

Stem cell treatments: All you need to know with Giuseppe Mucci

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Giuseppe Mucci, the CEO and Founder of the BioScience Group, has always nurtured an inquisitive mind that was focused on finding ways to help others. Giuseppe built extensive knowledge within the medical industry and worked on finding new ways to use the latest technology. Firm in his vision to find the most innovative and safest medical techniques, led to Giuseppe immersing himself in the world of Stem Cells.

Using his experience as a professor of Bioeconomy at Lugano University in Switzerland and an Advisory Board member of the University Rome Tor Vergata in Italy, Giuseppe created the Bioscience Institute in 2005 to offer new and highly effective treatments for people across the globe.


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Giuseppe has had a resounding impact on the Stem Cell industry throughout his career. He was awarded the Excellence and Innovation from Dubai Healthcare City; Excellence in Research & Development in genomics, and the Italian Quality Committee awarded him the special prize 'Leonardo Startup'.

In this interview, he talks about the most advanced stem cell treatments in the world:

1. What is the role of stem cells in delaying aging?

Giuseppe Mucci: Stem cells have the ability to divide and differentiate into various specialized cells in the body. They are essential for tissue regeneration and repair and play a critical role in maintaining the health and functionality of organs and tissues throughout life.

As we age, the number and function of stem cells in our bodies decline, which can contribute to the development of age-related diseases and degenerative conditions. However, such as mesenchymal stem cells (MSCs), can help delay the aging process.

MSCs are found in many tissues throughout the body and have the ability to promote tissue repair and regeneration, reduce inflammation, and enhance the immune system. Studies have shown that MSCs can improve the function of aging organs, including the heart, brain, and musculoskeletal system, and may also have anti-aging effects on skin and hair.

In addition to their regenerative properties, stem cells have also been shown to secrete molecules that can modulate the aging process by reducing oxidative stress, inflammation, and cellular damage. For example, MSCs can secrete factors such as interleukin-6 (IL-6) and transforming growth factor-beta (TGF-beta), which have been shown to have anti-aging effects.

Overall, stem cells have the potential to delay aging by promoting tissue repair and regeneration, reducing inflammation, and modulating the cellular and molecular mechanisms that contribute to aging.

2. Where do we get stem cells from? Why adipose tissue not other tissue? How are they separated from other cells in the tissue?

Giuseppe Mucci: Stem cells can be obtained from various sources, including embryos, umbilical cord blood, and adult tissues.

Adipose stem cells (ADSCs) are mesenchymal stem cells, which are multipotent cells that can generate many different cell types – from adipose tissue to cartilage, including bones, tendons, ligaments, muscles, blood vessels, the nervous system.

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They can be isolated from the so-called stromal vascular fraction (SVF) and then multiplied in a clean room. Cell expansion makes it possible to produce large quantities of stem cells, for clinical applications, even from small samples of adipose tissue.

3. What is the harm caused by contamination of a sample of stem cells injected into the skin?

Infection: Contamination can introduce harmful microorganisms, such as bacteria or fungi, into the body, which can cause infections that may spread and become difficult to treat.

Giuseppe Mucci: Contamination of a sample of stem cells injected into the skin can have several harmful effects, including:

Rejection: The body's immune system may recognize the contaminated stem cells as foreign and attack them, causing an immune response that can result in inflammation, pain, and tissue damage.

Impaired function: Contaminated stem cells may not function properly or may lose their regenerative properties, which can limit their ability to repair damaged tissues and organs.

Side effects: Contaminated stem cells may cause unintended side effects, such as allergic reactions, fever, or pain.

Overall, contamination of a sample of stem cells injected into the skin can pose a significant risk to the health and well-being of the recipient. It is essential to ensure that stem cell samples are properly screened, tested, and processed to minimize the risk of contamination and ensure their safety and efficacy for therapeutic use.

As per our Strict Protocol and GMP guides that we follow at Bioscience is the Quality control phase, which plays a big role in the controlled environment we have at Bioscience Laboratories and Manufactures to make sure its contaminated free environment

4. What is the sufficient sample quantity? What if we can't get enough stem cells?

Giuseppe Mucci: The high concentration of stem cells found in adipose tissues makes it possible for extensive fat removal to be avoided. This is because only 20 cc of fat is enough to obtain the required quantity of cells for treatment after expansion. This means we multiply the number of cells to millions of cells required for each treatment plan and individual case.

5. How long does the treatment take from obtaining samples until injected into the body and results appear? Does the patient have to repeat the injection more than once?

Giuseppe Mucci: Our Patients follow standard steps:

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1. Consulting the right Doctor, understanding the Medical History, the condition, and desired results explaining the stem cells treatment is an important phase

2. Assessment and Medical tests

(Blood test and all required examinations to proceed with the treatment)

3. Fat harvesting

Our highly qualified plastic surgeon through a minimally invasive procedure will collect just 20cc of fat from the body area most suitable for the patient. The procedure performed under local anesthesia will take no more than 30min.

4. Extraction

The fat, immediately transferred to Bioscience Institute laboratories, will be processed into Bioscience's totally sterile lab area to isolate these rare and unique stem cells

5. Expansion

The process of expansion is the key point of stem cell technology, it requires unique knowledge and complex technology. It will take 3 to 4 weeks to complete this phase. During this period Bioscience's highly qualified staff will monitor the cell expansion (multiplication) and will carry out several quality control to guarantee the highest quality standard level typical of Bioscience products and services. The cells will be multiplied up to hundreds of millions of pure stem cells, according to the treatment plan. The resulting cells will be stored at Bioscience cells bank ready for the patient.

Treatment

On the day of the treatment, millions of pure patient stem cells will be further tested for quality and delivered to the Physician. The medical Specialist will administrate the stem cells to the patient accordingly to the treatment plan.

Freezing and Preservation

Bioscience guarantees a minimum of two years of stem cell banking that can be extended for up to 30 years. The cryopreserved cells allow the patient to have a reservoir of stem cells available for new and future treatments in Regenerative Medicine.

6. What distinguishes stem cell therapy from other chemical treatments, fillers and Botox?

Giuseppe Mucci: Stem cell therapy is a type of regenerative medicine that involves the use of stem cells to promote tissue repair and regeneration. Unlike chemical treatments, fillers, and Botox, which are designed to temporarily mask or reduce the appearance of wrinkles, stem cell therapy aims to address the underlying causes of aging and tissue damage by promoting the growth and repair of new cells and tissues.

1. Mechanism of action: Chemical treatments, fillers, and Botox work by temporarily paralyzing muscles or filling in wrinkles, while stem cell therapy works by promoting the growth and regeneration of new tissues.

2. Targeted treatment: Stem cell therapy can be targeted to specific areas of the body that need repair, while chemical treatments, fillers, and Botox are typically used to treat wrinkles and other signs of

aging in the face.

3. Long-term effects: Stem cell therapy can provide long-term benefits by promoting the growth of new tissues and reversing the underlying causes of aging and tissue damage, while chemical treatments, fillers, and Botox provide only temporary effects that may require repeated treatments to maintain.

4. Safety: Stem cell therapy is generally considered safe, as the stem cells used are typically obtained from the patient's own body and have a low risk of rejection or adverse reactions. Chemical treatments, fillers, and Botox carry a higher risk of side effects, such as allergic reactions, infection, and tissue damage.

Overall, stem cell therapy represents a promising approach to treating a variety of conditions and promoting overall health and wellness by harnessing the body's natural regenerative abilities. While chemical treatments, fillers, and Botox can provide temporary relief from the signs of aging, stem cell therapy offers a more comprehensive and long-lasting solution by promoting the growth and repair of new tissues.

7. What distinguishes the Bioscience institute from similar clinics?

Giuseppe Mucci: At Bioscience institute Middle East, the world's best Lab specs are implemented and high standard qualifications using state of art techniques, therefore most Hospitals and clinics in the region are using our certified Labs.



8. What are the emerging trends in 2023?

One of the most important trends emerging this year in the healthcare industry is regenerative medicine and anti-aging treatments, and here comes our role in providing the highest technologies and safest treatments through stem cells and regenerative medicine.

From a global perspective, in this post-Covid pandemic period, there is a greater international demand for stem cell treatments, considering that stem cells' main specification is their anti-inflammatory and anti-fibrotic characteristic. Bioscience's vision is based on using the most effective and advanced treatments based on stem cell and exosomes biology to help amplify our natural healing process in the areas where it is needed the most, or take over the function of damaged tissue altogether.

With the ability to regrow, repair, or replace damaged cells and tissues, using stem cells & regenerative medicines provides a natural method of treatment that is less traumatic to the body and more effective than other more invasive treatments and surgeries. The stem cell therapies provided by Bioscience Institute are proven in Europe and the Middle East by scientific evidence of better safety and efficiency than any other treatment.

The most cutting-edge treatments in aesthetic medicine are based on the use of adipose tissue stem cells (ADSCs, Adipose-Derived Stem Cells). The collagen and elastin produced by the adipose tissue stem cells allow to restore a youthful and fresh appearance to the skin. Using stem cells in aesthetic medicine is a new frontier revolutionizing how we approach beauty. With stem cell therapy, we can now achieve results that were once only possible with surgery. The procedure is minimally invasive and can be performed in an outpatient setting.

9. Have Has any development in health and wellness research will impacted your treatments, programs, or menus?

The stem cell industry is growing in the region. There are currently 1460 clinical trials worldwide using stem cells for different applications. The Institute's profits are constantly reinvested into developing research. Avoiding a flashy commercial profile allows us to concentrate our investments in creating better treatments and ultimately help clients globally. Due to this commitment, Bioscience Institute has instigated important scientific collaborations with leading universities, pioneering procedures and methods around cell products.

I would say Stem cell treatments are a game-changer in the aesthetic field. Regenerative medicine and stem cell treatments have been gaining much popularity over the last few years. Especially because other toxic and artificial products are not useful for the skin tissue and don't work on the organ aging process, some even have side effects, while stem cells and exosomes treatments work on delaying the aging process and enhance the look and feel of in patients, without risks or side effects, again it's an interesting area to develop and work on.

10. Will you introduce any new programs/treatments in 2023?

Yes, Bioscience will be offering a variety of treatments and procedures through stem cells and exosomes alongside our newly launched home skin care and hair products.

Exosomes are an exciting new field in regenerative medicine that holds the possibility and promise of using a variety of body cells to regenerate, heal and repair.

Stem cells represent one of the richest and safest sources of exosomes. They can be collected,

concentrated, and used for several clinical applications. Exosome therapy can help manage degenerative conditions, tissue repair, anti-inflammation, and anti-aging, due to its ability to target injured or aging cells, instructing them to regenerate and repair.



Our ultimate goal is to set a plan in expanding through the GCC countries and around the world, setting revolutionary methods towards aging and all the complications that come with it by replacing artificial toxic products with biological products such as stem cells and exosomes.



Build your blueprint for better health

The most advanced stem cell treatments in the world

Bioscience Institute offers the most advanced personalized stem cells treatment from expanded adipose tissues derived therapies for any treatment you need

About Bioscience Institute

What makes Bioscience Institute unique?

As the world's leading center of stem cell and Regenerative Medicine, Bioscience offers unparalleled service and treatments, unique only to it. The Institute offers the most advanced personalized expanded adipose derived stem cell therapies across Europe – including Rome, Milano, and San Marino, and the Middle East, including Dubai.

The team at Bioscience Institute does not believe in using invasive surgeries when they can be partially replaced by cell biology. Therefore, they have designed an alternative method of extracting stem cells from adipose tissue. As a distinctive and versatile offering, adipose fat tissue provides an effective solution to all of Bioscience Institute's services, ranging from degenerative processes, regeneration to hair loss treatments, skin aging, and body reshaping treatments.

Bioscience Institute carries out all medical procedures in its dedicated laboratories and clinics, whether cell extraction, biopsies, or grafts, and prioritizes exceptional customer care for all our clients. This is achieved through bespoke customer journeys, patient confidentiality, and dedication to providing you with the best treatments.

What makes Bioscience Institute the most advanced stem cell laboratory in the world?



The Unique Bioscience Vision

The logo features a stylized letter 'S' inside a decorative crest with ornate flourishes. Below the crest, the word 'SIGNATURE' is written in a bold, serif font. Underneath 'SIGNATURE', the words 'LUXURY LIFESTYLE' are written in a smaller, all-caps, sans-serif font.
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The beauty of regenerative medicine therapies and stem cell treatment comes from the ability to use your own body to help heal and enhance your well-being through living body tissue. Bioscience's vision is based on using this most effective and advanced treatment that is based on cell biology and exosomes to help amplify our natural healing process in the areas it is needed most or take over the function of damaged tissue altogether.

With the ability to develop methods to regrow, repair, or replace damaged cells and tissues, using stem cell & regenerative medicines provides a natural method of treatment that is less traumatic to the body and more effective than other more invasive treatments and surgeries. The stem cell therapies provided by Bioscience Institute are verified in Europe and the Middle East by scientific evidence of increased safety and efficiency than any other treatment method.

The Institute's profits are consistently reinvested into developing research. Avoiding a flashy commercial profile allows us to concentrate on using investments to create better treatments and ultimately help clients globally. Due to this commitment, Bioscience Institute has instigated important scientific collaborations with leading universities, pioneering procedures and methods around cell products.

Bioscience Cell Factory and Clinic in Dubai, San Marino, Italy & Switzerland

Bioscience Institute is the first and only GMP-certified Clinic in the Middle East and Europe, offering stem cell treatments with the most advanced personalized autologous cell therapies worldwide. Offering a unique service and treatment sets it apart from any form of competition and allows it to give clients the care, attention, and treatment they deserve.

Bioscience clinics in the Middle East and Europe include a fully equipped facility needed to carry out any treatments offered, whether Stem Cell treatments or banking. Bioscience Laboratory is a dedicated cell banking factory used to store and expand Adipose-Derived Cells and Fibroblasts to help ensure that the clients' needs can always and easily be catered to.

Services

What does Bioscience Institute offer?

Stem cells of Adipose tissue

From bones to muscles and blood vessels, stem cells are multipotent and possess the ability to generate various cell types. Commonly known as body fat, adipose tissue is found all over the body; under the skin, around internal organs, and between muscles, and is the primary source of mesenchymal stem cells. The high concentration of stem cells found in adipose tissues makes it

possible for extensive fat removal to be avoided. This is because only 20 cc of fat is enough to obtain the required quantity of cells for treatment after expansion. This utilization of adipose tissue stem cells allows a capacity for self-renewal and multipotential differentiation, providing us with the ability to store your cells and use it for several different treatments, involving the bones, tendons, nervous system and more.

Regenerative medicine

The Bioscience Institute provides cutting-edge regenerative medicine solutions based on autologous stem cells. 'Autologous' means that the stem cells come from the same patient who will receive the treatment. The effectiveness of stem cells has made it possible to restore the functioning of organs and tissues that have been damaged by trauma, disease, or aging. The regenerative medicine services offered by Bioscience Institute cover a broad spectrum of treatments, including regenerative orthopedics, early menopause care, erectile dysfunction treatment, and anti-aging IV therapy.

Support medicine

Stem cells support medicine aimed at treating multiple conditions, including diabetes, lung diseases, and other diseases. It reduces the complications and inflammation caused by the disease. Using stem cells can help improve the pancreas function in patients with diabetes, reduce the complications faced by individuals with lung-related issues, and also help to reduce the onset of inflammation in patients with arthritis. The use of stem cells in medicine is an exciting area of research with the potential to transform the treatment of many chronic diseases. The results are promising, and stem cell therapy offers new hope for patients with chronic diseases with few other treatment options.

Banking and restoration

Bioscience Institute offers a stem cell restoration service that can save you time and money in the long run. Using this service, you can restore your extracted stem cells for up to 2 years to ensure that you have a supply of healthy stem cells for future treatments. Most importantly, restoring stem cells means you will not need to go through the fat extraction phase again.

Cord Blood Stem Cells

Cord blood, from the umbilical cord, contains stem cells in their most potent form. Unspecialized and thriving means that extracting these cells can help treat blood-lymphatic disorders through more natural methods. Using cord blood stem cells allows us to use the youngest and healthiest cells that can be used in the treatment of degenerative processes of human tissues and organs.

Bioscience Awards and Achievements

Bioscience Institute's awards and achievements are a testament to the exceptional service offered to clients worldwide. The Institute's ability to provide world-class treatments and the most advanced stem cell therapies has been noticed globally, resulting in over six certificates verifying its services.

Branches

Bioscience Institute prides itself on being reachable via all methods by current and future patients across the globe. With laboratories in Dubai, Italy, Switzerland and San Marino, the Institute is easily accessible across Europe and the Middle East. All the laboratories are fully equipped with the latest technology that houses the world's most advanced stem cell treatments and regenerative medicines.

