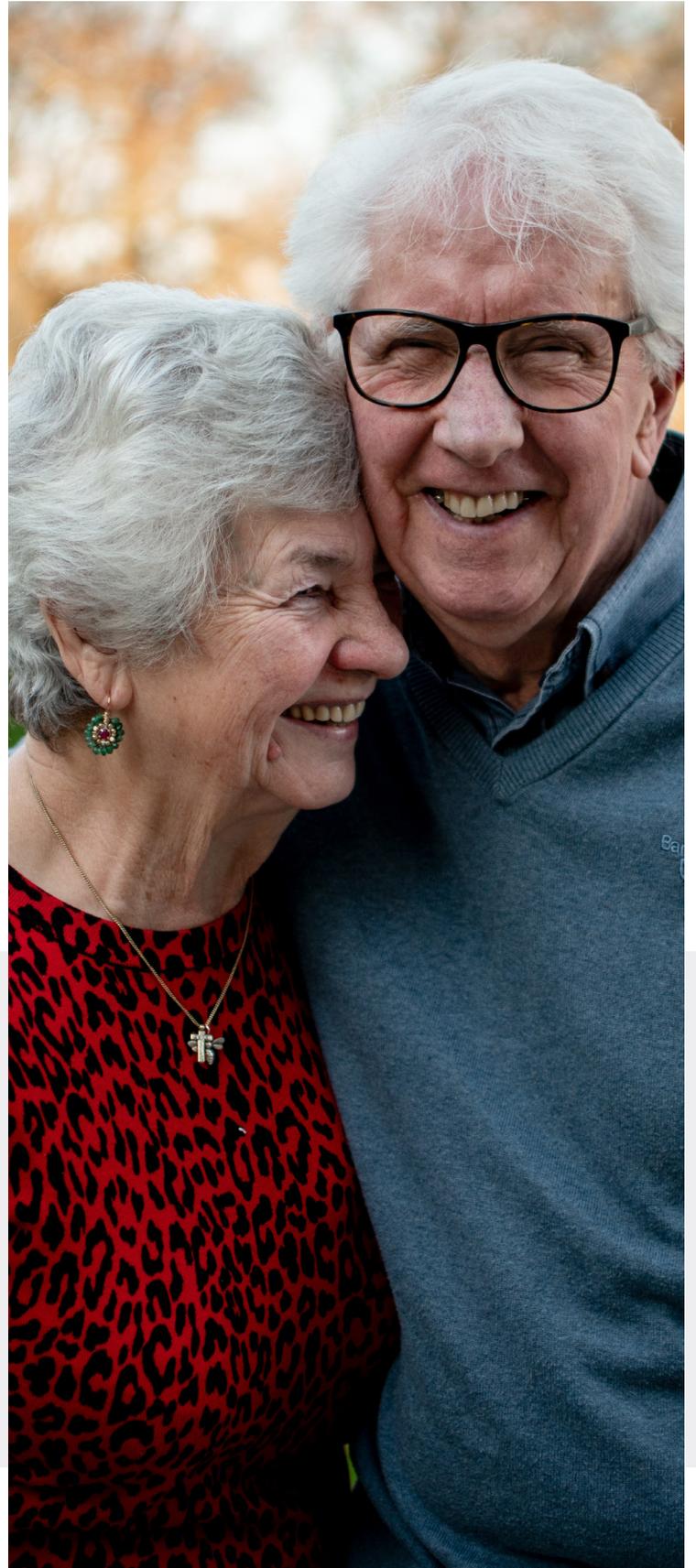
A cell that has a doubling time of 20 to 24 (young sources cells) hours becomes 1,000,000,000 (that is billion) cells in 30 days. A cell that has a doubling time of 60 hours (someone 65 years of age) becomes 200 cells in 30 days.

To help the body grow, fix, replace, and regenerate we need to have young vibrant healthy cells or "Day 1" cells meaning the cells are only one day old (newborn). Day one cells are considered young healthy robust cells that have the power to really make a difference in helping a patient's body to heal. Equally important in regenerative medicine therapies are growth factors, cytokines, structural proteins, chemokines and other components needed to regenerate the body and support this entire process.

DEGENERATION AND REGENERATION

Our bodies are always in the process of degeneration. When we are young, we have enough of the resources needed to regenerate and keep ahead of the degeneration. As we use up our resources, the degeneration starts to overtake the regeneration. This is when we start to notice we don't heal or repair as quickly. We also start to notice aging more. The process accelerates as our regenerative properties are depleted. This leads to less repairing and healing and also to increased aging.

If we have depleted our regenerative properties and our bodies do not have enough to handle the problems we have, then we must introduce more of what can enhance the regeneration process. Without doing this, there will be no fixing the problem and surgery is the only option, thus inflicting more damage that further depletes our own regenerative resources.



STEM CELL THERAPY CAN RESTORE YOUR HEALTH!



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