

# PATIENT GUIDE





**DEAR CELLGENIC PATIENT,**

We are pleased that you have made the decision to have your adult stem cell procedure performed with us.





## WHAT IS REGENERATIVE MEDICINE AND THE FAMOUS STEM CELL?

The cell is the minimal body's representation, it is the basic unit for the living species where all the vital functions happen such as respiration, nutrition, and reproduction.

The STEM CELL is a special cell that normally circulates in the body, responsible for regenerating naturally the deteriorating organs. This treatment seeks for the stem cells to differentiate or become healthy cells from damaged or defective tissue to improve the function of the diseased organ.

- Stem Cells can renew themselves.
- They can differentiate themselves (that is, recognize which type of tissue is damaged and "adapt" to regenerate it).
- Our body needs Stem Cells to regenerate the damaged tissue.
- Over the years, naturally, the number of stem cells decreases drastically (when we are born we have 1: 10,000, when we are teenagers 1: 100,000, around 40's 1: 400,000 and when we reach the 80's 1: 200,000,000).

### REGENERATIVE MEDICINE

Seeks to induce the regeneration of diseased tissues through therapies such as autologous Stem Cells, or Donor Stem Cells (umbilical or blood cord, amniotic fluid, Jelly Whalton etc.).

### HOW CAN STEMCELLS BENEFIT YOU?

- Reduce inflammation.
- Improve immune function.
- Enhance tissue repair.
- Improve brain function.
- Improve energy & metabolism.



## WHAT ALTERNATIVE STEM CELLS OR GROWTH FACTORS EXIST IN THE FIELD OF REGENERATIVE MEDICINE?

1. Donor's stem cells vial: Amniotic fluid products, Wharton's jelly stem cells, Cord Blood Stem cells even Exosomes, usually they perform a count between 80 million to 150 million of stem cells. Some of them instead of Stem cells are growth factors.
2. autologous stem cells: Meanwhile adipose tissue/bone marrow will perform between 200 to 250 million stem cells. It will depend on the health and age of the patients.

<b>TREATMENT IS DONE IN AN OFFICE</b>	<b>MINIMAL TREATMENT</b>	<b>ROOM</b>	<b>PROCEDURE</b>
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|--|---|
| <ul style="list-style-type: none"><li>• Umbilical cord Stem Cells.</li><li>• Blood Stem Cells.</li><li>• Amniotic Liquid.</li><li>• PRP (Growth Factors).</li><li>• Exosomes.</li><li>• Low manipulation of Stem Cell.</li><li>• Jelly Walton.</li></ul> | <ul style="list-style-type: none"><li>• Mesenchymal stem cells.</li><li>• Hematopoietic stem cells.</li></ul> |
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## WHAT IS THE DIFFERENCE BETWEEN GROWTH FACTORS AND STEM CELLS?

Growth factors are proteins that are obtained from the patient's platelets and are applied to promote cell growth in damaged or damaged tissues. They stimulate an adequate immune response, circulation, and renewal in the tissues. Growth factors are obtained from PRP or platelet-rich plasma; the patient's blood is processed until obtaining the PRP.





## WHAT IS STEM CELL TREATMENT?

In our treatments, we use adult autologous stem cells (mesenchymal cells or hematopoietic cells) that we extract from the patient's adipose tissue or from the bone marrow. Through a process they are concentrated, activated and transferred to the body's parts that need it; the extracted stem cells can be preserved for future reinforcements.

What are low-manipulated stem cells? What are the high manipulated stem cells?

In the US you can draw on to low-manipulated stem cells, but not high manipulated stem cell since the FDA does not allow high manipulation of stem cells.

High manipulation is a procedure that although still considered to be minimally invasive, the mesenchymal cells via the femoral catheter which is proceeded directly to the damaged organs, while a low manipulation is a

procedure that can be performed in an office and is proceeded intravenously.

In other words, high manipulation refers to:

- Stem Cells directly target the organs
- The count number of the mesenchymal cells due to their expansion

With Cellgenic, with all the options in Stem Cells and Growth factors that exist today, we specialize in the procedures that have the greatest impact on regenerative medicine in a short term.

A low manipulation of stem cells, compared to the high manipulation, can reach a third of the total cells that you obtain in the expansion of high manipulated cells. Additionally, because it is an intravenous injection, many of these cells can be trapped in the lung and not reach the desired area of regeneration.



## WHAT ARE MESENCHYMAL CELLS (MSCS) AND WHY ARE THEY SO IMPORTANT?

Mesenchymal cells (mesenchymal) are cells that are taken from the adipose tissue or "the famous fat". Only a mini-liposuction of fat approximately 100 ccs is needed to carry out the procedure. Hematopoietic cells are the cells that are taken from the bone marrow. It is important to understand that the spine is not touched during this procedure. The hemopoietic cells are taken from the celiac crest.

- Robust research from around the world demonstrate that MSC's profound clinical benefit ideal for inflammatory and degenerative conditions
- Support Local resident cells
- Regulate and activate other stem cells
- Antimicrobial
- Preventing programmed cell death
- Promote tissue remodeling shown to have antifibrotic effects.

## WHAT ARE AUTOLOGOUS STEM CELLS? WHAT ARE DONOR STEM CELLS?

Autologous stem cells are produced by the patient, they will never have the possibility of rejection. While the donor cells, they have a chance of rejection, mainly if you suffer from autoimmune diseases.



**WHY ARE STEM CELLS NOT APPROVED BY  
THE FDA IN THE USA?**



Based on the provisions of the FDA and the European Community, our treatments are considered an Advanced Therapy in the preclinical phase, low risk or class III and not industrialized.

In the case of High manipulation of Stem Cells originated from its expansion (the count with which the final cells are deposited in the patient), the FDA considers it a biological drug. For this "official" reason, this treatment is not allowed in the United States. For this reason, our patients are treated in Cancun Mexico.



## WHEN WILL I SEE RESULTS?

After the first dose, the results can be seen, but this also depends on the type of disease/condition, its severity, and the phase it is. Once the treatment with stem cells begins, the body needs a minimum of 4 weeks to recognize the initial regenerative effects, which increase to 6 months on average. Regenerative medicine is considered a multi-dose treatment, reinforcements are usually required every 6 to 12 months, but depending on the patient's condition they may be needed after 24 months. That is why the importance of banking (storing) and its multiple uses in the future.







## **CLASSIFICATION OF DISEASES**

The cellular deterioration and its DISEASES can be grouped by systems: Hormonal, Cardiovascular (heart and blood vessels), metabolic, digestive, nervous, immune (defenses), muscular and osseous.



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## WHEN WILL I SEE RESULTS?



**HORMONAL AGING:** starting from the age of 30, women's and men's hormonal system begins to change, manifesting decrease in vitality, energy, sexual performance, memory, sleep, emotional stability and quality of life. Menopause and Andropause are hormonal changes that are frequently associated with deterioration in people's life quality, bringing risks such as osteoporosis and metabolic diseases. Hypothyroidism has become more frequent; as well as changes in sexual and reproductive activity are an expression of cellular aging and the deterioration of hormones.



**CARDIOVASCULAR AGING:** it is the deterioration of the cells and the protective mechanisms of the circulation and the heart. The diseases that most frequently affect this axis are hypertension and dyslipidemia (high cholesterol).

**METABOLIC AGING:** damages the assimilation of carbohydrates, lipids, and proteins, produces muscle loss and increases body fat; generates toxic refills and triggers diseases such as insulin resistance, overweight, diabetes type II, COPD, obesity and metabolic syndrome.



**DIGESTIVE AGING:** this important system leads to the appearance of diseases such as fatty liver disease and its progression to cirrhosis; Gastritis, gastroesophageal reflux and colon diseases affect the absorption of nutrients required by internal systems to function properly.

**NEUROLOGICAL AGING:** the neurological system can be affected by deposited toxic substances or residues of metabolism, inadequate nutrients, and genetic predispositions. It causes changes in memory processes, sleep, depression, moods and diseases such as multiple sclerosis, Alzheimer's and Parkinson's.



**IMMUNE AGING:** the aging immune system affects the ability to defend against microorganisms, but also the ability to regenerate the body. Some of the diseases of this system are Lupus and Rheumatoid Arthritis which are being diagnosed in young adults.

**THE MUSCLES, BONES, AND JOINTS AGING:** the muscular, osseous and joint systems depend on an adequate hormonal, metabolic, physical activity and nutrition balance, which protect us from diseases such as osteoporosis, osteoarthritis, and arthritis.





## WHAT CAUSES DISEASES AND THEIR CELLULAR DETERIORATION?

- Unhealthy lifestyle and little personal/self-care time.
- Habits such as smoking or alcohol use.
- Diets rich in flours, chemicals, and sugars.
- Sedentary lifestyle.
- Stress.
- Environmental toxins.
- Depression.
- Recurrent infections.
- Sleep disorders.
- Multiple medications use.
- Chronic diseases.
- Genes





# 1 FATIGUE, VITALITY AND ENERGY LOSS (autoimmune system)

# WHAT IS CHRONIC EXHAUSTION, THE VITALITY AND ENERGY LOSS?

These are symptoms that occur when the cells have decreased their ability to produce ATP or energy, before what they diminish their functions and various discomforts begin to appear such as fatigue, lack of energy, premature aging of the cells, changes in the sleep pattern, irritability, changes in the mental capacities, and physical exhaustion when exercising.

Finally, when these cellular faults progress, cellular oxidation reactions have activated that end up destroying the enzymes, cell membranes, neurons, hormones, DNA and accelerate the internal aging of the organism. They put the body at risk of presenting any disease related to the aging of hormones, neurons, defenses, bones, and joints.

## WHAT CAUSES DISEASES AND THEIR CELLULAR DETERIORATION?

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- Multiple medications use.
- Chronic diseases.
- Genetics.

## WHAT CAUSES DISEASES AND THEIR CELLULAR DETERIORATION?

Our treatment is focused on the "maintenance" and "restoration" of those functions that are altered over the years, bad habits or stress, positively impacting the cell's metabolism, hormones, and defenses. With our individualized treatment, we aim to restore harmoniously the altered functions, generate awareness and life changes through the stem cells, which are directed to the diseased or damaged hormonal tissues and focus on the regeneration of the same ones.



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## CARDIOVASCULAR DISEASES (HYPERTENSION AND DISLIPIDEMIA)

# WHAT IS HYPERTENSION AND DISLIPIDEMIA?

Cardiovascular diseases are related to blood vessels and heart. Among the most frequent ones are the HYPERTENSION AND DYSLIPIDEMIA. It is very important to always be aware of and take actions against these conditions because when they get complications they damage the quality of life or even take many lives worldwide.

Hypertension, as the name implies, refers to an increase in the blood pressure on the arteries' walls, with constant blood pressure values above 120/80. It is considered that subtle elevations are already at risk and require preventive actions, while figures of 130/85 should already be treated and put into medical supervision.

Dyslipidemia is a disease characterized by alteration in the metabolism of fats, where the excesses of cholesterol and the inflammatory residues of fats are gradually obstructing the blood vessels, reducing elasticity and predisposing to the formation of blood clots. Total cholesterol is NOT the only determining factor, the medical objective is to balance the fats profile to avoid complications.

## SYMPTOMS OF HYPERTENSION AND DISLIPIDEMIA.

Hypertension and DISLIPIDEMIA are silent diseases since they regularly produce no initial symptoms and when the symptoms appear they may already be frankly present or with complications. The most frequent symptoms are headaches, dizziness, and blurred vision. Therefore, it is important to do preventive medical check-ups every 1 to 2 years, mainly above 40 years of age.

Multiple factors trigger these diseases, mainly: genetics, smoking, alcoholism, overweight or obesity, sedentary lifestyle, inadequate diet (rich in saturated fats, sugars, and flours).





## WHAT CAN CAUSE THESE DISEASES?

These two diseases, when not adequately controlled, are the main cause of heart attacks, angina, effusions, damage to the heart, kidney, and retina (vision). Therefore, it is necessary that they are evaluated, attended and regulated whenever they arise, even in slight alterations, because they move silently until they end up in critical situations for health or life.

## CAN HYPERTENSION AND DISLIPIDEMIA BE PREVENTED?

Cardiovascular diseases can be controlled or prevented with adequate habits of life, nutrition, and appropriate medical actions. Once they appear, the objective is to maintain healthy cellular activity and control of the disease to avoid complications; In some cases, the onset of these diseases can be prevented or delayed. It is very important the patient's conscience against the risks of the disease without control and their new lifestyle.

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**MUSCULOSKELETAL  
DISEASES (ARTHROSIS,  
ARTHRITIS, DISCOPATITS,  
AND OSTEOPOROSIS)**

# WHAT ARE THESE DISEASES?

**ARTHROSIS** is a medical term that refers to degenerative processes of the joints, which damage and wear out the components of the joint surfaces. Gradually, the joint surfaces lose the volume and consistency of the cartilage, damaging the bone's shape and its mobility. This whole process causes the tissues inside the joints to become inflamed, which is known as arthritis and its manifested in pain, which may or may not is associated with swelling of the joint. The joints that frequently present these diseases are knees, hips, hands, shoulders, spine, feet.

**OSTEOPOROSIS** is the disease characterized by loss of density in the bones, initially called OSTEOPENIA and in advanced conditions is called osteoporosis.

The joints that have suffered from heavy work, traumas, inadequate nutrition for bones and muscles, toxins, family predispositions and little emotional flexibility, are susceptible to develop this type of diseases.

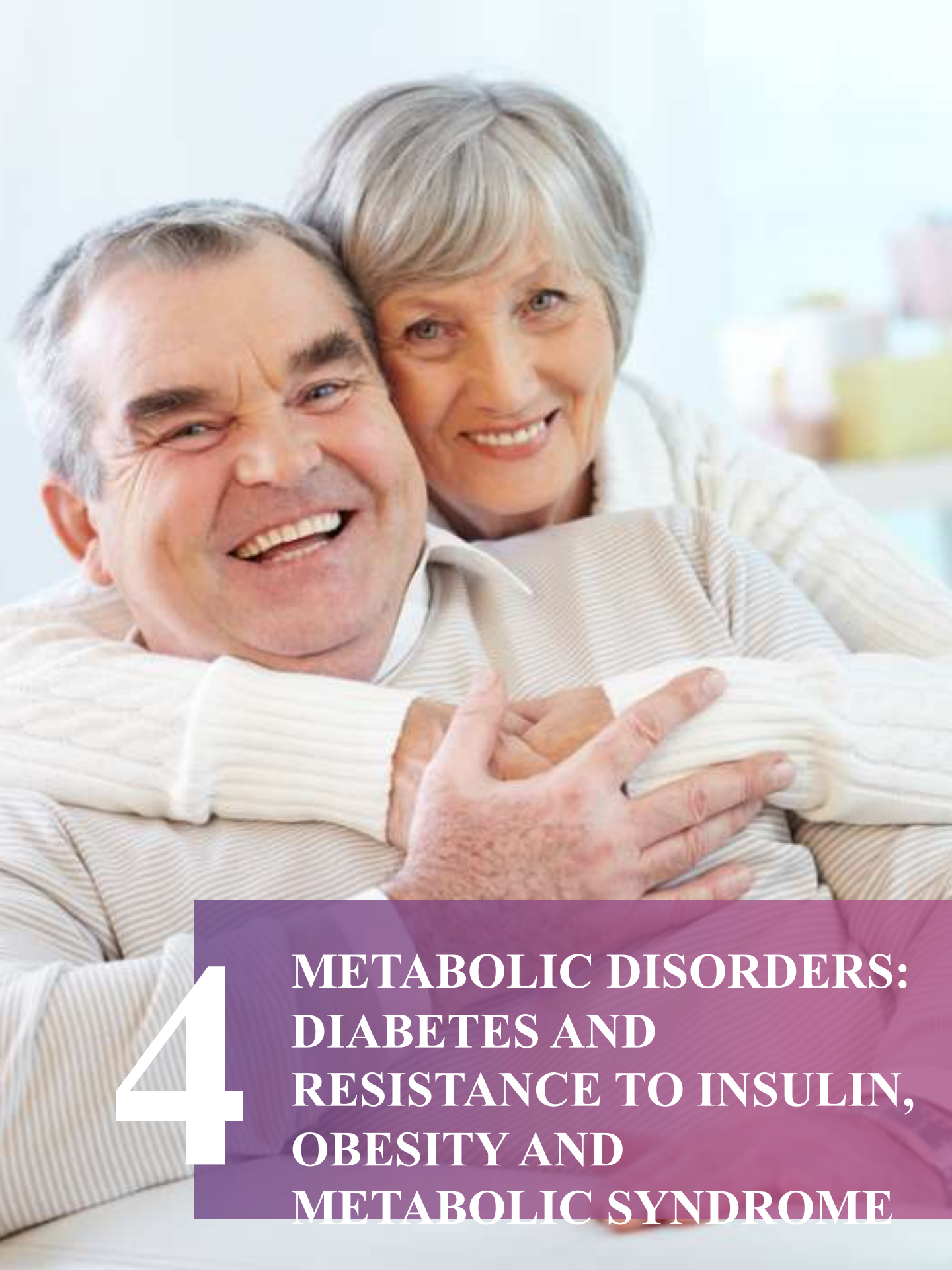
## ARTHROSIS, ARTHRITIS, DISCOPATIAS, AND OSTEOPOROSIS SYMPTOMS

When mechanisms of bones and joints repair are running out, allowing the progression of these diseases and triggering their symptoms: pain, deformity, and movement limitations.

The hormonal changes, lack of exercise or inadequate diets, predispose to the bone mass loss with pain and possible risk of fractures.

In the spine, the intervertebral discs dehydrate and degenerate, losing their thickness or moving and producing pain or nerve clamping.

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**METABOLIC DISORDERS:  
DIABETES AND  
RESISTANCE TO INSULIN,  
OBESITY AND  
METABOLIC SYNDROME**



# WHAT ARE THESE DISEASES?

All these disorders are called metabolic, just by altering the metabolism within the body. Diabetes and INSULIN RESISTANCE are characterized by poor metabolism of carbohydrates, due to excessive consumption, alteration in the pancreas to produce insulin or damage insulin receptors (where the cell receives glucose). It is confirmed with abnormal blood glucose and insulin tests and produces internal tissue inflammation, leaving residues that are deposited in the nervous system and injuring small blood vessels and nerve terminals (vasculitis and polyneuropathy).

**METABOLIC SYNDROME** is called the simultaneous presence of alterations in cholesterol metabolism, insulin resistance, hypertension and increased abdominal perimeter; increases risks of heart attacks, strokes, angina, and diabetes. Overweight, obesity and diabetes are often the cause of a metabolic syndrome.

Obesity is an increase in weight with a BMI (Body Mass Index) above 29.9 and OVERWEIGHT is an increase in weight with a BMI above 24.9; both conditions are a risk for the carbohydrate and lipid metabolism or result into suffering cardiovascular events.

## METABOLIC DISEASES SYMPTOMS

The DIABETES and INSULIN RESISTANCE symptoms frequently are excessive thirst, dizziness, weight gain, frequent urination, weakness, feeling of being inflamed, headaches. The progression of the disease can generate a sensation loss in extremities, with coldness or pallor, ulcers or pain.

In the metabolic syndrome, the symptoms are those present in diseases in each patient, accompanied by heaviness, fatigue, and decreased vitality.

## CAN THESE DISEASES BE PREVENTED?

The metabolic syndrome can be prevented, and the gene expression of diabetes can be slowed down or controlled, provided that they are managed properly and in early stages. During the treatment, the patient's awareness regarding the disease and his/her new lifestyle is very important

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COPD

# WHAT IS COPD?

A disease characterized by the obstruction in the bronchi, where its diameter is diminished preventing the exchange of the air and oxygen, also known as chronic bronchitis or emphysema. It appears in adulthood and is associated with a history of cigarette or smoke exposure. It is a chronic degenerative disease since it tends to worsen over time, damaging the person quality of life and requiring oxygen for daily activities.

## SYMPTOMS

The most frequent symptoms are a chronic cough, breath shortness or breathlessness, wheezing in the chest, and difficulty in breathing deeply. During its progression, the lung tissue deteriorates and may be accompanied by inflammation or recurrent infections. There is a regular fear of the suffocation that these diseases produce!

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A green apple is positioned in the lower right quadrant of the image. The background is a plain, light-colored surface. A solid purple rectangular overlay covers the bottom portion of the image, containing text. A large white number '6' is placed on the left side of the purple overlay.

6

**DIGESTIVE  
DISEASES: FATTY  
LIVER, GASTRITIS  
AND / OR IRRITABLE  
COLON**



# WHAT ARE THESE DISEASES?

A good digestive functioning is relevant to health. This system connects the external environment with the interior, allows the proper entry of nutrients and the elimination or drainage of toxins. It is connected to the brain through a Brain-Intestine nervous system, so its function depends not only on food but also on stress and emotional factors. A healthy digestion depends on:

- The type of food you choose to eat, the environment at the time of eating and stress tolerance
- Chewing the food and the use of saliva enzymes
- The production of stomach acids, which are necessary to deliver food to the intestine and prevent pathogenic bacteria
- The production of bile to degrade food and take the nutrients
- The presence of healthy bacteria for digestion and to avoid ferments or gases.
- Hydration and fibers for daily fecal bolus formation and adequate absorption of nutrients

The digestive system connects with several internal systems facilitating health or disease: they have repercussions inside the organs, it can affect the nutrition of bones, the production of the hormones, alter the system of defenses with allergies or autoimmune diseases, produce fatigue cellular with loss of vitality and energy, affect the nervous system to cause insomnia or depression, worsen skin diseases such as acne. Therefore, it is a determinant system for the human being's health and the prevention of diseases.

The GASTRITIS is a disease where the production of enzymes and the own acidity of the stomach are altered, leaving it exposed to the acidic pH and allowing the content to be returned towards the esophagus which is called GASTROESOPHAGIC REFLUX. Its frequent symptoms are: burning in the upper part of the abdomen or heartburn, cracking, belching and distended abdomen mainly after taking meals.

The IRRITABLE COLON or irritable INTESTINE SYNDROME is a chronic inflammation of the intestinal mucosa, which damages its barrier mechanism, increases in the fermentation of the food, lowers the absorption of nutrients and alters the formation of the fecal bolus. Frequent symptoms are abdominal distention, gas, cramps, indigestion, habitual diarrhea and constipation..

The FATTY LIVER or the hepatic STEATOSIS is a condition of the liver, where its capacity to neutralize toxins has been reduced, allowing residues of the metabolism to be deposited in the same liver. It is considered a frequent condition in the current population due to the common toxic aggressions, drug abuse, poor diet, smoking, abuse of liquor and lack of care with this vital organ. It is usually seen on an ultrasound and sometimes alters liver function tests. It is a disease of slow and gradual progression if no action is taken and may end in cirrhosis of the liver. It may NOT express symptoms always or can induce a frequent sensation of indigestion, headaches, fatigue or nausea.

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**DEGENERATIVE  
DISEASES OF THE  
NERVOUS SYSTEM:  
ALZHEIMER AND  
PARKINSON**

## WHAT ARE THESE DISEASES?

Over the years the nervous system can deteriorate its functions and degenerate, leading to the appearance of disorders called "neurodegenerative". This system is the one that requires the most energy for its proper functioning and the factors that deplete it affect it. The lack of the micro-nutrients essential for its functioning ends up damaging it. There are residues of metabolism (mainly sugars) and toxins that are deposited in the nervous system to cause the disease. Neurodegenerative diseases compromise longevity and quality of life!

Alzheimer is a degenerative disease where cerebral functions that affect memory and behavior deteriorate; It is also known as Type III Diabetes, due to the deposition in the brain of metabolic waste from sugars. This progressive condition damages the patient's life quality and his/ her environment.

The Parkinson is a disease characterized by degeneration of brain nuclei makers make dopamine and maintain muscle tone, in some cases with toxin deposits in the central nervous system and is expressed with trembling limbs or face, changes in gait by instability or lack of balance, which progresses to generate dependence on vital functions such as eating or walking.

## CAN THESE DISEASES BE PREVENTED?

Some neurodegenerative situations can be controlled or prevented with adequate lifestyle, nutritional and adequate medical actions. Once they appear, the objective is to maintain a healthy neuronal function and control the disease to prevent its progression.

## CAN THESE DISEASES BE PREVENTED?

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