

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

”RELIEVING PAIN, RESTORING FUNCTION, RENEWING HOPE”

# ACUPUNCTURE, LASER ACUPUNCTURE & BIO ACUPUNCTURE AS REGENERATIVE MODALITIES

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# Disclosures

- ▶ President Society for Interventional Pain Medicine (SIPM) Pakistan
- ▶ President Society for Regenerative Medicine (SRM) Pakistan
- ▶ CEO Iffat Anwar Medical Complex Lahore Pakistan
- ▶ HOD Department of Pain & Regenerative Medicine Azra Naheed Medical College/Superior University Lahore Pakistan
  
- ▶ No financial disclosures

# Objectives:

- ▶ An overview of acupuncture, laser acupuncture & bio-acupuncture. How to incorporate its principles with modern medicine in treatment of neuro-developmental and neuro-degenerative diseases (Autism, CP, Parkinson's Disease, Dementia).
- ▶ An overview of Regenerative Medicine. How to treat different neuro-developmental and neuro-degenerative diseases (Autism, CP, Parkinson's Disease, Dementia) with regenerative modalities (PRP & Autologous Stem Cell Therapies).
- ▶ Review of literature related to safety and efficacy of acupuncture, laser acupuncture, bio-acupuncture, PRP and stem cell therapy.

# OUR CP RESEARCH

# Total Number of Children Treated

In all 500 C.P. children with different types and etiology were treated.

- Children with Spasticity & Stiffness: 342
- Children with Epilepsy: 252
- Children with Cortical blindness: 96
- Children with Hearing difficulties: 210
- Children with Speech Disorders: 380
- Children with Hemiplegia: 192
- Children with Quadriplegia: 152
- Children with Paraplegia: 116

- ▶ **Male: female sex ratio:**
- ▶ Baby boys: 288
- ▶ Baby girls: 212
- ▶ Male: female sex ratio was **1.36:1**

# Age Distribution

<b>Age</b>	<b>No. of children</b>
Less than 1 yr.	144
1 to 2 yrs.	216
2 to 3 yrs.	90
3 yrs or above.	50

- ▶ The response of every child was recorded on every visit to the center and physical measurements were done at 6 weeks interval. Photograph of each child with physical dysfunction were taken before, during and after treatment.
- ▶ In addition to the treatment at the center their parents were taught the reflex massage which they performed twice daily at home.

# Results

- ▶ **Response of C.P Childern with Spasticity & Stiffness:**  
Out of 342 C.P. childern with spasticity and stiffness 294 showed marked improvements as both stiffness and spasticity improved. This accounts for 87% success rate.
- ▶ **Response of C.P Childern with Epilepsy:**  
Out of 252 C.P. childern with epilepsy 182 showed marked improvements as both the frequency and intensity of epileptic fits decreased. This accounts for 72% success rate.
- ▶ **Response of C.P Childern with Cortical Blindness:**  
Out of 96 C.P. childern with cortical blindness vision of 60 childern improved showing 63% success rate.

- **Response of C.P Childern with Hearing Difficulties:**  
Out of 210 C.P. childern with hearing impairment 126 showed marked improvements as frequency & intensity of fits decreased. This accounts for 60% improvement rate.
- **Response of C.P Childern with Speech Disorder:**  
Out of 380 C.P. childern with speech disorder 244 childern improved showing 64 % improvement rate.
- **Response of C.P Childern with Hemiplegia:**  
Out of 192 C.P. childern with hemiplegia 142 childern improved showing 74 % improvement rate.
- **Response of C.P Childern with Quadriplegia:**  
Out of 152 C.P. childern with quadriplegia 104 childern improved showing 69 % improvement rate.
- **Response of C.P Childern with Paraplegia:**  
Out of 116 C.P. childern with paraplegia 88 childern improved showing 76 % improvement rate.

# Possible Side Effects

- ▶ Generally we did not experience any adverse effects of ACULASER Therapy like aggravation of epileptic fits or increase in spasticity & rigidity.
- ▶ Few minor temporary complications occurred in C.P. children getting ACULASER Therapy.

- ▶ **These temporary complications are:**

1. **Hyperactivity and Restlessness:**
2. **Disturbed Sleep:**
3. **Irritability:**

All of these complications were probably related with increased cerebral blood flow. These complications settled in 3 weeks time.

# Discussion

- ▶ The ideal time for this treatment is before 1 year when brain's growth is at maximum (*weight of the brain of a new born baby is 250 grams and it grows to 1000 grams at 1 year and then till the age of 7 years it reaches around 1300 – 1400 grams maximum*).
- ▶ Children who are between 1- 3 years old also show good response.
- ▶ Response is slow in children who are older than 7 years.

# Conclusion

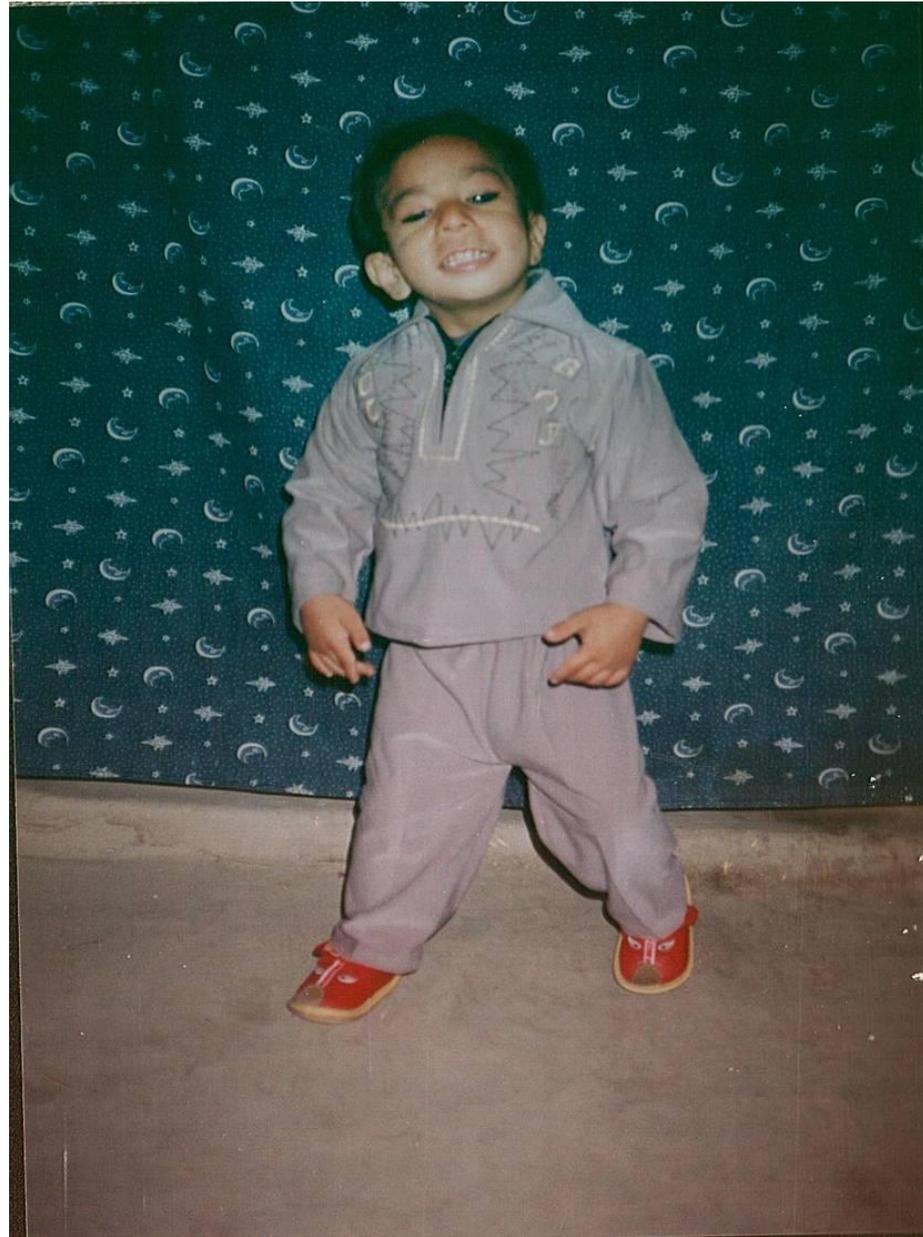
- ▶ This study concludes that ACULASER Therapy is effective for the treatment of CP.
- ▶ ACULASER Therapy not only addresses and improves the physical aspect in CP children but also the mental and cognitive aspects.
- ▶ CP children with various associated disorders like epilepsy, cortical blindness, spasticity, deafness and speech disorders show quick and significant improvement when treated with ACULASER Therapy.

- ▶ ***We strongly recommend that further large controlled studies should be conducted and ACULASER Therapy should be adopted as a treatment option for CP along with other modalities.***

# *Photo Evidence*















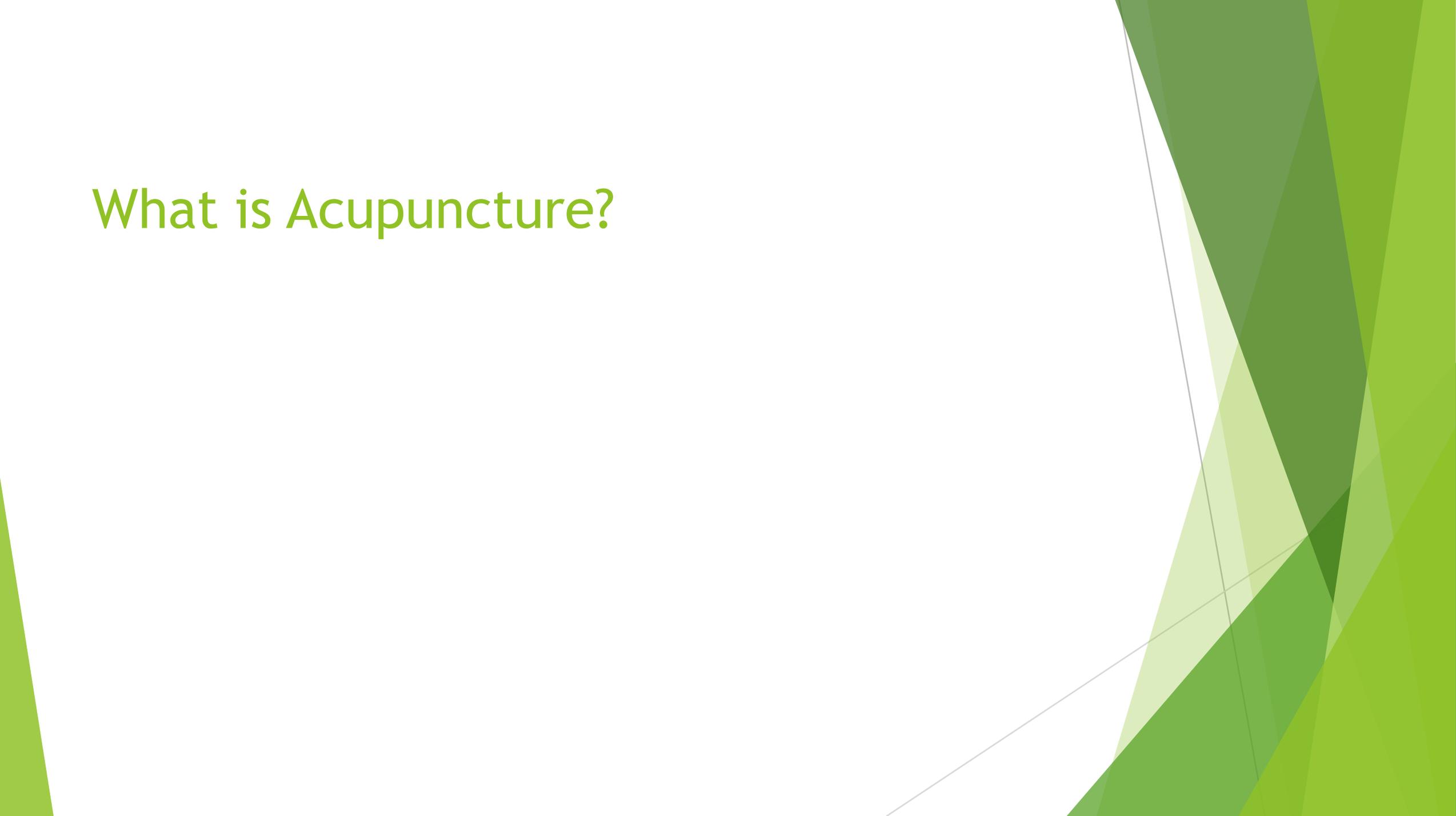








# What is Acupuncture?

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# Acupuncture?



Acupuncture is the insertion of needles in specific points on the body



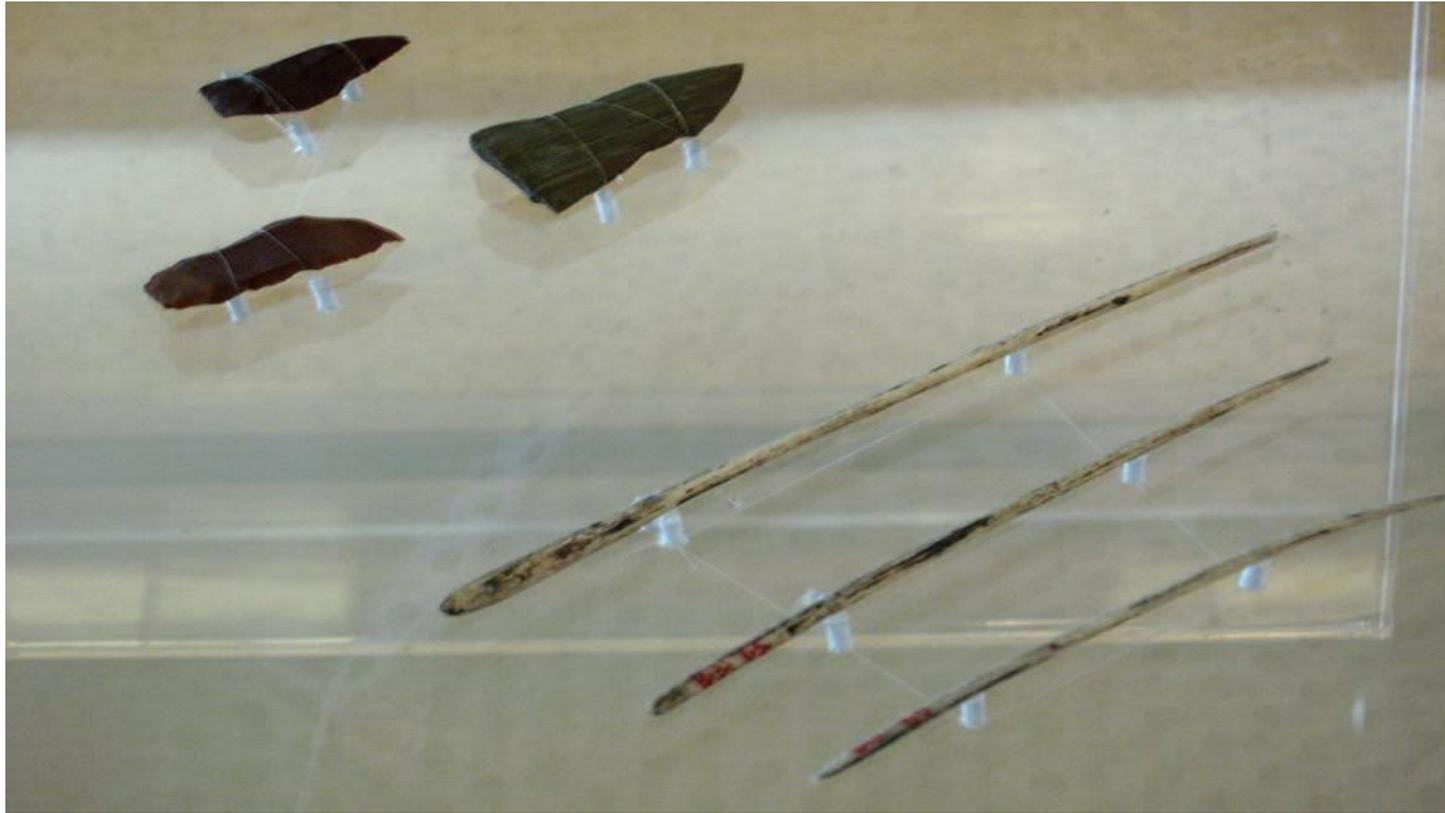
These insertion points are believed to correspond with 14 main pathways within the body called meridians

# History of Acupuncture

- ▶ Practiced in China for over 4,000 years
- ▶ Traditional Chinese medical technique for unblocking chi and treating acute & chronic diseases



# Stone age bone needles



# Modern Clean Needles

- ▶ Today, all acupuncturists are certified in Clean Needle Technique
- ▶ Needles are stainless steel, single use, solid, disposable, and of various gauges and sizes.

# Modern Needles



# Modern Use

- ▶ TCM - a systemized version of the many theories of Chinese Medicine since Cultural Revolution in China
- ▶ The West “discovered” acupuncture July 1971 when James Reston, Press secretary for Richard Nixon fell ill and needed an emergency appendectomy.

## Now, About My Operation in Peking

By JAMES RESTON Special to The New York Times

*New York Times* (1857-Current file); Jul 26, 1971; ProQuest Historical Newspapers The New York Times (1851 - 200  
pg. 1

# *Now, About My Operation in Peking*

By JAMES RESTON

Special to The New York Times

PEKING, July 25—There is something a little absurd about a man publishing an obituary notice on his own appendix, but for the last 10 days this correspondent has had a chance to learn a little about the professional and political direction of a major Chinese hospital from the inside, and this is a report on how I got there and what I found.

In brief summary, the facts are that with the assistance of 11 of the leading medical specialists in Peking, who were asked by Premier Chou En-lai to cooperate on the case, Prof. Wu Wei-jan of the Anti-Imperialist Hospital's surgical staff removed my appendix on July 17 after a normal injection of Xylocain

and Benzocain, which anesthetized the middle of my body.

There were no complications, nausea or vomiting. I was conscious throughout, followed the instructions of Professor Wu as translated to me by Ma Yu-chen of the Chinese Foreign Ministry during the operation, and was back in my bedroom in the hospital in two and a half hours.

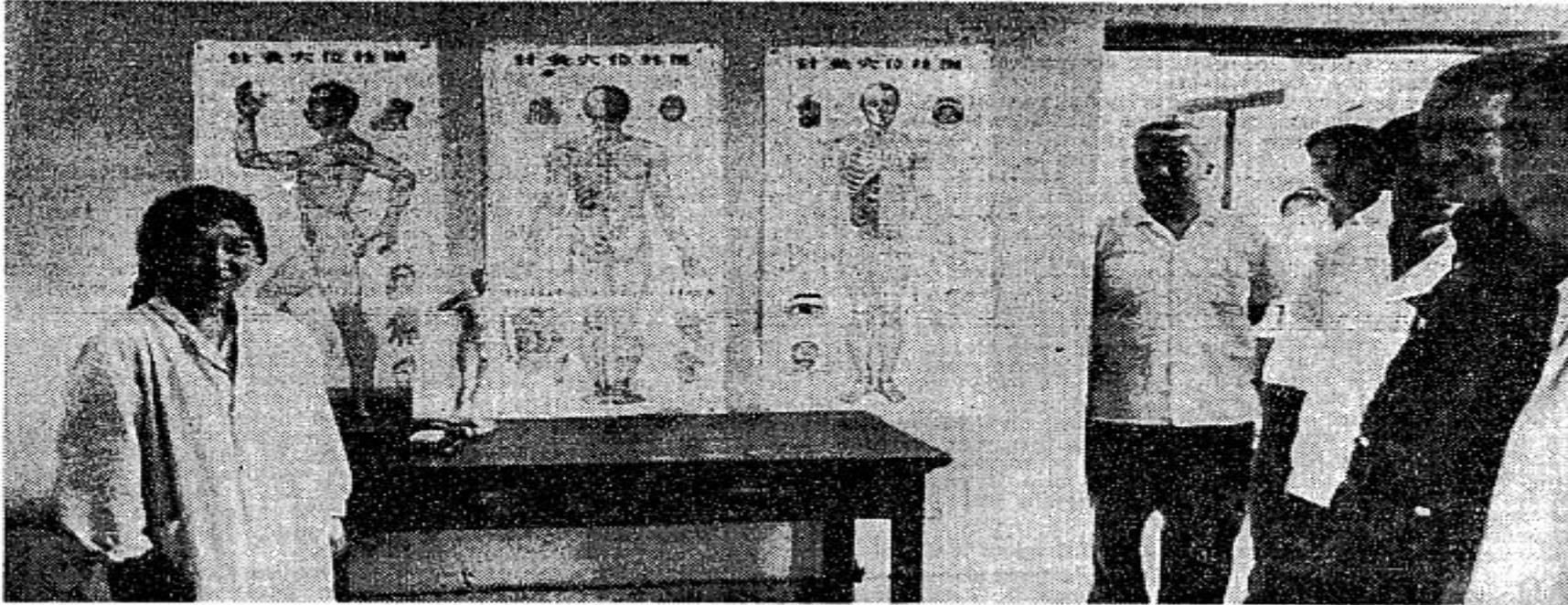
However, I was in considerable discomfort if not pain during the second night after

the operation, and Li Chang-yuan, doctor of acupuncture at the hospital, with my approval, inserted three long, thin needles into the outer part of my right elbow and below my knees and manipulated them in order to stimulate the intestine and relieve the pressure and distension of the stomach.

That sent ripples of pain racing through my limbs and, at least, had the effect of diverting my attention from the distress in my stomach. Meanwhile, Doctor Li lit two pieces of an herb called ai, which looked like the burning stumps of a broken cheap cigar, and held them close to my abdomen while occasionally twirling the needles into action.

All this took about 20 minutes, during which I remem-

**Continued on Page 6, Column 3**



**James Reston, in dark shirt, visited a hospital in Thao Yang two weeks ago and was shown charts detailing the acupuncture points in the human body. Last week, in Peking, Mr. Reston experienced that treatment first-hand.**

The New York Times/Sally Reston

# What is a treatment Like?

- ▶ Chinese Medicine Diagnosis... pulse taking, look at tongue, ear, palpation of the meridians, abdomen.....





1. Pale tongue



2. Pale tongue



3. Pale tongue



4. Pale tongue



5. Pale tongue



6. Pale tongue



7. Pale tongue



8. Pale tongue

# TONGUES



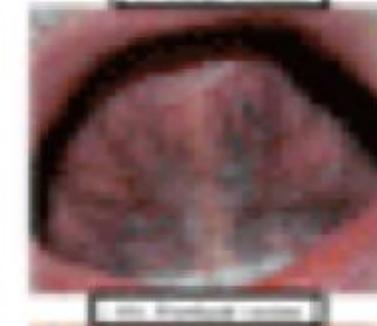
9. Pale tongue



10. Pale tongue



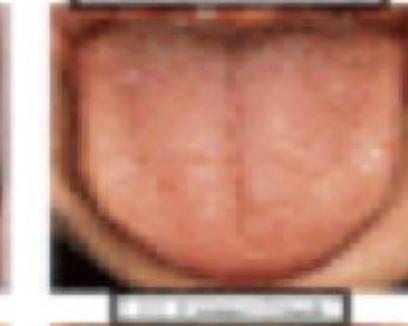
11. Pale tongue



12. Pale tongue



13. Pale tongue



14. Pale tongue



15. Pale tongue



16. Pale tongue



17. Pale tongue



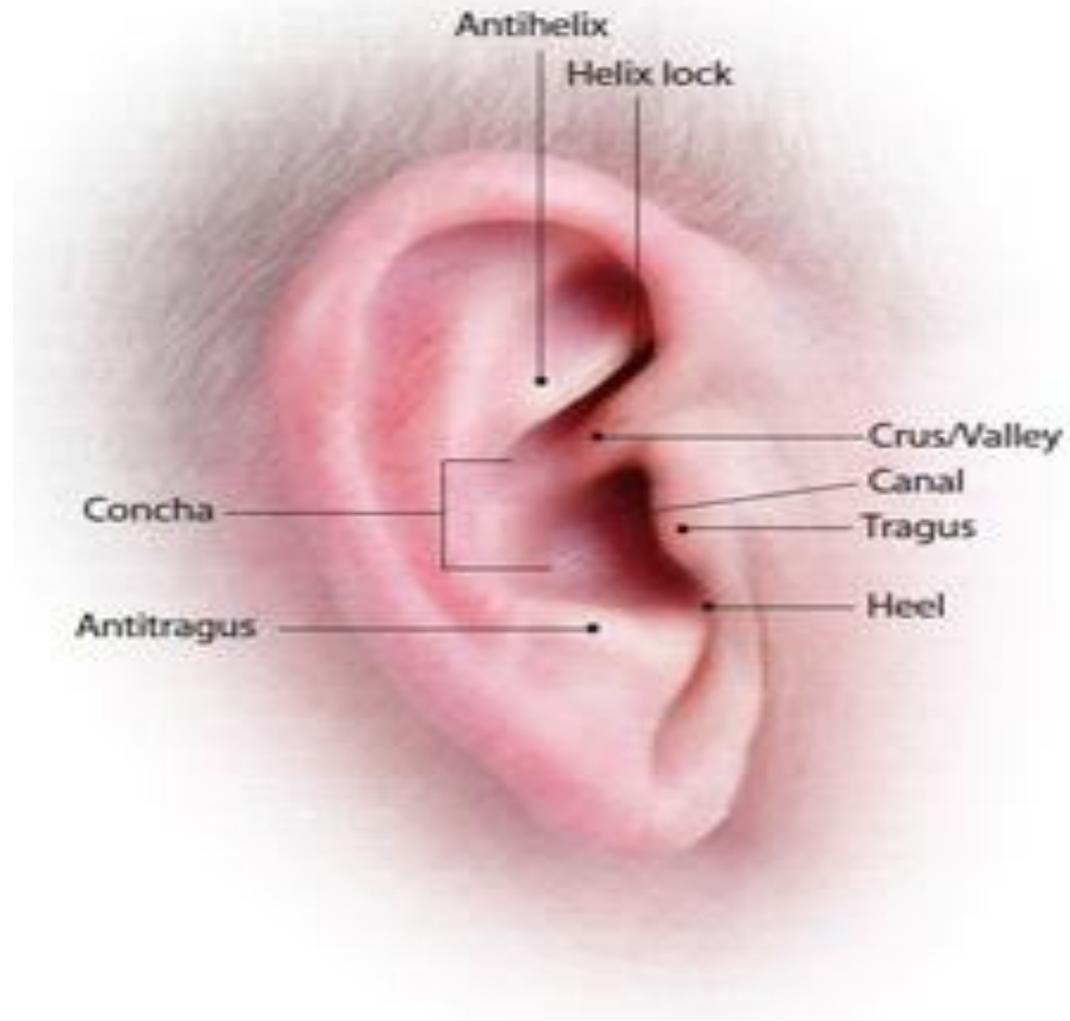
18. Pale tongue



19. Pale tongue

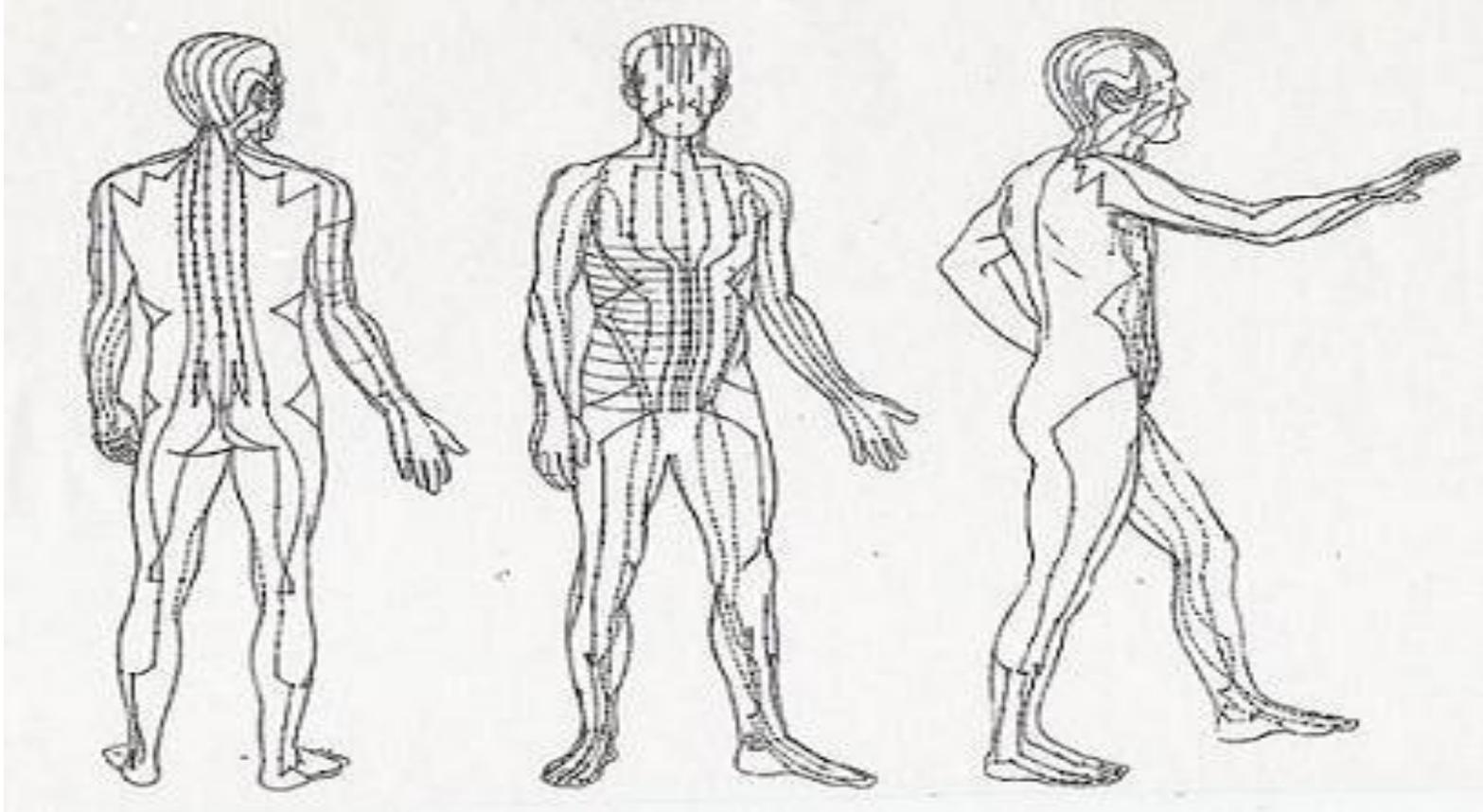


20. Pale tongue









# LASER ACUPUNCTURE



# What is it?

- ▶ A relatively new modality, laser acupuncture uses low-energy laser beams—instead of traditional acupuncture needles—to stimulate acupuncture points

# What is Laser Therapy?

- ▶ Light Amplification by the Stimulated Emission of Radiation
- ▶ Compressed light of a wavelength from the cold, red part of the spectrum of electromagnetic radiation
  - ▶ Monochromatic - single wavelength, single color
  - ▶ Coherent - travels in straight line
  - ▶ Polarized - concentrates its beam in a defined location/spot

# WALT & NAALT 2014

▶ Photo Bio Modulation (PBM) Therapy

# What Does It Do?

- ▶ Laser light waves penetrate the skin with no heating effect, no damage to skin & no side effects.
- ▶ Laser light directs bio-stimulative light energy to the body's cells which convert into chemical energy to promote natural healing & pain relief.
- ▶ Optimizes the immune responses of blood & has anti-inflammatory & immunosuppressive effects.

# Physiological Effects

- ▶ **Bio-stimulation** – improved metabolism, increase of cell metabolism
  - ▶ Increases speed, quality & tensile strength of tissue repair
- ▶ Improved **blood circulation** & vasodilation
  - ▶ Increases blood supply
- ▶ Increases **ATP** production
- ▶ **Analgesic** effect
  - ▶ Relieves acute/chronic pain
- ▶ **Anti-inflammatory** & anti-edematous effects
  - ▶ Reduces inflammation

# Tissue & Cellular Response

- ▶ **Red** light affects all cell types
  - ▶ Absorbed by the mitochondria present in all cells
  - ▶ **Cytochromes** (respiratory chain enzymes) within the mitochondria have been identified as the primary bio-stimulation chromophores (*primary light-absorbing molecules*).
  - ▶ Since enzymes are catalysts with the capability of processing thousands of substrate molecules, they provide amplification of initiation of a biological response with light.
- ▶ **Infrared light** is more selectively absorbed by specific proteins in the cell membrane & affects permeability directly

# Bio-Acupuncture



# Bio-Acupuncture

- ▶ Bio-Acupuncture is injection of regenerative materials (Dextrose, DPG, PRP and Autologous Stem Cells) on specific acupuncture points to treat different chronic diseases.

# Conditions Treated

- ▶ Pain - Chronic and Acute
- ▶ Back pain, neck pain, shoulder pain, knee pain...
- ▶ Carpal Tunnel, tennis elbow, golfer's elbow, tendonitis, neuropathy
- ▶ Fibromyalgia, autoimmune conditions

# Conditions Treated

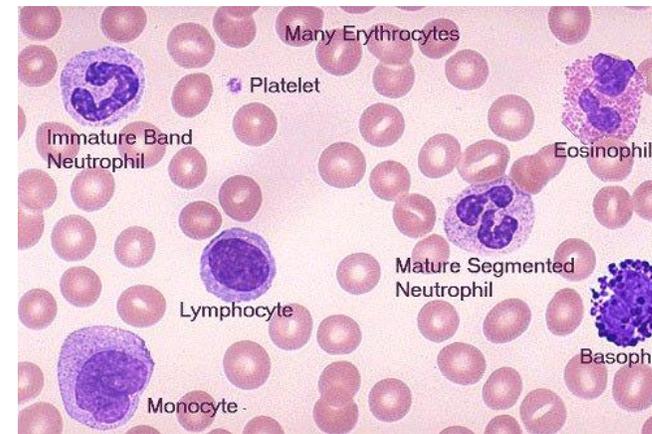
- ▶ Internal Medicine
- ▶ GERD/IBS, constipation
- ▶ Anxiety, insomnia, PTSD, depression
- ▶ Gynecology, painful periods, infertility, menopausal symptoms, PMS
- ▶ Side effects from cancer treatments such as edema, nausea
- ▶ Migraines, headaches
- ▶ Cerebral Palsy
- ▶ Autism
- ▶ Parkinson's Disease
- ▶ Dementia
- ▶ Stroke
- ▶ Alzheimer's Diseases

# Regenerative Medicine

- ▶ PRP
- ▶ Autologous Stem Cell Therapy

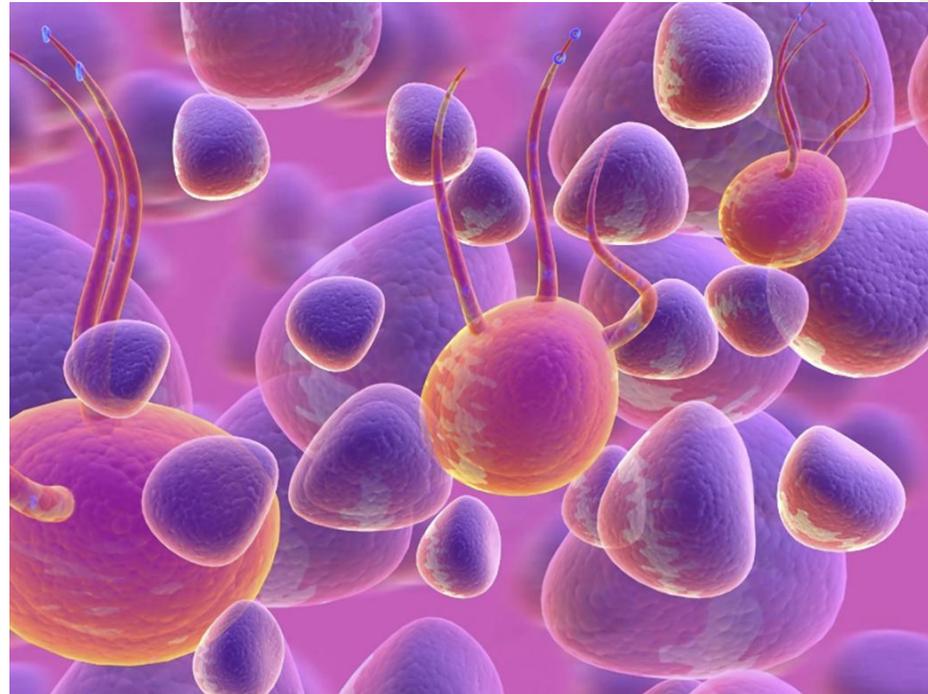
# What is PRP?

PRP is simply whole blood that is centrifuged to create an increased concentration of platelets with or without WBC's



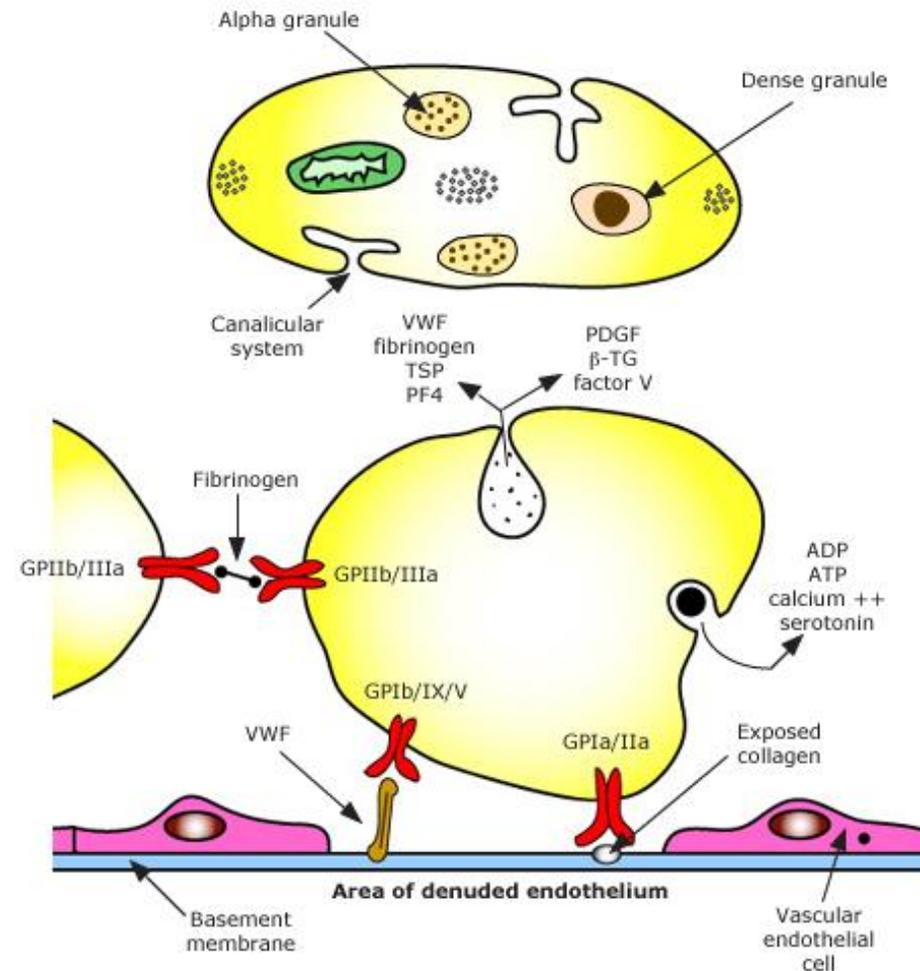
# PRP IS NOT!

- ▶ Stem cells
- ▶ MSC's
- ▶ Lipocytes
- ▶ Bone Marrow



# What's so special about Platelets?

- ▶ Platelets contain granules that store large numbers of “*growth factors*”
- ▶ Alpha granules released (activated) when platelets aggregate and adhere to a site of injury or inflammation
- ▶ Listing of other growth factors: interleukin-1, tumor necrosis factor, transforming growth factor, insulin growth factor and more
- ▶ *It is the activation of platelets and release of the various growth factors that makes them special and is the key to enhancing tissue repair and healing!*

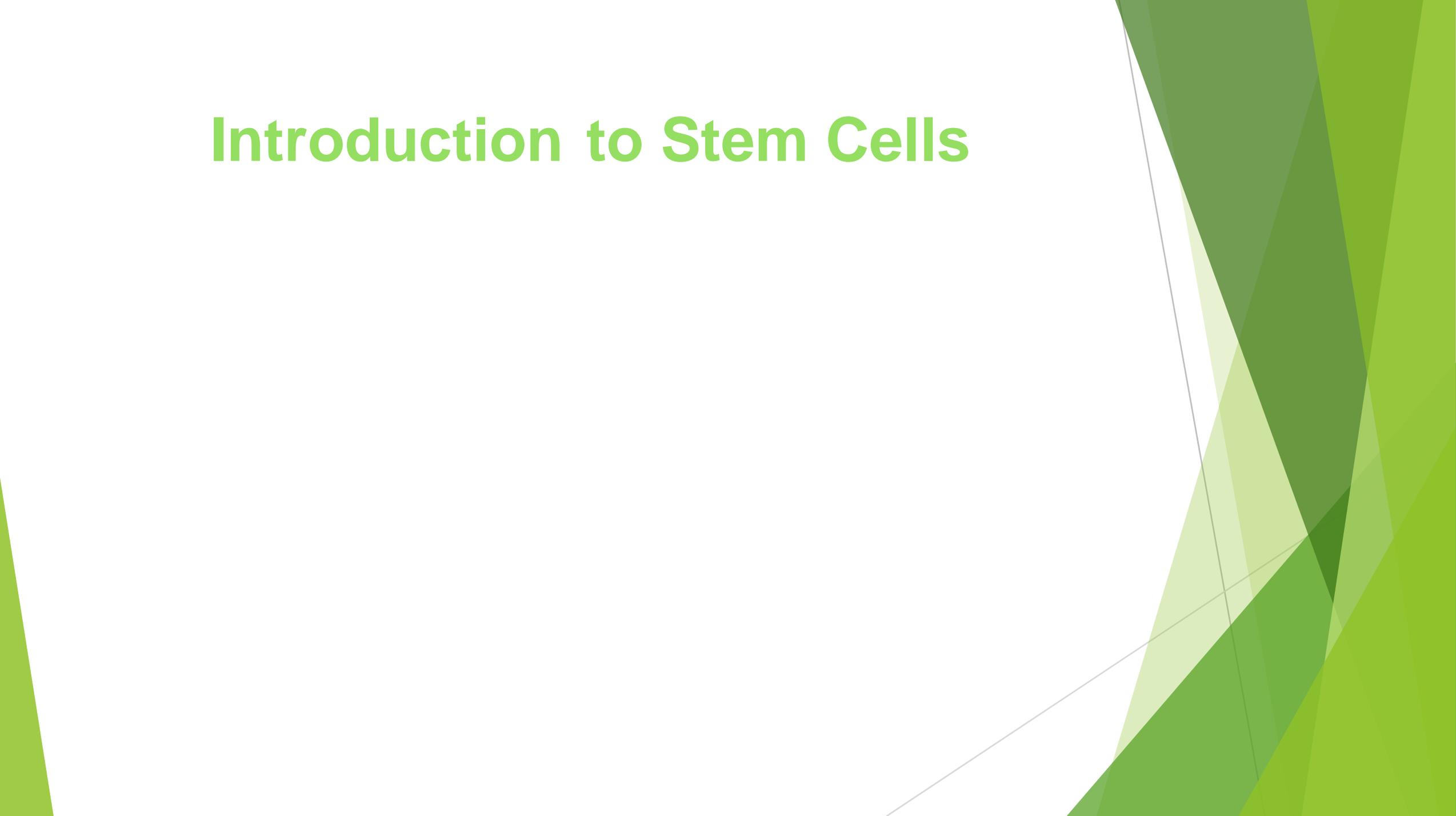


# Platelet Rich Plasma Biology

What do these Growth Factors Do??

- **Chemotaxis**
  - Directional movement in response to a chemical stimulus
  - Stems cells are attracted to the growth factors and migrate into the area
- **Cell proliferation**
  - Significant increase in cellular reproduction activity
- **Possibly even a systemic effect**
  - Performance enhancing?

# Introduction to Stem Cells

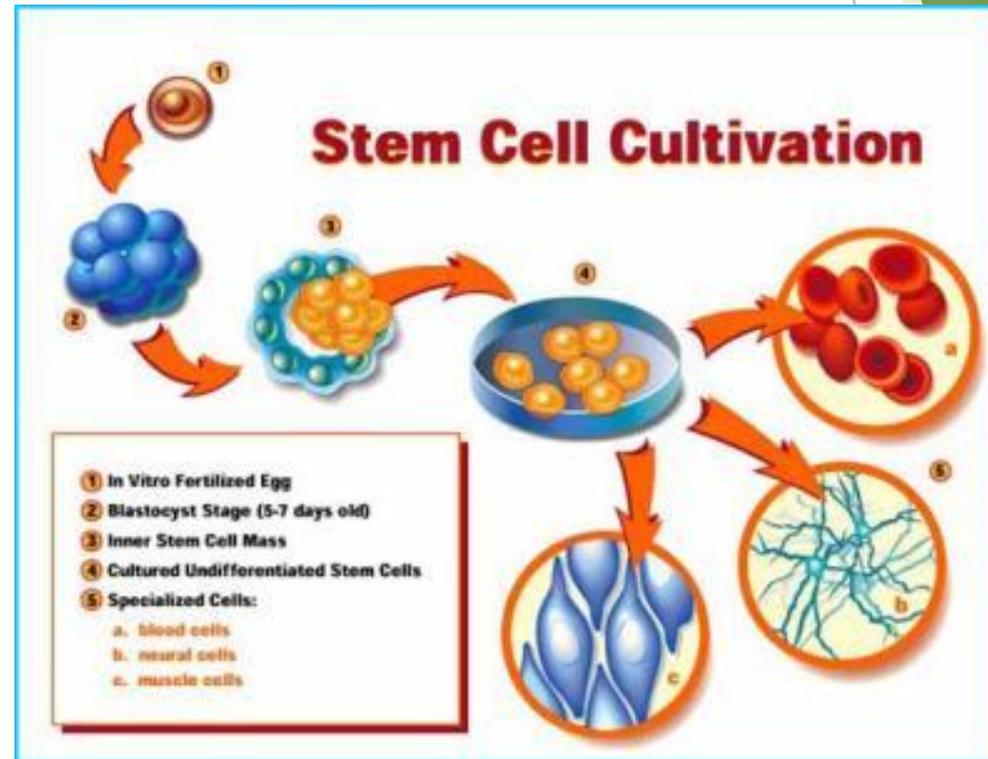
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# What is a stem cell?

- ▶ Master cell.
- ▶ Undifferentiated (unspecialised cell type).
- ▶ Found in all multicellular organisms.
- ▶ Self-renewing and can differentiate.

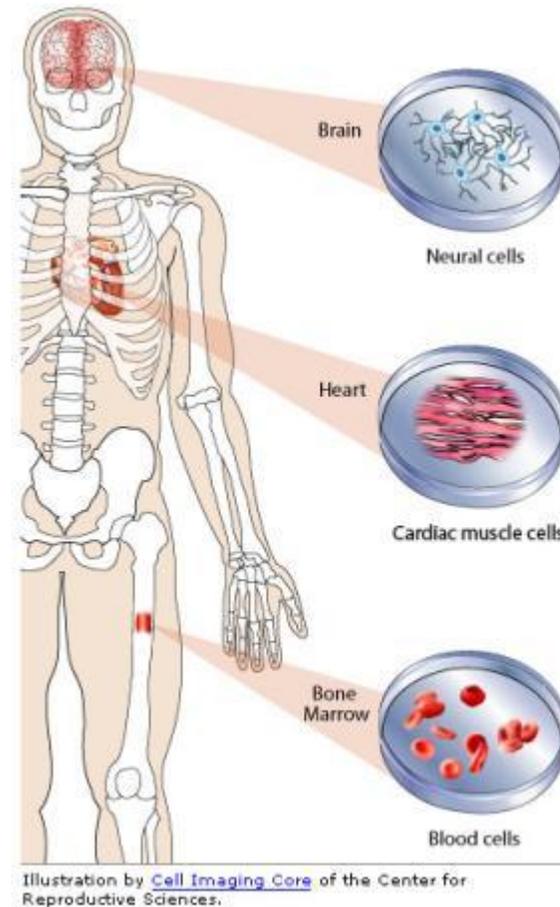
# Embryonic stem cells

- ▶ **Totipotent:**
  - toti** = total
  - potent** = capacity
- ▶ The state of the cells after the first few divisions of the fertilised egg.
- ▶ Have the capacity to become all cell types **plus** placenta.



# Adult stem cells

- ▶ **Multipotent**
- ▶ Can develop into cells that are closely related.
- ▶ Limited number of several cell types.
- ▶ Make all cell types from the tissue they come from.
- ▶ Found in many parts of the body.
- ▶ Can self-renew over a lifetime.



# **STEM CELL TREATMENT**

# Stem Cells

## Three important functions:

1. **Plasticity:** Potential to change into other cell types like nerve cells
2. **Homing:** To travel to the site of tissue damage
3. **Engraftment:** To unite with other tissues

# Stem Cell Applications

- Tissue repair
  - nerve, heart, muscle, organ, skin, bone, cartilage, disc....
- Autoimmune diseases
  - diabetes, rheumatoid arthritis, MS
- Cancers

# Tissue Repair

- Regenerate damaged brain, spinal cord, peripheral nerves, muscles, heart tissue or any other major tissue in the body.



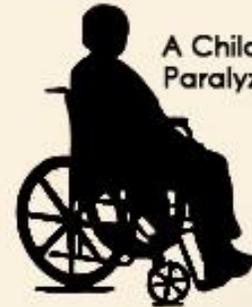
# Stem cell Treatment For Cerebral Palsy

**SPASTIC CP**  
70-80% Common,  
Motor Cortex Damage  
with muscular stiffness



**DYSKINETIC CP**  
6% Common,  
Basal Ganglia Damage  
with Unspecialized  
involuntary Movements

**ATAXIC CP**  
6% Common  
Cerebellum Damage with  
shaky movements due to lack of sense



A Child Completely  
Paralyzed With C.P.

Rehabilitation

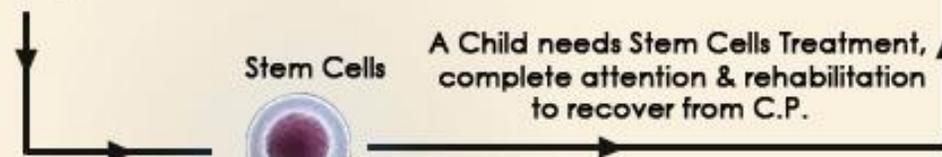


Stem Cells

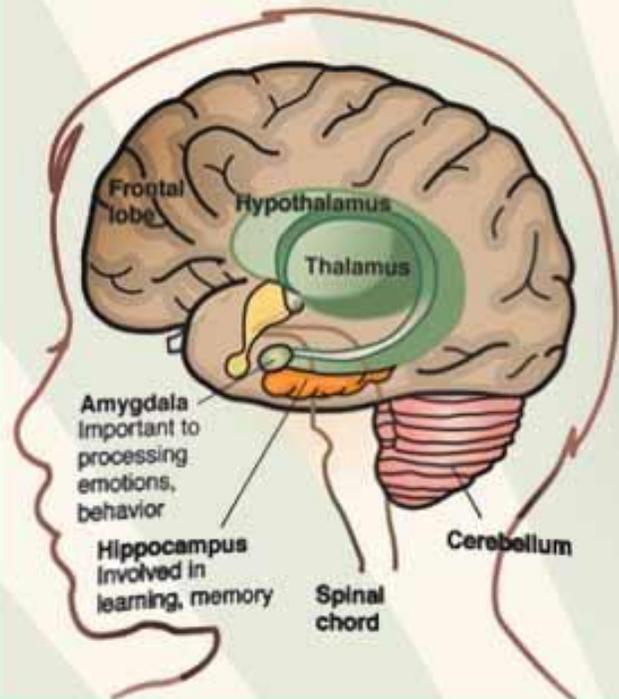


isolated from,  
Bone Marrow & Adipose Tissue

A Child needs Stem Cells Treatment,  
complete attention & rehabilitation  
to recover from C.P.



Affected areas of the brain, stemming from **abnormal neural development**

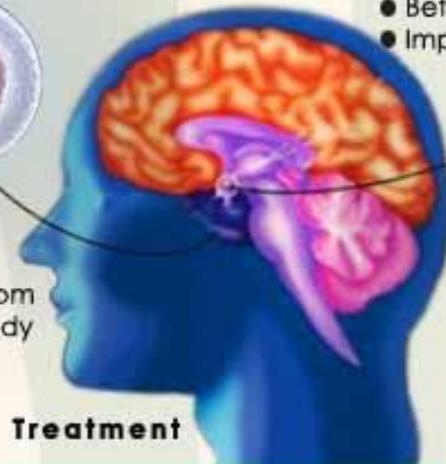


# Stem Cell Treatment **AUTISM**



Stem Cells from your own body

**Treatment**



- Improved Behaviour
- Better Cognitive ability
- Improved Social Interaction

**Rehabilitation**





Affected Brain

# Stem cell Treatment For Parkinson's



Treated Brain



1. Dead nerve cells not producing dopamine

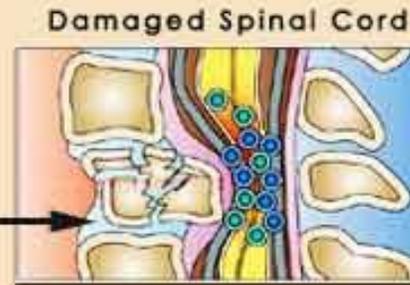
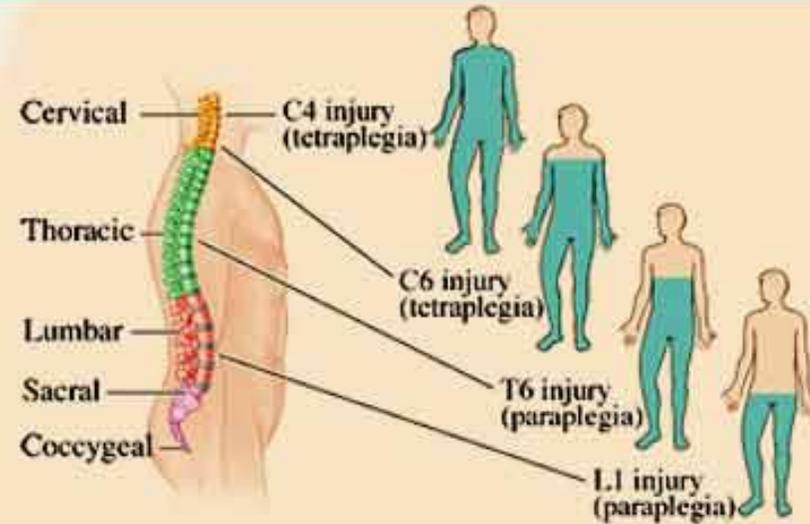
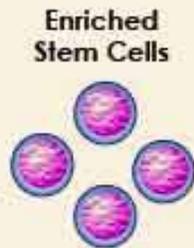
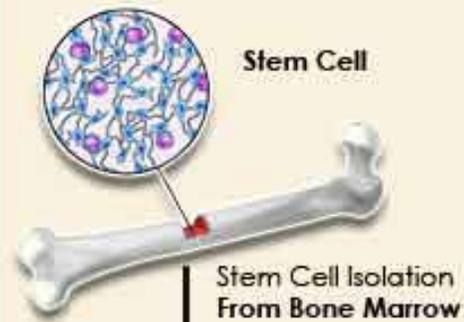
2. Implanted Stem Cells

3. New nerve cells producing dopamine

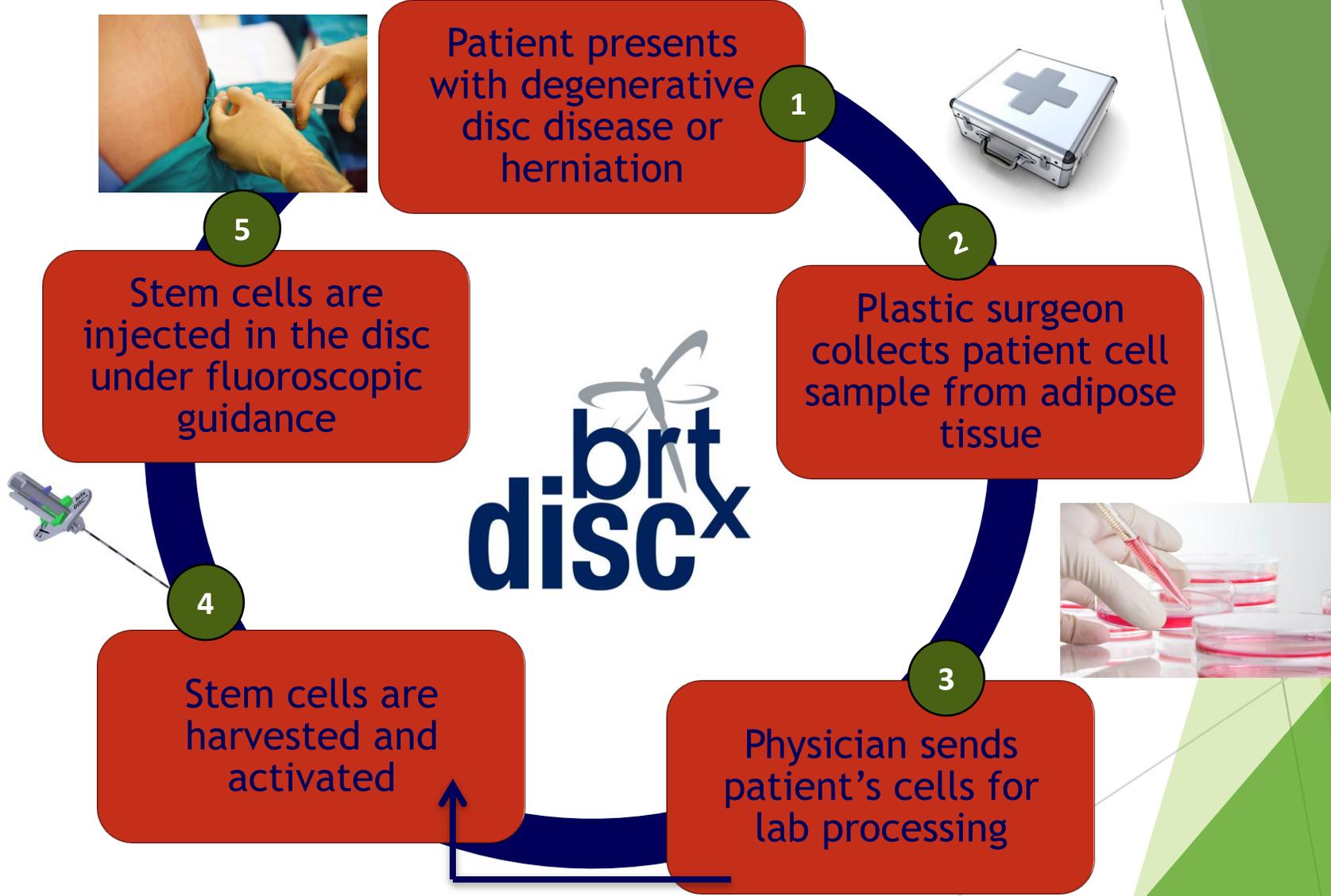
4. Dopamine transmits nerve signal



# Stem cell Treatment For Spinal Cord Injuries



# Stem Cell DISC Process Overview

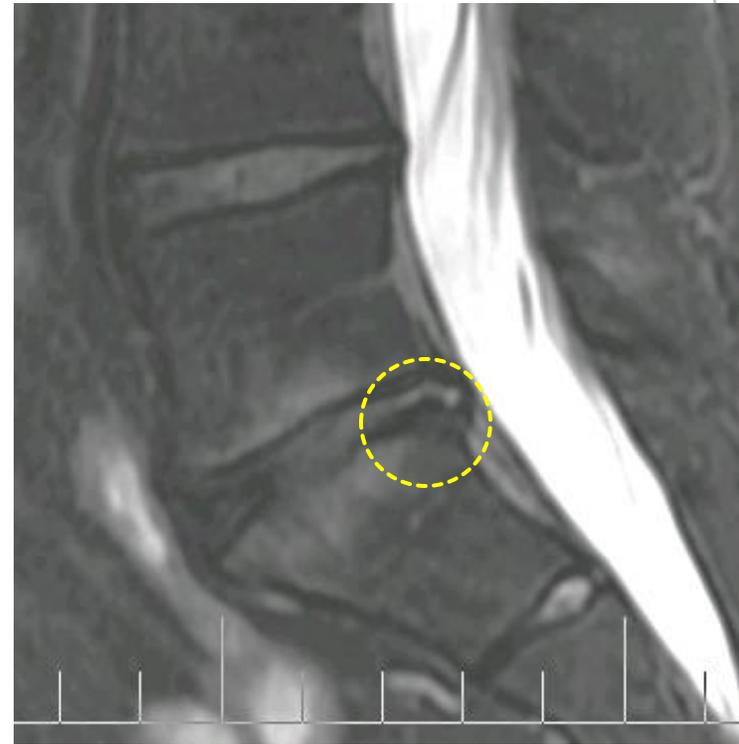


# MRI Results

- ▶ **42 y/o Male:** Annular tear at L5-S1 noted on 2014 MRI and radiculopathy diagnosed. 2015 MRI showed a mild L5-S1 disc bulge.
- ▶ **Treated in Physician's Office:** 5-month follow-up MRI showed complete resolution of the L5-S1 disc bulge on both sagittal and axial slices with some concurrent advancement of mild DDD.



**MRI Before Treatment**



**MRI 5 Months After Treatment**

# Heart Disease

- Adult stem cells injected into the hearts are believed to improve cardiac function in victims of heart failure or heart attack



# Rheumatoid Arthritis

- Adult Stem Cells may be helpful in jumpstarting repair of eroded cartilage.



# Why is Stem Cell Research So Important to All of Us?

- Stem cells can replace diseased or damaged cells
- Stem cells allow us to study development and genetics
- Stem cells can be used to test different substances (drugs and chemicals)



▶ There is no **DISEASE** for which **ALLAH ALL MIGHTY** has not provided the **CURE**.

▶ We simply have to discover it.

Thank you very much for your patience.

