Overview

Lung disease can be debilitating. As physicians, you know that providing treatment options to your patients is important. Until recently, options to improve the quality of life for your patients with lung disease have been limited.

Now, you can consider stem cell therapy for patients with chronic obstructive pulmonary disease (COPD) including emphysema and chronic bronchitis, and interstitial lung disease including pulmonary fibrosis. It is an outpatient, minimally invasive procedure that can be recommended to newly diagnosed patients with lung disease, as well as patients in the final stages of their disease.

What Stem Cell Treatment Options Are Available?

At the Lung Institute, we offer two types of stem cell procedures: an intravenous-only procedure, which utilizes stem cells that have been harvested exclusively via IV, and a hybrid procedure that uses stem cells extracted from the blood as well as stem cells from adipose tissue. The type of procedure recommended to a patient is dependent upon his or her condition and overall health.

Stem cells are harvested from either the peripheral blood or from adipose tissue. There are at least two distinct types of stem cells circulating in the peripheral blood: hematopoietic and mesenchymal stem cells. Both originate in the bone marrow and then released into the bloodstream in small quantities. Mesenchymal stem cells have demonstrated the unique ability to become cells specialized toward many different organs. Although also present in the blood, larger quantities of mesenchymal stem cells can be collected from adipose tissue through mini liposuction. This process is far simpler and less painful compared to bone marrow extraction. Intravenous collection of hematopoietic stem cells is performed at the same time as an adipose procedure in order to return both types of stem cells to the patient.

Lung Institute Procedures Are:

- **Autologous.**
  Both options utilize autologous stem cells, which minimize the risk of rejection. Thus the entire process is safe and easy for the patient.

- **Outpatient.**
  Over the course of 3 days, treatments are performed on an outpatient basis. Typically, each office visit lasts only 2 to 3 hours.

- **Minimally Invasive.**
  Unlike many other stem cell procedures, the Lung Institute’s treatment options are minimally invasive and therefore require minimal downtime.

- **Patient Centric.**
  The patient always comes first. Our patient care coordinators serve as the patient’s guide throughout the entire treatment process.
Stem Cell Treatment Advantages

- **Cytokine and growth factor secretion.**
  Mesenchymal stem cells (MSCs) have been proven to secrete anti-inflammatory cytokines and growth factors.\(^1\)
  These immunosuppressive molecules and various growth factors facilitate tissue repair and maintain immune homeostasis.\(^2\)

- **Pulmonary passage delivery.**
  Recent data provides evidence that the majority of administered stem cells and progenitor cells are initially trapped in the lungs, particularly when MSCs are delivered through intravenous infusion.\(^3\)

- **Anti-inflammatory in nature.**
  The immunoregulatory properties and tissue repairing functions of MSCs are induced by inflammatory cytokines.\(^4\)
  Research supports that MSCs migrate to sites of tissue injury within the body presumably due to the local production of inflammatory mediators.

- **Immunomodulatory properties.**
  One of the undisputed features of MSCs is their ability to produce a variety of trophic and immunomodulatory factors that can directly promote cell survival and reduce inflammation.

---

**Works Cited**


Who is the Lung Institute?

The Lung Institute is a leading global provider of innovative regenerative medicine technologies for the treatment of an array of debilitating lung and pulmonary conditions. We are committed to an individualized patient-centric approach, which consistently provides the highest quality of care and produces positive outcomes. By applying modern-day best practices to the growing field of regenerative medicine, the Lung Institute is improving lives.

Why the Lung Institute?

At the Lung Institute, we have harnessed the body’s innate healing capacity to bring relief to those suffering with chronic lung conditions. As a leader in the field of regenerative medicine, we are dedicated to providing our patients with the latest stem cell innovations and the highest quality of care.

Through their designated practices, our physicians have gained worldwide recognition for the successful application of revolutionary, minimally invasive, stem cell therapies. With over a century of combined medical experience, our doctors have designed a protocol with the patient in mind, focused on safety and quality of care.

Taking a new approach to the treatment process, we assign a patient care coordinator to each one of our patients’ individual cases. As a result, our patients feel comfortable and well-served from the moment they contact our office, and throughout the entire treatment process. The patient care coordinator serves the dual function of being each patient’s touch point throughout treatment, and serving as an easily accessible person for our partnering physicians.

Our Medical Staff

James St. Louis, DO
Chief Medical Officer

James St. Louis, DO, chief medical officer at the Lung Institute and founder of the Laser Spine Institute, completed his orthopedic residency in the United States Army. As a distinguished spine surgeon, his quest to develop the latest techniques in minimally invasive procedures has led him to the field of regenerative medicine. Today, Dr. St. Louis is applying his research in stem cell technology and experience to the life-changing treatments performed by the Lung Institute and Regenerative Medicine Solutions.

Burton Feinerman, MD
Medical Director

Burton Feinerman, MD, medical director at the Lung Institute and its parent company, Regenerative Medicine Solutions, earned his medical degree from New York Medical College and completed his fellowship at the renowned Mayo Clinic in Rochester, Minnesota. Dr. Feinerman is internationally recognized as an expert in stem cells and gene therapy. He believes in challenging the incurable with regenerative medicine, and providing a new pathway to overall health and longevity of life.

Jessica Reed, ARNP

Jessica Reed, ARNP, works with the Lung Institute team to provide cutting-edge treatments to patients suffering from pulmonary conditions such as COPD and pulmonary fibrosis. Prior to working at the Lung Institute, Ms. Reed worked at GMS West Coast where she was responsible for adult and geriatric primary patient care, as well as management of office staff. Before GMS, she acted as a preceptor at Shands Hospital in Gainesville for nursing students as well as caring for high-risk antepartum patients on the Labor and Delivery Unit.
Overview

Lung disease can be debilitating. As physicians, you know that providing treatment options to your patients is important. Until recently, options to improve the quality of life for your patients with lung disease have been limited.

Now, you can consider stem cell therapy for patients with chronic obstructive pulmonary disease (COPD) including emphysema and chronic bronchitis, and interstitial lung disease including pulmonary fibrosis. It is an outpatient, minimally invasive procedure that can be recommended to newly diagnosed patients with lung disease, as well as patients in the final stages of their disease.

What Stem Cell Treatment Options Are Available?

At the Lung Institute, we offer two types of stem cell procedures: an intravenous-only procedure, which utilizes stem cells that have been harvested exclusively via IV, and a hybrid procedure that uses stem cells extracted from the blood as well as stem cells from adipose tissue. The type of procedure recommended to a patient is dependent upon his or her condition and overall health.

Stem cells are harvested from either the peripheral blood or from adipose tissue. There are at least two distinct types of stem cells circulating in the peripheral blood: hematopoietic and mesenchymal stem cells. Both originate in the bone marrow and then released into the bloodstream in small quantities. Mesenchymal stem cells have demonstrated the unique ability to become cells specialized toward many different organs. Although also present in the blood, larger quantities of mesenchymal stem cells can be collected from adipose tissue through mini liposuction. This process is far simpler and less painful compared to bone marrow extraction. Intravenous collection of hematopoietic stem cells is performed at the same time as an adipose procedure in order to return both types of stem cells to the patient.

Lung Institute Procedures Are:

- **Autologous.**
  Both options utilize autologous stem cells, which minimize the risk of rejection. Thus the entire process is safe and easy for the patient.

- **Outpatient.**
  Over the course of 3 days, treatments are performed on an outpatient basis. Typically, each office visit lasts only 2 to 3 hours.

- **Minimally Invasive.**
  Unlike many other stem cell procedures, the Lung Institute’s treatment options are minimally invasive and therefore require minimal downtime.

- **Patient Centric.**
  The patient always comes first. Our patient care coordinators serve as the patient’s guide throughout the entire treatment process.
Stem Cell Treatment Advantages

■ Cytokine and growth factor secretion.
Mesenchymal stem cells (MSCs) have been proven to secrete anti-inflammatory cytokines and growth factors.\(^1\)
These immunosuppressive molecules and various growth factors facilitate tissue repair and maintain immune homeostasis.\(^2\)

■ Pulmonary passage delivery.
Recent data evidence that the majority of administered stem cells and progenitor cells are initially trapped in the lungs, particularly when MSCs are delivered through intravenous infusion.\(^3\)

■ Anti-inflammatory in nature.
The immunoregulatory properties and tissue repairing functions of MSCs are induced by inflammatory cytokines.\(^4\)
Research supports that MSCs migrate to sites of tissue injury within the body presumably due to the local production of inflammatory mediators.

■ Immunomodulatory properties.
One of the undisputed features of MSCs is their ability to produce a variety of trophic and immunomodulatory factors that can directly promote cell survival and reduce inflammation.

Works Cited


Who is the Lung Institute?

The Lung Institute is a leading global provider of innovative regenerative medicine technologies for the treatment of an array of debilitating lung and pulmonary conditions. We are committed to an individualized patient-centric approach, which consistently provides the highest quality of care and produces positive outcomes. By applying modern-day best practices to the growing field of regenerative medicine, the Lung Institute is improving lives.

Why the Lung Institute?

At the Lung Institute, we have harnessed the body’s innate healing capacity to bring relief to those suffering with chronic lung conditions. As a leader in the field of regenerative medicine, we are dedicated to providing our patients with the latest stem cell innovations and the highest quality of care.

Through their designated practices, our physicians have gained worldwide recognition for the successful application of revolutionary, minimally invasive, stem cell therapies. With over a century of combined medical experience, our doctors have designed a protocol with the patient in mind, focused on safety and quality of care.

Taking a new approach to the treatment process, we assign a patient care coordinator to each one of our patients’ individual cases. As a result, our patients feel comfortable and well-served from the moment they contact our office, and throughout the entire treatment process. The patient care coordinator serves the dual function of being each patient’s touch point throughout treatment, and serving as an easily accessible person for our partnering physicians.

Our Medical Staff

James St. Louis, DO
Chief Medical Officer

James St. Louis, DO, chief medical officer at the Lung Institute and founder of the Laser Spine Institute, completed his orthopedic residency in the United States Army. As a distinguished spine surgeon, his quest to develop the latest techniques in minimally invasive procedures has led him to the field of regenerative medicine. Today, Dr. St. Louis is applying his research in stem cell technology and experience to the life-changing treatments performed by the Lung Institute and Regenerative Medicine Solutions.

Burton Feinerman, MD
Medical Director

Burton Feinerman, MD, medical director at the Lung Institute and its parent company, Regenerative Medicine Solutions, earned his medical degree from New York Medical College and completed his fellowship at the renowned Mayo Clinic in Rochester, Minnesota. Dr. Feinerman is internationally recognized as an expert in stem cells and gene therapy. He believes in challenging the incurable with regenerative medicine, and providing a new pathway to overall health and longevity of life.

Jessica Reed, ARNP

Jessica Reed, ARNP, works with the Lung Institute team to provide cutting-edge treatments to patients suffering from pulmonary conditions such as COPD and pulmonary fibrosis. Prior to working at the Lung Institute, Ms. Reed worked at GMS West Coast where she was responsible for adult and geriatric primary patient care, as well as management of office staff. Before GMS, she acted as a preceptor at Shands Hospital in Gainesville for nursing students as well as caring for high-risk antepartum patients on the Labor and Delivery Unit.