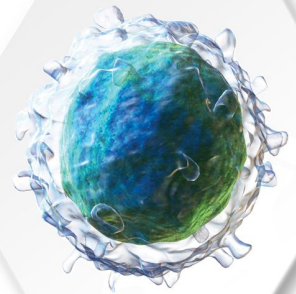




**Advancells**  
GROUP  
Shaping the Future

# ALS/MND

Amyotrophic Lateral Sclerosis/  
Motor Neuron Disease





Advancells Group believes in the almost limitless potential of stem cells in managing life threatening diseases. Advancells provides customized protocols for 360° management of diseases and conditions with a regenerative medicine 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, musculo-skeletal, 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.

## NEURODISORDERS FOR REGENERATIVE THERAPY

- ALZHEIMER
- PARKINSON
- AUTISM
- **ALS**
- MULTIPLE SCLEROSIS
- STROKE
- MUSCULAR DYSTROPHY
- CEREBRAL PALSY

# WE ARE HERE TO HELP





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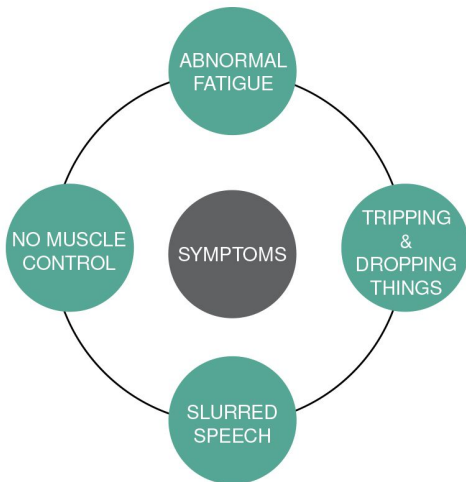
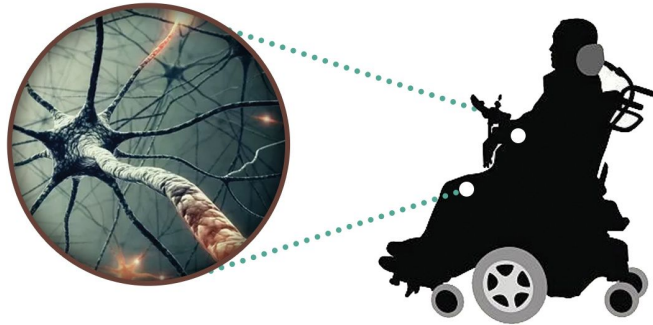
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# What is ALS?

■ Neurodegenerative disorder with decreased motor response.

40 **55** 70  
AVERAGE AGE

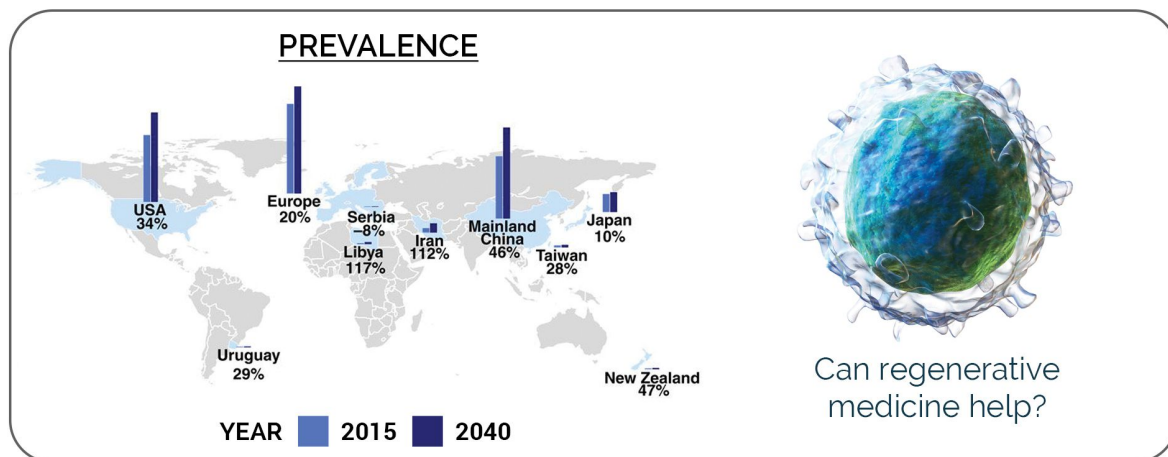
ALS is a progressive neurodegenerative disorder with an average prevalent age of 55 years



Amyotrophic Lateral Sclerosis is a motor neuron disorder characterized with progressive degeneration of the nerve cells responsible for controlling muscle movements involved with walking, talking, breathing, and chewing.

ALS risk factors mainly include age, environmental toxicity and genetic problems. With an estimated 2.5% rise in global prevalence by the end of 2025, researchers have been quite aggressive in exploring various plausible therapeutic alternatives for ALS.

Although the underlying cause of degeneration is yet to be analyzed in depth, current treatment regime relies on physiotherapy and medications to prevent further motor neuron damage. With recent scientific advances and research in stem cell therapeutics, ALS has a new hope in the form of Regenerative Medicine.



\* As per the new figures disclosed by 2016



# STEM CELL Treatment *for* ALS

- Reduced muscle weakness and twitches.
- Improved motor skills and cognitive abilities.
- Improved speech control.
- Improved breathing and swallowing.
- Reduced Spasticity.
- Better Psycho-physical strength and stamina.

## 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.



### What can you expect?

Being swift in its progression, ALS is definitely a fatal neurodegenerative disorder. Stem cell therapy is a contemporary technology that can be exploited to improve disease status by delaying the chronic progression of ALS.

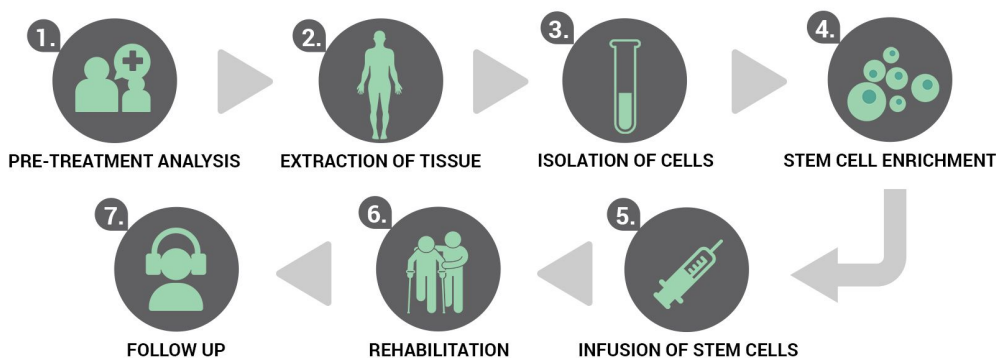
Majority of the patients treated by us have reported a good control over physical abilities and movements. Further to which, our data suggests that post stem cell therapy, people experience **less fatigue, improved cognition and reduced risk of paralysis.**

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

- Enhanced muscle movements that ease daily activities like walking & climbing.
- Muscle fatigue and twitches are reduced, thus ensuring a comparatively active lifestyle.
- Improved independent response to stimuli and interaction.
- Improved control over expression and communication for social well being.

# 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 pull 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.

### ■ Intra-thecal Administration

Intrathecal administration is the infusion of stem cells via injection into the spinal canal, most popularly known as **Lumbar Puncture**.

### ■ Intra-muscular Administration

Intra muscular injection is infusion of stem cells directly into the muscles. Clinical results have further indicated that a combination of intramuscular injections with more than one infusion protocol is much more beneficial in promoting the regeneration and functional recovery of musculoskeletal environment.

## REHABILITATION

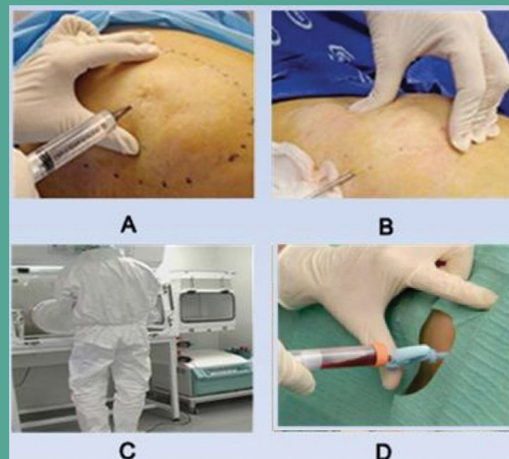
Post treatment care involves multiple reclamation therapies for accelerated recovery. Advancells is recommending range of therapies as discussed later.

## 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-thecal 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-thecal Injection of stem cells.



# Why Should YOU choose Advancells?

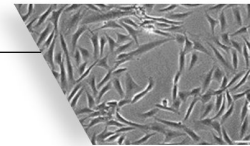
## 01 AUTOMATED and CLOSED System

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.



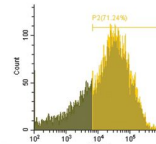
## 02 HIGH Quality of Cells

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.



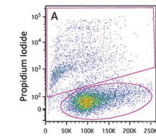
## 03 Disease-Specific MARKER Analysis

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. Reports are shared to confirm physiological improvement.



## 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

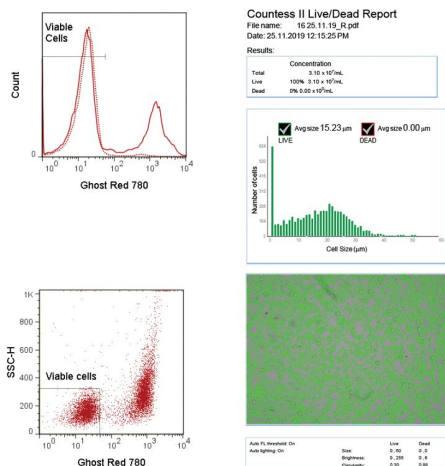
- Stem Cells are the mother cells of our body.
- They can divide unlimited times.
- Can differentiate into any cell type.
- Can be exploited to treat diseased condition.

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



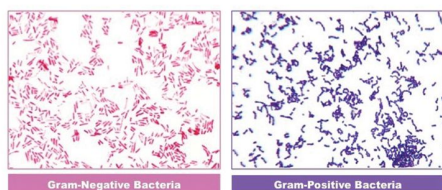
### 2.

#### Mycoplasma Detection



### 3.

#### Detection of bacterial containment



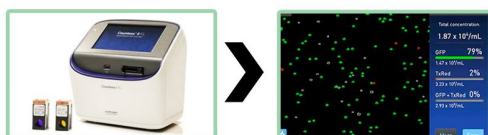
### 4.

#### Endotoxin Analysis



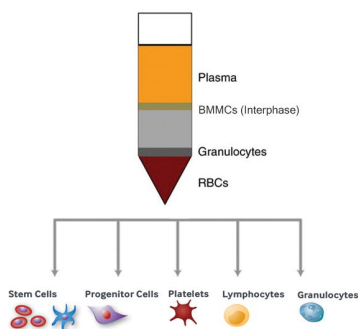
### 5.

#### Viable Cell Count & Analysis through Automated cell counter



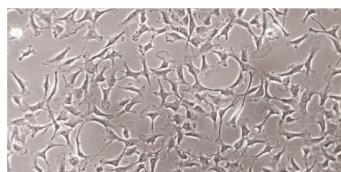
Analysis report		
Viable cell count at the time of dispatch: x * x <sup>x</sup> cells		
Mycoplasma : Negative	Endotoxin : Negative (Qualitative Test > 0.2EU/ml)	
Marker Analysis (Reference Document No: 0024GI001552):		
Markers Detected	Interpretation	Percentage
xx	Positive/ Negative	xx%
xx	Positive/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



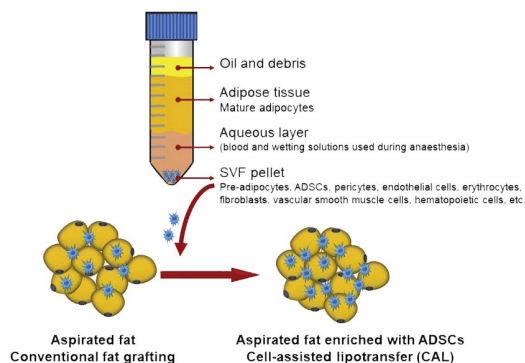
Bone Marrow Stem Cells promote vasculogenesis and differentiation to enhance blood circulation.

★ A wide range of cell types including Mesenchymal Stem Cells can be isolated from various niches depending upon requirements and can be used for effective clinical outcomes. (Source: PubMed.gov)

The cells are extracted from other allogenic sources like umbilical cord Wharton's Jelly are further subjected to rigorous quality control processes; moreover, these cells display HLA-G receptors and hence do not cause any immunological reactions.

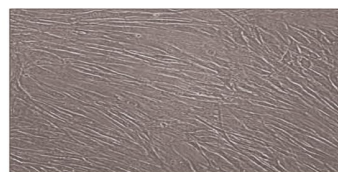
## Stem Cell Therapy Success Rate

SYMPTOMS	IMPROVEMENT
Delayed progression	60-70%
Increased muscle power	30-40%
Stable psychological indices	60-70%
Increased muscle mass	40-50%
Improved stamina	50-60%
Reduced episodes of dementia	60-70%



## Stromal Vascular Fraction

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



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

## FACILITY & EXPERTISE





# Rehab is *important*

- Physiotherapy
- Speech Therapy
- Occupational Therapy
- Detection of muscular strength and motor abilities
- Vestibular/Balance Therapy
- Recreational Therapy
- Breathing Therapy/Yoga
- Aquatic Yoga/Aquatic Aerobics
- Hyperbaric Oxygen Therapy

## *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.



Due to limited strength and sensitivity in muscles, a person suffering from ALS can hardly perform daily involuntary as well as voluntary activities like eating, walking, breathing and independently responding to stimuli. Besides medical counselling and hyperbaric oxygen therapy, Physiotherapy and exercises can be a beneficial part of our approach to help people enhance their muscle movement abilities and reduce muscle weakness gradually. Further to which, support should be provided for maintaining proper nutrition in order to help them achieve their daily targets of proteins, carbs, as well as fats, despite having issues in swallowing and chewing.

- Improve postural control to increase stability during physical activities.
- Improve motor control for muscle movement.
- Improve muscle strength and holding abilities.
- Improve breathing and eating activities.
- Suggest optimum dietary intake for ensuring proper nutrition.



## Let's Hear it from the Patients...

### ■MR.SUDHEENDRA HOLA, 34 YEARS, MND

Mr. Hola opted for regenerative medicine therapy for his ALS condition in 2017 at Advancells and post-treatment, he underwent physiotherapy for 3-days before returning back to his home. Further follow-up confirmed improve in his movement abilities significantly.

### ■MR. REHMAN, 60 YEARS, ALS

Mr. Rehman from Norway was diagnosed with ALS three years before treatment in Advancells and his son Shahid approached us for regenerative therapy. After treatment, he confirmed that their family was very happy with the overall experience and information provided. Follow-up was done at six-month intervals.

### ■MRS. ASTRID RABELL, 47 YEARS, ALS, POST-TREATMENT

During Follow up, Mrs. Rabell gushed with joy, "It is 3 months since my treatment and I have been busy taking therapies and resting. A sharp decline of my health has stopped and my caregivers have commented positive on my new stability."

### ■MR. FIDA MOHAMMAD, 63 YEARS, ALS

As per Mr. Mohammad's nephew, some improvement was seen from 4th day of treatment at advancells, when he had started to express himself in a better way then earlier. The final results were known in 4-6 months time and significant benefit was seen from the therapy.



## Certifications





# Advancells

## G R O U P

Shaping the Future




A-102, Sector 5, Noida, India - 201301

+91-96543 21400 +91 120 425 0694

info@advancells.com

 [www.advancells.com](http://www.advancells.com)

 [www.advancellsgroup.com](http://www.advancellsgroup.com)

 +91-96543 21400

 +91-96543 21400

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