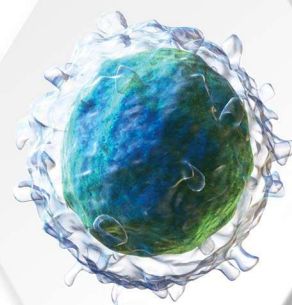


Lung Disorder





Advancells Group believes in the vision of a cure-driven world. Established in 2013 by **Mr. Vipul Jain**, Advancells provides customized protocols for 360° management of diseases and conditions with regenerative medicine as a solution. We believe in promoting stem cell awareness to ensure that patients and caregivers, worldwide, know their role in the regeneration of damaged body tissues for neurodegenerative, musculoskeletal, organ-damage, and aging disorders.

With the **CMO Asia Healthcare Excellence Award** and the **Healthcare and Lifescience Award** (Corporate LiveWire) adorning our achievements, we provide the best medical consultation with value to treatment aesthetics and patient consent. Besides patient-friendly therapeutics, we also aid efficient biomedical research with our customized stem cells and primary cells, as it precedes every clinical translation that can help our future generation.

ORGAN-SPECIFIC DISORDERS FOR REGENERATIVE THERAPY

- LIVER DISORDER
- LUNG DISORDER
- EYE DISORDER
- DIABETES
- KIDNEY DISORDER

WE ARE HERE TO HELP

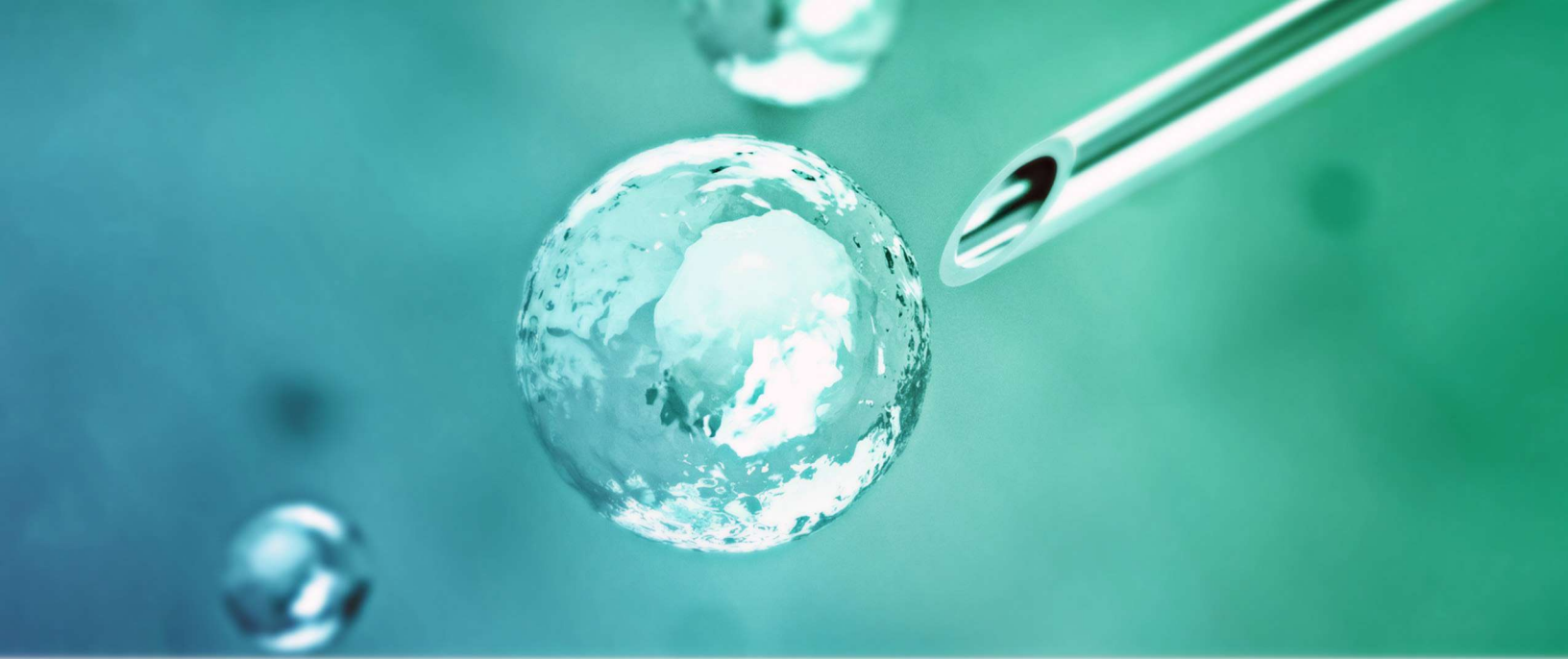
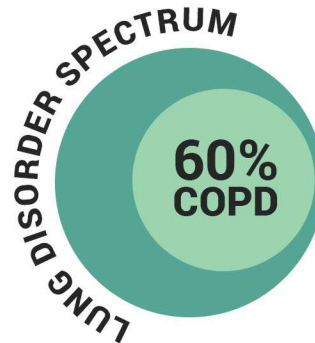
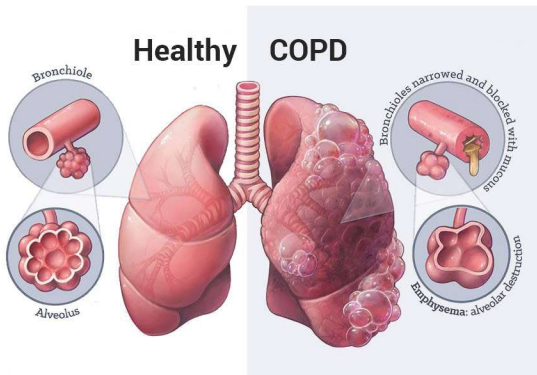


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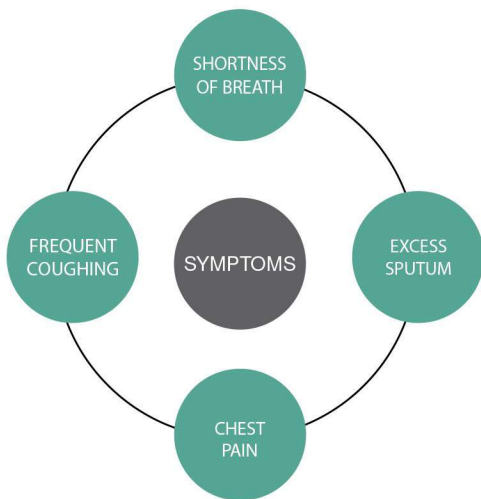
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What is Lung Disorder?

■ Difficulty in Breathing due to Lung Tissue Damage



COPD covers **60%** of the Lung Disorder Spectrum

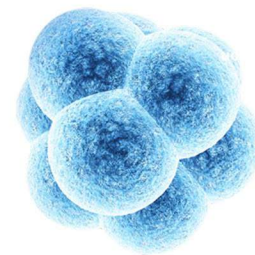


During a normal day, a single person breathes nearly 25,000 times. Lung disorders cause hindrance in breathing and refers to many disorders, such as asthma, Chronic Obstructive Pulmonary Disorder (COPD), infections (like influenza, pneumonia and tuberculosis), lung cancer, and other breathing problems. Lung disorders are one of the most common medical conditions, affecting more than 10 million people all over the world. COPD is characterized by the progressively poor passage of airflow associated with difficulty in breathing, excessive cough and sputum. COPD often leads to respiratory failure.

Due to the recent COVID-19 scenario, doctors are also trying to look out for post-COVID improvement of lung efficiency besides conventional treatment patterns to aid COPD and lung damage complications.

Conventional treatment of long-term drugs, pulmonary lobectomy, thoracostomy, and external breathing support aids, do hinder the progress rate of the disorder but there has been no natural disorder reversal with these treatment regimes. With recent scientific advances and research in stem cell therapeutics, lung disorders may have a new disease-reversal hope in the form of Regenerative Medicine.

Where is the burden increasing the fastest, 1990 to 2020?



Can regenerative medicine help?

STEM CELL *Treatment for* **Lung Disorder**

- Reduced breathing difficulty.
- Reduced fatigue and regulated breathing pattern.
- Improved lung tissue rejuvenation.
- Reduced wheezing or coughing.



Regenerative Medicine

Stem cells have the unique potential to undergo self-renewal as well as differentiate into cells of neuronal origin in the body upon natural stimulation.

What can you expect?

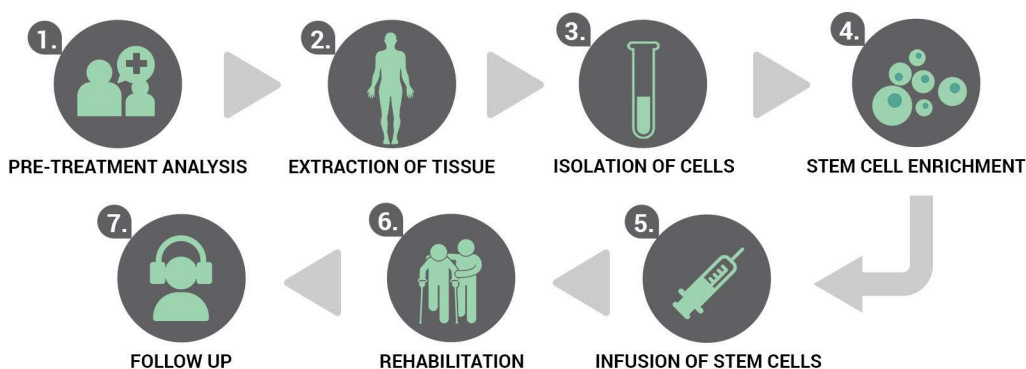
Majority of the COPD patients in initial phase show improved results upon undergoing stem cell therapy with healthy lifestyle choices. Lung disorder patients find it easy to breathe and stem cell therapy also aids lung tissue damage repair. Research with mesenchymal stem cells have also shown lung condition improvement in COVID-19 patients.

Although type and extent of improvement is patient specific, some of the common benefits that you can expect after stem cells treatment for lung disorders are:

- Reduced sputum and coughing.
- Improved breathing and lung damage repair.
- Regulated breathing pattern.
- Reduced dependency on artificial oxygen.
- Reduced respiratory failure risk.
- Improved immunological and inflammatory functions based on pre-treatment and post-treatment marker analysis.

Cell Therapy Management

Establishment of day care procedure.



PRE-TREATMENT procedure

Complete assistance will be given to the patient in all pre treatment procedures such as consultation, hospitalization (If required), Assessment.

■ Eligibility Criteria

Pre-Treatment Assessment

- Routine Blood Test
- Routine Urine Analysis
- Infectious Disease Testing
- Physical Examination
- X-Ray

Pre-Op Procedure

- MRI
- CT Scan
- Neurophysiology
- Medical Neurological Reports
- Medical History

EXTRACTION of tissue sources

Generally the entire procedure takes around 7-8 hrs including 1-2 hrs of source aspiration, 2-3 hrs of stem cell isolation and another 1-2 hrs in injecting cells. The processing of sample is done in a state-of-the-art class 10000 clean room facility wherein we strictly adhere to maintain quality of standards. Wherein the extracted sources undergo minimum manipulation such as been spun in a centrifuge to cull out a stem cells.

TARGETED delivery

Once isolated, intensified and ready for reinstalling back into the body, we work out different mode of implantation: depending upon patient's health condition.

■ Intravenous Administration

Cells will be infused directly into the vein to be able to circulate in the vascular system. This may further help to induce immediate signaling pathways to direct cells to the site of injury.

■ Local Administration

Inhaled nebulization of the stem cells provides a direct approach towards lung tissue rejuvenation and regeneration for treatment of lung disorders.

REHABILITATION

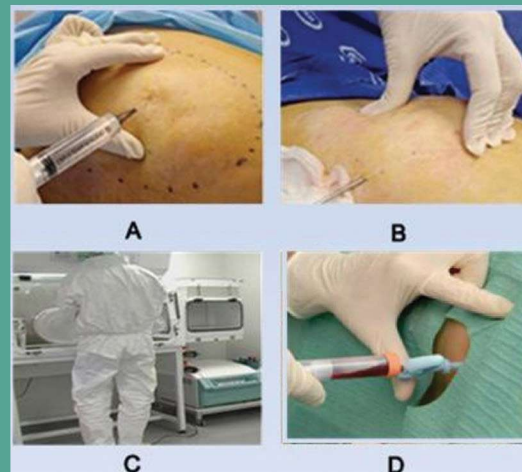
Post treatment care involves multiple reclamation therapies for accelerated recovery. Advancells is recommending range of therapies as discussed later.

Bone Marrow Extraction



- A. Application of local anesthesia.
B. Bone Marrow collection by needle insertion in the hip bone.
C. Isolation of Stem Cells in the clean room.
D. Intra-theal Injection of stem cells.

Adipose Tissue Extraction



- A. Application of tumescent anesthesia.
B. Adipose Tissue collection by lipoaspiration.
C. Isolation of Stem Cells in the clean room.
D. Intra-theal Injection of stem cells.

Why Should YOU choose Advancells?

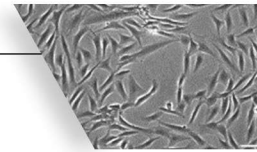
01 AUTOMATED and CLOSED System

At Advancells, stem cell therapy is performed under the supervision of medical experts in a multi speciality hospital and cells are processed in the state-of-the-art GMP compliant laboratory i.e. fully functional with automated equipments.



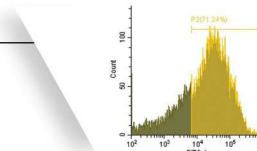
02 HIGH Quality of Cells

At Advancells, we ensure that cells are of best quality; and hence we perform a thorough **Quality Assessment** by experienced scientists. We provide a detailed certificate of analysis to each patient further authenticating the cell quantity and viability.



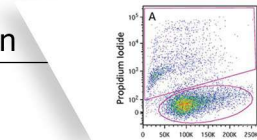
03 Disease-Specific MARKER Analysis

Our clinical research scientists do a thorough disease-specific marker analysis both **pre and post-treatment** to ensure subjective reduced expression levels of the same, thus showing evidence based assesment of improvement in each case.



04 HIGH Concentration Enriched with MULTIPLE Cell Population

The treatment procedure is performed using a high concentration of viable cells with multiple cell population, created from a very small portion of the tissue.



05 SAFE Treatment Procedure

The procedure is completely safe and has not detected any adverse events throughout the globe.



06 PATIENT SATISFACTION Assurance

Our medical team assures you treatment aesthetics and formal consent for your stem cell therapy. We prioritize patient follow-ups to ensure that your health improvements ascend with our therapeutic solutions.



07 Globally Recognized HEALTHCARE

Advancells Regenerative Medicine solutions have been globally recognized with the CMO Asia Healthcare Award for the Best Product Innovation and Quality Initiative. We were also privileged to host His Royal Highness, the king of Kuwait, for regenerative therapy during his 2017 visit.



Special services for International Patient

- Assistance in Visa and planning travel itinerary.
- Assistance in getting comfortable accommodation in nearby location.
- Travel Assistance for sight seeing.
- Assisting with your interpretation services.
- Assisting with multiple payment options.
- Expedite arrival with fast track registration.



Each Case is Special For Us,

Therefore Every Cell has to pass through a Stringent Quality Control Parameter.

■ Clinical Definition of Stem Cells

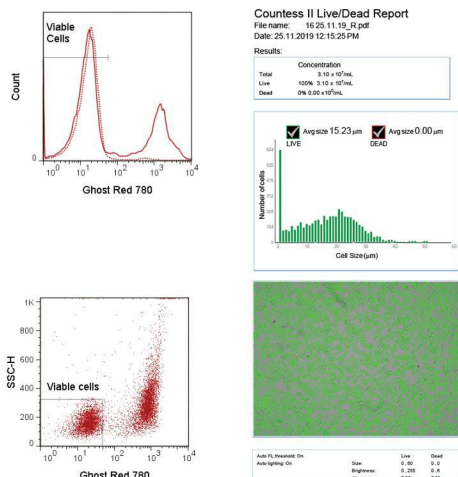
- Stem Cells are the mother cells of our body.
- They can divide unlimited times.
- Can differentiate into any cell type.
- Can be exploited to treat diseased condition.

At Advancells, we provide a high concentration of viable stem cells with enhanced differentiation potential for our treatment procedure. The patient derived stem cells are checked for mycoplasma and endotoxin contamination after isolation from the patient's body.

The stem cell suspension are checked for both gram-positive and gram-negative bacterial load during procedure for preventing any bacterial infection upon re-injecting them to the patient's body.

1.

Characteristics of Stem Cells



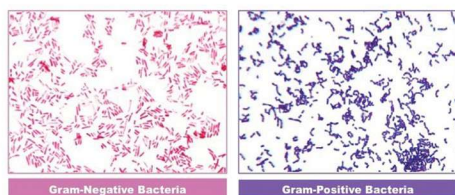
2.

Mycoplasma Detection



3.

Detection of bacterial containment



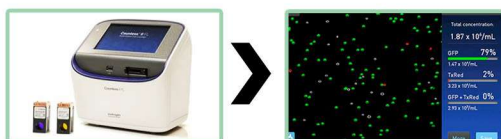
4.

Endotoxin Analysis



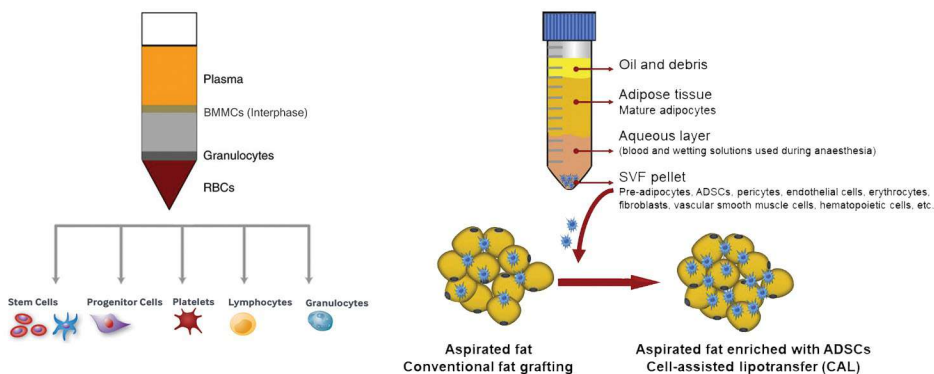
5.

Viable Cell Count & Analysis through Automated cell counter



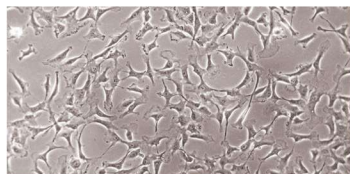
Analysis report		
Viable cell count at the time of dispatch: x *x ⁵ cells		
Mycoplasma : Negative	Endotoxin : Negative (Qualitative Test > 0.2EU/ml)	
Marker Analysis (Reference Document No: 0024GI001552):		
Markers Detected	Interpretation	Percentage
xx	Positive/ Negative	xx%
xx	Positive/ Negative	xx%
xx	Positive/ Negative	xx%

Technology Calling..



Bone Marrow derived mononuclear cells

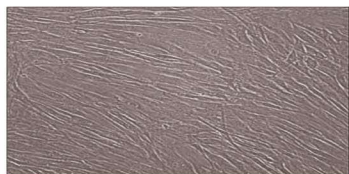
Neutrophil	72.3%
Eosinophil	1.8%
Lymphocyte	12.1%
Monocyte	2.8%
Nucleated Erythrocyte	8.9%
Blast Cells	1.6%



Bone Marrow Stem Cells promote vasculogenesis and differentiation to enhance blood circulation.

Stromal Vascular Fraction

Endothelial Cells	25%
Myeloid Cells	22%
Monocyte	20%
cKit ⁺ Progenitor Cells	5%
CXCR4 ⁺ Multipotent Cells	2.5%
PDGFR- β ⁺ Perivascular Cells	20%



Pre-Adipocytes are known to produce cells of neuronal origin and regularise inflammatory immune responses.

★ Wide Range of other cell types such as Mesenchymal Stem Cell are available for therapeutic operations.

Stem Cell Therapy Success Rate

Symptoms	Percentage Improvement
Social Interaction	67.30
Eye Contact	81.06
Attention/ Concentration	83.41
Stereotypical behaviour	54.30
Aggressiveness	59.04
Hyperactivity	66.49
Self-Injurious Behaviour	61.33
Sitting Tolerance	87.93
Command Following	85.43
Speech	60.48
Communication	61.27
ISAA	94.23
CARS	95.67

FACILITY & EXPERTISE



Rehab is *important*

- Oxygen therapy.
- Inspiratory muscle training.
- Neuromuscular electrical stimulation.
- Nutritional evaluation and counseling.
- Psychosocial counseling.

How should I choose a good center for stem cell therapy?

The following criteria should be kept in mind:

- A center with all types of regulatory compliance & certifications.
- Specialized in offering safe & viable stem cells which is further certified through CoA.
- A centre with good technical expertise & good infrastructure.



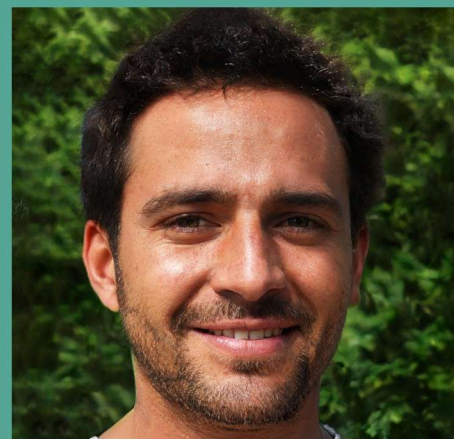
People suffering from lung disorders require long-term medical, lifestyle, and breathing aids management. Besides seeking treatment from experienced medical personnel, the multi-modal treatment array might include a variety of therapies to improve and accelerate the positive benefits of regenerative therapy. Regenerative rehabilitation can help patients by:

- Reducing stress and anxiety
- Reducing breathing-related issues.
- Improving lung conditions.
- Improving coughing and sputum issues.

Let's Hear it from the Patients..

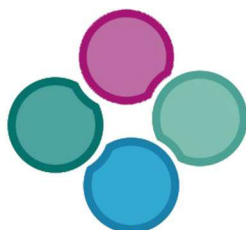
■ MR. MUNSHYA NDYAMBA, 44 YRS

Munshya Ndyamba, from South Africa, had been suffering from COPD and sleep apnea almost his entire life. Doing any kind of physically strenuous work was a challenge for Mr. Ndyamba and with time his dependency on artificial oxygen grew to almost 16+ hours a day. Mr. Ndyamba and his wife did their searching and zeroed in on Advancells to get Stem Cell therapy. The doctors decided to use Cord Tissue derived Allogeneic Mesenchymal Stem Cells for his therapy. The procedure was completed in one day and went without any adverse effects for the patient. In his one-month follow-up, Mr. Ndyamba witnessed reduction in artificial oxygen use from his previous 16+ hours a day to only using oxygen during sleep. Post-stem cell therapy, Mr. Ndyamba has also seen good improvements in his breathing with suggested rehabilitation exercises.



Certifications





Advancells

G R O U P

Shaping the Future



advancells
THE POWER TO CURE



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