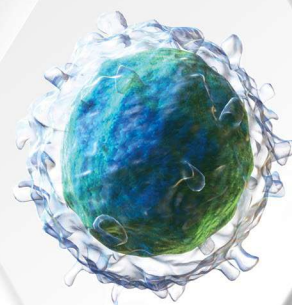


# Spinal Cord Injury



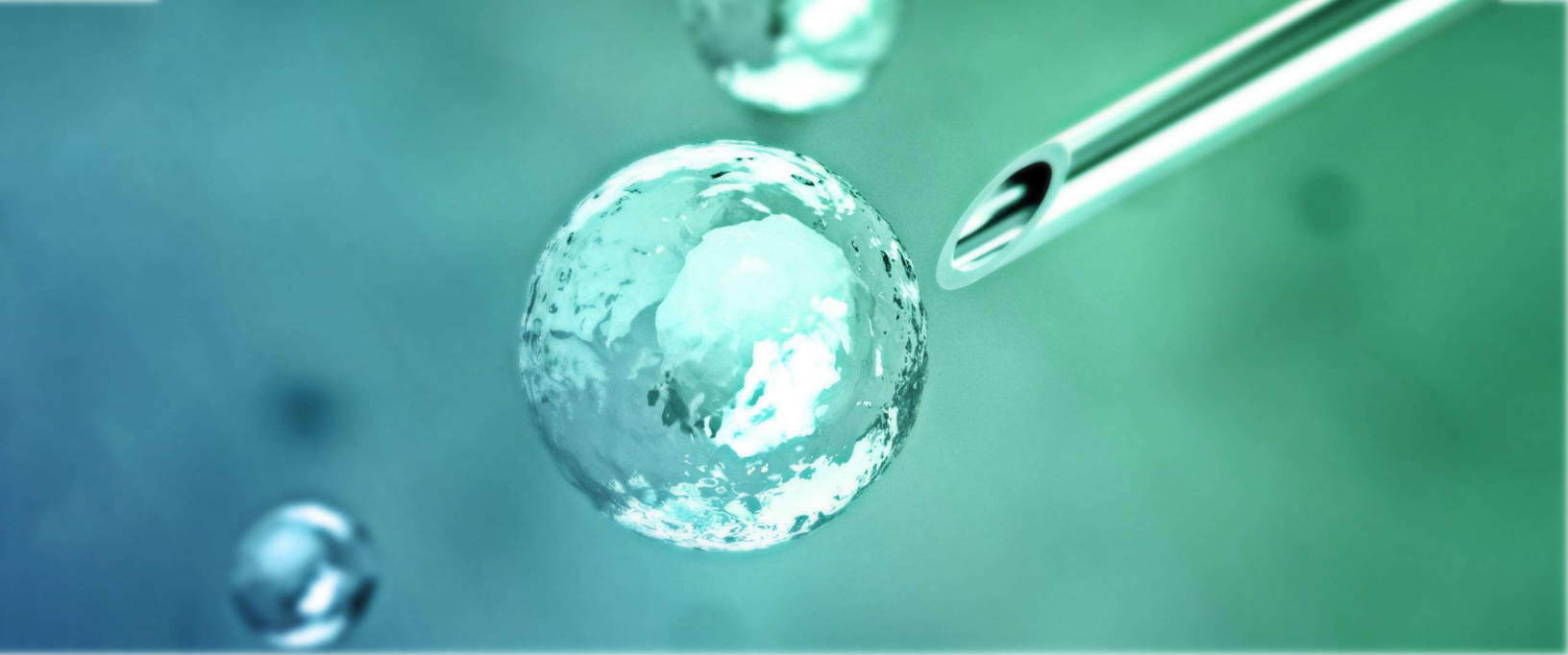


Advancells Group believes in the vision of a disease-free world and we strive towards it with our ever positive passion. Regenerative therapies have not yet jumped into the wagon of 'popular' therapeutic practices owing to the lack of awareness and promotion. We have taken up a mission to ensure that patients and caregivers worldwide know about stem cells and how they work towards the regeneration of body tissues to understand their potential for cure.

At Advancells, we value treatment aesthetics and patient consent above everything else. Helping people worldwide has always been our primary concern and besides patient-friendly therapeutics, we also aim to aid efficient biomedical research as it precedes every clinical translation that can help our future generation live a healthy and sustainable life.

We strive hard to deliver the future of medicine to our patients, collaborators, partners & customers spread across the world, and help them in achieving a healthy living for their sustainable future.

# WE ARE HERE TO HELP



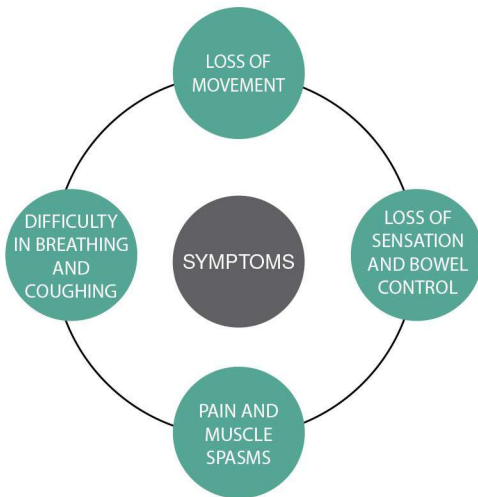
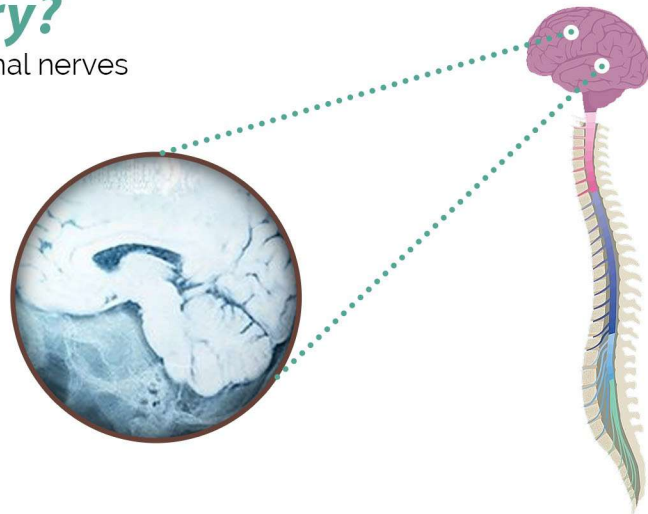
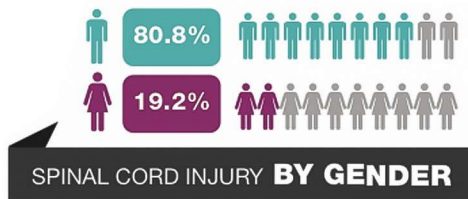
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# What is Spinal Cord Injury?

■ Damage to parts of spinal cord or spinal canal nerves

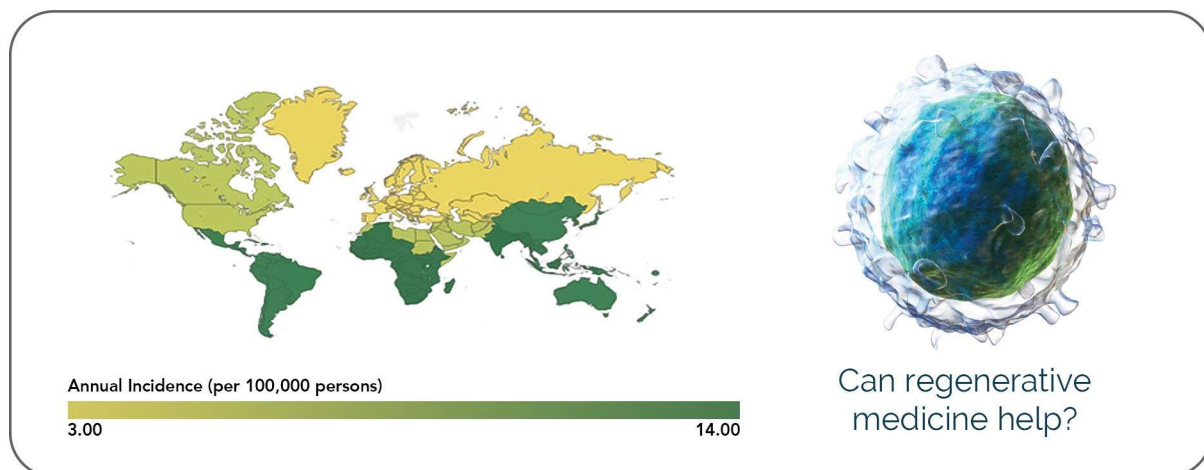


A spinal cord injury can be described as the damage to any part of the spinal cord or nerves at the end of the spinal canal, often causing permanent changes in strength, sensation and other body functions below the site of the injury.

Spinal cord injuries may be traumatic or non-traumatic. A traumatic spinal cord injury may stem from a sudden, traumatic blow to your spine that fractures, dislocates, crushes or compresses one or more of your vertebrae. A non-traumatic spinal cord injury may be caused by arthritis, cancer, inflammation, infections or disk degeneration of the spine.

Globally, around 250000 to 500000 people suffer a spinal cord injury every year. Therefore, more therapeutic research is urgently required to reduce this number significantly.

Although there is no specific medication for the spinal cord injury conditions, the treatment regime is multimodal and often involves surgery, rehabilitation therapy and prescribed drugs without any hope of damage reversal. With recent scientific advances and research in stem cell therapeutics, spinal cord injury may have a new damage reversal hope in the form of Regenerative Medicine.



# **STEM CELL** *Treatment for* **Spinal Cord Injury**

- Reduced pain and muscle spasms.
- Reduced fatigue and weakness.
- Improved muscle strength and coordination.
- Reduced signs of paralysis.
- Improved balance and posture.

## **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 patients treated by us have shown better posture and coordination without side effects. Patients suffering from paralysis after spinal cord injury have seen improvements in their numb body parts and witnessed better muscle strength. Spinal cord injury patients have also experienced reduced body pain and muscle spasms, leading to a better living.

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

- Improved muscle strength and mobility with better stability.
- Improved body posture, gait, and cognitive abilities.
- Reduced fatigue, weakness and paralysis signs.
- Reduced pain, muscle spasms and stiffness.



# 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.



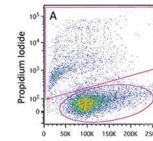
## 02 SAFE Treatment Procedure

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



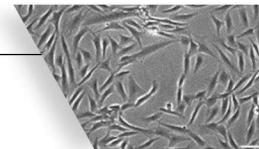
## 03 HIGH Concentration Enriched with MULTIPLE Cell Population

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.



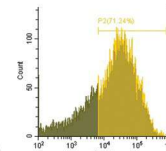
## 04 HIGH Quality of Cells

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.



## 05 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.

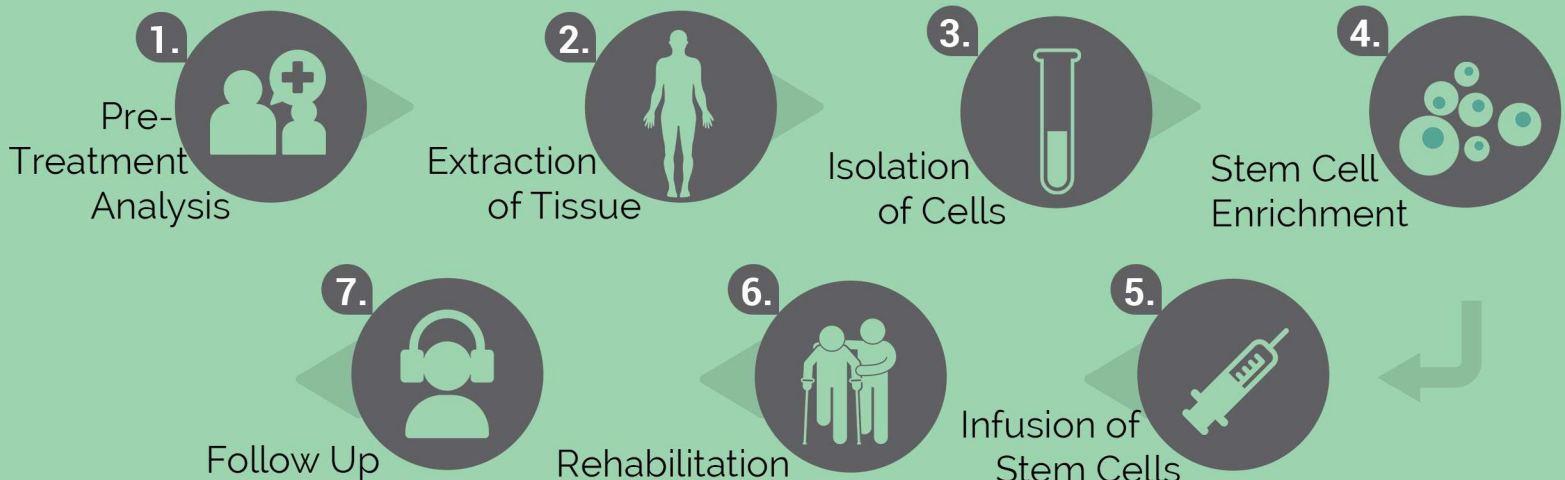


## Easy Process

Establishment of day care procedure

Once you are enrolled with us for the treatment, we will intimate you regarding the date and time of the treatment. The entire treatment plan will be divided into seven parts:

■ The Whole Process is as simple as **1,2,3,4...**



# Cell Therapy Management

## 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

#### Pre-Op Procedure

- 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

### ■ Intra-theal Administration

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

## REHABILITATION

Post treatment care involves reclamation therapies such as Physiotherapy, Occupational Therapy, Patient Counselling etc. for accelerated recovery. The follow up schedule will be provided at the time of discharge.

## Special services for International Patient

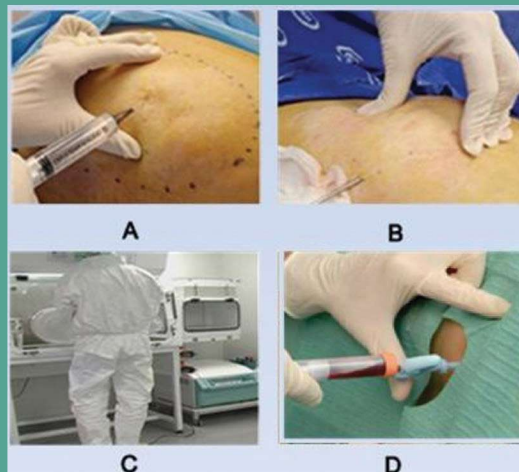
- Assistance in Visa and planning travel itinerary.
- Assistance in getting comfortable Accommodation in nearby location.
- Travel Assistance for sight seeing.
- Assisting with your interpretation services.
- Assisting with multiple payment options.
- Expedite arrival with fast track registration.

## 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.



# Each Case is Special For Us,

Therefore every cell has to pass through a stringent quality control parameter.

## ■ Clinical Definition of Stem Cells

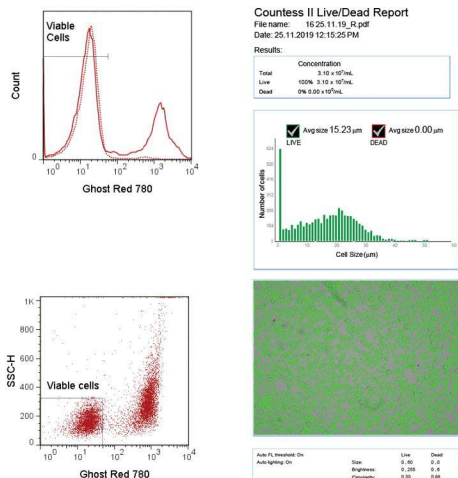
- Stem Cells are the mother cells of our body.
- They can divide unlimited times.
- Can differentiate into any cell type.
- Can be exploited to treat diseased condition.

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



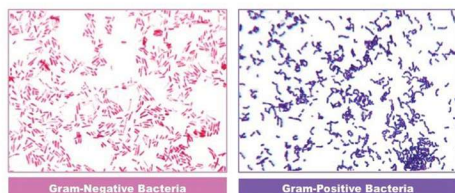
### 2.

#### Mycoplasma Detection



### 3.

#### Detection of bacterial containment



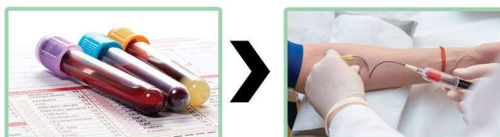
### 4.

#### Endotoxin Analysis



### 5.

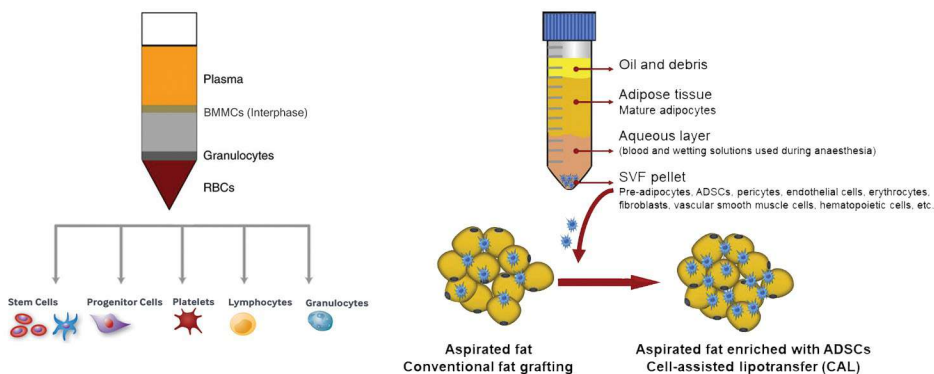
#### Viable Cell Count & Analysis



Analysis report		
Viable cell count at the time of dispatch: x *x <sup>a</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%

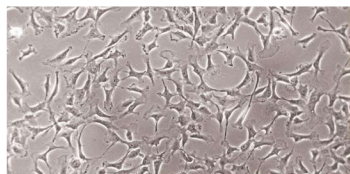


## Technology Calling..



### Bone Marrow derived mononuclear cells

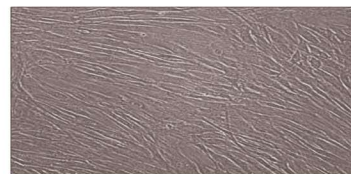
Neutrophil	72.3%
Eosinophil	1.8%
Lymphocyte	12.1%
Monocyte	2.8%
Nucleated Erythrocyte	8.9%
Blast Cells	1.6%



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

### 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.

## Stem Cell Therapy Success Rate

Symptoms	Percentage Improvement
Social Interaction	67.3
Eye Contact	81.06
Attention/ Concentration	83.41
Stereotypical behaviour	54.3
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



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

### ■MR. KAMILJON HALBAYEN, 27 YRS

A car accident left Mr. Halbayen injured and paralyzed below his chest. With physiotherapy and acupuncture therapies, Mr. Halbayen was able to stand up and walk with the help of other people or walking aids. After utilizing the benefits of stem cell therapy, Mr. Halbayen felt improved senses in his limbs with fewer spasms and reported that he could walk with just his crutches without any walking frame.



### ■MR. MOHAMMED HASAN, 23 YRS

Being diagnosed with spinal cord injury after an accident, Mr. Hasan had a difficult health condition all the time. With stem cell therapy, he witnessed improvements in muscle mass, muscle strength, walking, posture, and a slight reduction in his spinal cord curvature. With the second stem cell treatment alongside rehabilitation therapies, Mr. Hasan reported enhanced betterment in his posture, muscular structure and mental health.



### ■MR. MOHAMMED QADIR, 67 YRS

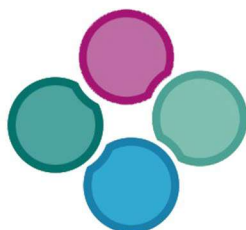
After a terrible accident leading to tetraplegia, Mr. Qadir was paralyzed. Four years later, his family decided to take up stem cell therapy for his conditions and after two years of treatment with physiotherapy and other rehabilitation therapies, Mr. Qadir started witnessing fewer spasms and improved mobility of limbs. His improvements raised better hopes for his family to take up another session of stem cell treatment for further improvements in his condition.



## Certifications







# Advancells

## G R O U P

Shaping the Future



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THE POWER TO CURE



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