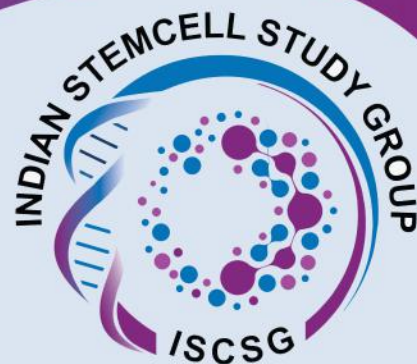


# INDIAN STEMCELL STUDY GROUP ASSOCIATION (ISCSG)

(An All India Registered Association)

Reg. No- LUC/07484/2018-19



Released @ Telangana Orthopaedics Surgeon's Association CME (TOSACON 2017)  
at Gandhi Medical College, Hyderabad on 10-12th, Feb. '17.

Secretariat : Apley Clinic Orthopaedic Centre, Lucknow

Editor : Dr Manish Khanna

## EDITORIAL



The biggest challenge in the developing countries like India is limited number of specialist with Rheumatology training especially in semi urban & rural areas and this is the main reason for IORA formation. The IORA aims to create awareness among Orthopaedic Surgeons for proper treatment & newer developments in this Field. IORA is in the process of developing an international forum for Rheumatology. IORA favours as well as stimulates all efforts to do the Research work. It is a heartening fact that the Indian Orthopaedic Rheumatology Association has matured over past eight years into a well progressive enlarging group of orthopaedic professionals. The increasing number of conferences & workshops of this association and the never flagging spirit of the eager delegates bear testimony to this fact. This is our second newsletter. 70% of Indian population lives in villages and patients have been going to Orthopaedic Surgeons for Joint Pain Management, hence there has to be proper Training for the Disease (for both Medical & Surgical reasons). For taking care of joint disorders orthopaedic surgeons must update themselves. In general, both rheumatologist and Orthopaedic surgeon treat problems of the musculoskeletal system but the rheumatologist does it mostly with medication and the orthopaedic surgeon does it with surgery. But is always surgery required? For eg. a case of Acute Knee swelling requires a proper workup from all aspects. For over simplification: Orthopaedic rheumatology caters to the Medical and Surgical aspect of such diseases. IORA was formed for catering the needs of Ortho surgeon and patients.

IORA offer a unique forum for the exchange of scientific knowledge on the subject & sincere efforts of our organization will render best services to the orthopaedic fraternity. IORA represents this branch of medico surgical knowledge at National as well as International level. I have no doubt that with such increasing awareness and interest in updating ourselves in this subject, the light at the end of the tunnel is bright indeed

Long Live IORA

Best wishes  
Dr Manish Khanna

Office Secretariat

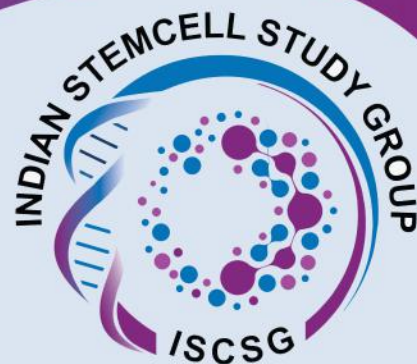
Apley Orthopaedic Centre, 1/9, Vastu Khand, Gomti Nagar, Lucknow 226010



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## INDIAN STEM CELL STUDY GROUP (ISCSG)

Affiliated to Indian Orthopaedic Rheumatology Association

& In association with Antiaging Foundation

An Orthopaedic Regenerative Group

### Aims and Objectives of ISCSG

- To create awareness among clinicians, researchers about the regenerative science & newer development in this Field. Progenitor cells application is a AN EXCITING CLINICAL CHALLENGE for all of us
- To reuse, favour and stimulate all efforts to do Research work.
- To Create and develop international scientific relation with rest of the world.
- To elaborate, deepen and radiate the knowledge acquired in the domain and impart to those who ask for it.
- To represents this branch of medical knowledge at National & International level.
- To do all sorts of work related with the aforesaid Field

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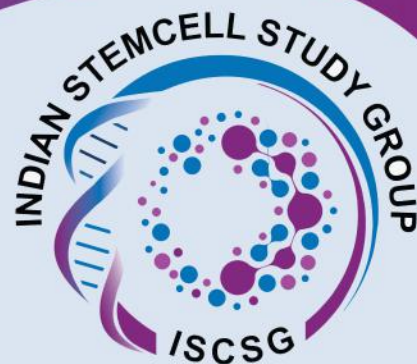
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## RHEUMATOID ARTHRITIS

Stem cell research may soon become a go-to treatment option for patients with rheumatoid arthritis and similar autoimmune conditions. Newly diagnosed rheumatoid arthritis is currently treated with immune suppressive agents such as steroids, methothrexate, cyclosporine, gold, and more recently infliximab (Remicade). Despite inducing temporary improvement, these approaches possess long-term adverse effects due to non-specific inhibition of immune responses. When disease-modifying anti-rheumatic drugs (DMARDs) like methotrexate are not effective, biologics like abatacept (Orencia), adalimumab (Humira) or etanercept (Enbrel) may be recommended. Because RA causes debilitating pain and progressive damage, early and aggressive treatment is vital.

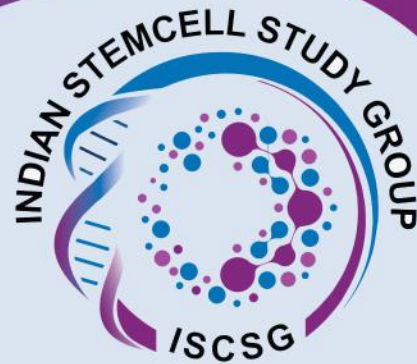
Conventional rheumatoid arthritis treatment cannot reverse the damage done to your joints over time, however cell therapy presents a unique opportunity for healing and pain relief across a spectrum of lasting benefits. None of above mentioned treatments address the issue of damage that has already occurred to the joints or extra-articular tissues. Even though advancements in rheumatoid arthritis (RA) treatment protocols and introduction of targeted biological therapies have markedly improved patient outcomes, up to 50% of patients still fail to achieve a significant clinical response.

Stem cells has been demonstrated to induce profound healing activity in animals with various forms of arthritis. Stem cells and specifically, mesenchymal stem cells (MSCs) home to inflamed tissue and start producing anti-inflammatory agents. These mediators act locally and do not suppress the immune response of the patient's whole body. Additionally, MSCs induce the production of T regulatory cells, a type of immune cell whose function is to protect the body against immunological self-attack.

Many studies on MSCs for rheumatoid arthritis (Human Umbilical Cord Mesenchymal Stem Cell Therapy for Patients with Active Rheumatoid Arthritis: Safety and Efficacy) showed that MSCs produced a significant decrease in pro-inflammatory cytokines IL-6 and TNF- $\alpha$ , both of which are temporarily targeted by many current RA treatments. – without the longterm side effects. Studies shared by the European League Against Rheumatism (EULAR) showed mixed results in stem cell transplants on patients with RA and related autoimmune diseases, including juvenile idiopathic arthritis, lupus, and Sjogren's syndrome. This is all together very encouraging for entire Medical fraternity and hope the light at the end of tunnel should be bright indeed.

Prof ( Dr ) Manish Khanna  
ISCSG  
Office



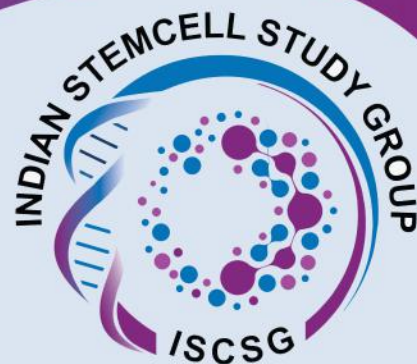


## Evaluating the right source of Mesenchymal Stem cells for Clinical application in osteoarthritis and bone defects

Mesenchymal stem cells (MSCs) are primordial cells of mesodermal origin and are involved in formation of connective tissues throughout the body. Their inherent ability to differentiate into cells of chondrogenic and osteogenic lineage have made them emerge as a candidate cell type with great potential for cell-based articular cartilage repair technologies. MSCs can be isolated from a variety of adult tissues, readily culture-expanded without losing their multilineage differentiation potential, and have been induced to undergo chondrogenic and osteogenic differentiation in vitro and in vivo. Cellular therapy or cell based repair strategies are proposed to be the next generation medicine for osteoarthritis and cartilage repair. Chondrocytes were primarily considered to be the first choice of cellular treatment as they are involved in the pathology of the disease. Chondrocytes, although have shown clinical efficiency in clinical applications, the destructive harvest protocol, poor proliferation and time-delay associated with autologous expansion before use, have set a limiting barrier. Evidence suggests that cell aging is important and a crucial factor in the pathogenesis of osteoarthritis. In addition to severe changes that occur in the extracellular matrix, the chondrocytes have also shown to display abnormalities during degeneration which include inappropriate activation of anabolic and catabolic activities, and alterations in cell numbers. The transplanted chondrocytes might still suffer the same fate as that of the native chondrocytes due to the diseased milieu present.

Not only OA chondrocytes, even autologous mesenchymal stem cells from patients with osteoarthritis show differential gene expression pattern. This could be due to their prolonged endurance in the diseased milieu. There are evidences to suggest the decline in potency of the autologous mesenchymal stem cells from OA patients attributable to age and senescence of the cells. These data warrant the characterization of autologous MSCs and chondrocytes before usage on individual basis before taking them to the clinical application. Considering the above mentioned points, the most viable method would be to use an allogeneic source that provides non-affected, highly efficient and differentiation-capable cells. In a study, therapeutic efficacies between MSCs from cord blood (CB-MSCs) and bone marrow (BM-MSCs) on OA treatment was evaluated. The CB-MSCs showed a markedly higher chondrogenic potential and relatively lower osteogenic and adipogenic capacities than BM-MSCs. During chondrogenesis, the committed CB-MSCs also showed significant increases in cell proliferation, adhesion molecules, signalling molecules, and chondrogenic-specific gene expressions. This data demonstrates that CB-MSCs possess specific advantages in cartilage regeneration over BM-MSCs. The CB-MSCs showed a better therapeutic potential that can contribute to advanced cell-based transplantation for clinical





OA therapy. Other sources like Adipose derived MSCs, need to be run through a detailed evaluation for their efficiency in ortho indications.

Although there were numerous studies supporting the need for allogeneic source of stem cells to substitute the age-related malfunctioning of endogenous MSCs, there were also a few studies that suggest there are no such inverse relationship between age and MSC number. Given the efficacy of UC/ CB -MSCs which is in par with autologous MSCs, if not superior, would be the most feasible and efficient source of “Off-the-Shelf” cellular product for orthopaedic indications.

Dr. Senthil Thyagarajan  
Director  
NCORD Biotech Limited

## Short Notes on Biologicals & Beyond in Rheumatoid Arthritis Treatment

The treatment for Rheumatoid Arthritis (RA) got a boost with the advent of biological therapy. It is common to see RA patients not having adequate relief with NSAIDS, steroids or DMARDs. In such cases where even combination therapy fails, a new class of drugs acting on the molecular level through inhibition of inflammatory cytokines like TNF –  $\alpha$  blocking agents, Interleukin receptor antagonist, AntiCD20 antibody, T cell Co-stimulatory inhibitor emerged. With more data on usage of biologicals available, the picture emerges that one third to half of treated cases with biologicals fail to have sustained relief. Moreover, complications of biologicals include neurologic events like demyelination and axonal polyneuropathy; blood disorder like neutrophenia, thrombocytopenia, connective tissue disorders like autoimmune hepatitis, lupus etc., cardiac events like worsening of congestive heart failure and major cardiovascular events apart from reactivation of TB and hematopoietic malignancies. This has forced the orthopaedic community to look for safer but yet biological way of treating RA & other autoimmune diseases. With more and more clinical trials proving the safety and efficacy of adult stem cells in multiple diseases and the immunomodulatory properties of mesenchymal stem cells established, we are able to see life beyond biologicals for RA patients. The study of Dr Richard K Burt of Feinburg School of Medicine, Northwestern Medicine throws more light on the evolving role of stem cells in rheumatoid arthritis and other autoimmune diseases.

Dr. V R Ravi MS (Ortho)  
Director  
Mothercell Regenerative Centre P Limited



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## The 7<sup>th</sup> Congress of IORA

(5<sup>th</sup> & 6<sup>th</sup> Sept. 2015, IORACON 2015)

Was held at Hotel Poppys, Madurai, Tamilnadu in collaboration with Madurai Orthopaedic Society. Prof. A Devadoss, Chairman, Devadoss Multispeciality Hospital, was organising chairman, Dr Muthuvel Rajan, MIOT, Madurai was the Vice Chairman, Dr Satish Devadoss, Medical Director, Devadoss Multispeciality Hospital was the Organising Secretary. It was an informative conference with 11 scientific sessions, with recent trends in Rheumatoid Arthritis, Rheumatoid – Knee, Hand, Hip, Osteoarthritis – Hip, Knee, Gout and regenerative medicine. The speakers had mixed speciality of Orthopaedic surgeons, Rheumatologists, Radiologists and Scientists. There was a panel discussion on Enthesopathies followed by PG Students Quiz & IORA Gold Medal Paper presentation.



## The 8<sup>th</sup> Congress of IORA

(22<sup>nd</sup> & 23<sup>rd</sup> Oct, 2016, IORACON 2016)

Was held at Radisson Blu Hotel, Guwahati, Assam in collaboration with North East Regional Orthopaedic Surgeons' Association. The theme was focused on Stemcell Therapy in Orthopaedic Rheumatology. Distinguished Prof. of Orthopaedics Dr Shantanu Lahkar, was the Organising Chairman, Dr Diganta A Phukan, was the Organizing Secretary and Dr Naba Pallab Chetia, was the treasurer. The interactive conference had 14 scientific sessions spread over two days. There was active participation of students and faculty from the leading medical colleges and other institutions. Interesting case discussions for the benefit of emerging orthopaedic surgeons was conducted.



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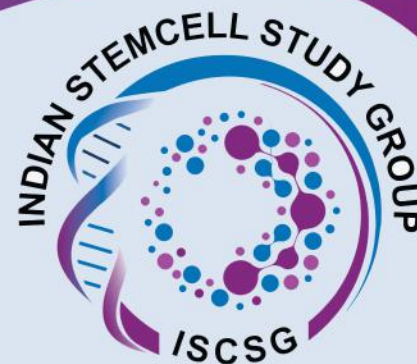
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## ISCSG Meetings

Thrice a year, combined meeting of ISCSG will be held with Annual National Conferences of Indian Orthopaedic Rheumatology association, Anti-aging Foundation and Stem Cell society (India) in which a specialty session of ISCSG will be conducted where all research work related to regenerative science will be discussed and promoted.

The official website of ISCSG is [www.indianstemcellstudygroup](http://www.indianstemcellstudygroup) Various write-up of its members are regularly being updated and can be visited on official website [www.orthopaedicroheumatology.com](http://www.orthopaedicroheumatology.com)

### 2<sup>nd</sup> meeting

The second meeting of Indian Stem cell study group took place at the India International Centre, New Delhi on 11<sup>th</sup> June, 2016 along with the 3<sup>rd</sup> Congress of Stem Cell Society (India, SCISCON16). The 3<sup>rd</sup> meeting was conducted with IORACON 2016. Dr Prabhu Mishra, Dr Pradeep Mahajan and Dr Ravi were very much instrumental for the session. AVN head of Femur was the subject of round table discussion. The proper guidelines regarding the management of AVN was discussed. Dr Rajput, Dr Mahajan had a lot of experience on the subject and that paved way for the light at the end of Tunnel which brightened the discussion meeting.



### 3<sup>rd</sup> Meeting



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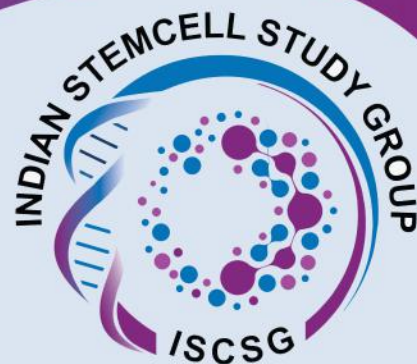
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For more details, visit

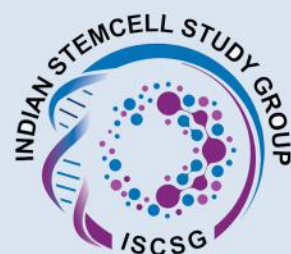
<http://orthopaedicroheumatology.in/>

<http://www.indianstemcellstudygroup.com/>

<http://www.ioracon2016.com>

<https://www.devadosshospitals.com/ioracon-2015/>

<http://stemcellsocietyofindia.com/>



Download IORA Membership form

<http://orthopaedicroheumatology.in/Dbit/IORA%20Membership%20Form.doc>

SCAN HERE TO DOWNLOAD MEMBERSHIP FORMS

IORA



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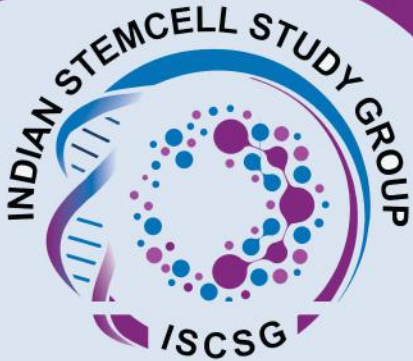
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INDIAN STEMCELL STUDY  
GROUP ASSOCIATION (ISCSG)

(An All India Registered Association)

Reg. No- LUC/07484/2018-19



Reg. No. 2477-2008-2009

INDIAN ORTHOPAEDIC RHEUMATOLOGY ASSOCIATION (IORA)

To,  
**Prof Manish Khanna / Prof S Lahkar Secretary**  
*President Emeritus*  
Apley Clinic Orthopaedic Centre  
1/9, Vastu Khand, Gomti Nagar, Lucknow 226010  
Cell No.-9415167349  
E-mail: manishvenus@rediffmail.com

Dear Sir,  
I wish to apply for Membership to the Indian Orthopaedic Rheumatology Association (IORA) as LIFE MEMBER (Rs. 3000/-) I am enclosing herewith a Bank draft drawn in favour of "Indian Orthopaedic Rheumatology Association".

(Please print / Write in Bold Letters)

NAME .....  
DATE OF BIRTH .....  
ADDRESS .....  
Telephone: Code.....(C).....(R).....Mobile: .....  
E-mail: .....IOA REG NO .....  
PROFESSIONAL QUALIFICATIONS .....  
REGISTRATION NUMBER ..... INSTITUTION .....  
Designation .....  
PUBLICATIONS (if any-Attach separate sheet if required, for this or other information):

**Note:** Please note that the life membership fees is deductible as expanses from the Income Tax Return

**NOTE:** For Online work, kindly deposit Rs3000/-

Ac Name : Indian Orthopaedics Rheumatology Association  
A/c No : 28100100005179 IFSC code : BARB0LCANBS  
Bank : BANK OF BARODA, Cantt road, Lucknow  
After Transection kindly sms UTR number on 9415167349

Applicant's Signature

(In case of change of address please notify to the Secretariate)  
ANY OTHER INFORMATION, SUGGESTION, OPINION REGARDING IORA

FOR OFFICE USE ONLY

- 1. NAME OF APPLICANT
- 2. CATEGORY OF MEMBERSHIP-LM
- 3. MEMBERSHIP NO. & DATE

Cheque No./Draft No.

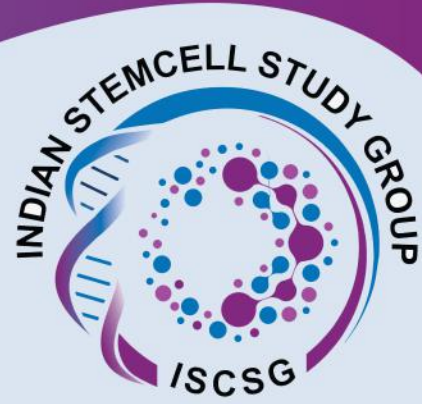
Date:

Secretary General  
Indian Orthopaedic Rheumatology Association

Office Secretariat

Apley Orthopaedic Centre, 1/9, Vastu Khand, Gomti Nagar, Lucknow 226010





Reg No- 737/2016

INDIAN STEM CELL STUDY GROUP (ISCSG)  
Affiliated with Indian Orthopaedic Rheumatology Association,

ISCSG Membership Form

To,  
**Prof. Manish Khanna**  
President, ISCSG  
Apley Orthopaedic Centre  
1/9, Vastu Khand, Gomti Nagar, Lucknow 226010  
Cell No.-9415167349  
E-mail: manishvenus@rediffmail.com

Dear Sir,  
I wish to apply for Membership to the Indian Stem cell study Group (ISCSG) (Rs. 3000/-) I am enclosing herewith a Bank draft drawn in favour of "Indian stem cell study group" payable at Lucknow.

(Please print / Write in Bold Letters)

NAME .....  
DATE OF BIRTH .....  
ADDRESS .....  
.....  
Telephone: Code.....(C).....(R).....Mobile: .....  
E-mail: .....  
PROFESSIONAL QUALIFICATIONS .....  
.....  
REGISTRATION NUMBER ..... INSTITUTION .....  
.....  
Designation .....

**Note:** Please note that the membership fees is deductible as expenses from the Income Tax Return

**PUBLICATIONS** (if any-Attach separate sheet if required, for this or other informations):

Applicant's Signature

**NOTE:** For Online work, kindly Remit Rs. 3,000/-  
**Ac Name** : Indian Stem cell study Group  
**A/c No** : 6911\_0001\_0002\_0303 **IFSC Code:** PUNB0691100  
**Bank** : Punjab National Bank, Vijayant Khand, Gomti nagar, Lucknow  
**After Transection kindly sms UTR number on 9415167349**

(In case of change of address please notify to the Secretariat)  
ANY OTHER INFORMATION, SUGGESTION, OPINION REGARDING ISCSG

FOR OFFICE USE ONLY

1. NAME OF APPLICANT  
2. CATEGORY OF MEMBERSHIP-LM  
3. MEMBERSHIP NO. & DATE  
Date:  
Cheque No./Draft No.  
President, ISCSG