



**UNRESTRICTED** MOVEMENTS  
UNFORGETTABLE **MOMENTS**



**India's First** —————  
*Allogeneic Mesenchymal  
Stem Cell Therapy  
For Osteoarthritis Grade II & III*

**Patient  
Education  
Guide**



Everyone deserves to live life  
without any constraint or restriction.

**SO WHAT IF YOU HAVE KNEE OA?**





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The most common type of osteoarthritis, knee OA is a highly debilitating condition, which can often make it difficult for a patient to carry out even the easiest of everyday tasks like walking, kneeling, climbing, etc. What begins with a seemingly simple knee pain, one of the most common symptoms, can change the shape of the knee joint eventually making the joint feel unstable or wobbly. No wonder, it is a major cause of work time loss and a serious disability for many people.

Knee OA is a chronic condition that doesn't have a cure. However, all hope is not lost, thanks to **StemOne™, a revolutionary and India's first-of-its-kind stem cell therapy.**

This guide will help you understand and know everything about knee OA. It will also demonstrate how StemOne™ works on the root cause of the condition, thus, helping restore your knee function and, in turn, the moments that you wish to cherish.

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## What is knee Osteoarthritis (OA)?<sup>1</sup>

A painful condition of the joint

Inability of the bone ends to slide smoothly over one another inside the joint, causing pain



Occurs when the cartilage (the firm, rubberlike substance that acts as a cushion between the ends of bones forming a joint) starts to break down

It is the commonest form of osteoarthritis<sup>2</sup>

Articular cartilage

Meniscus

Normal joint space

Healthy knee joint

Cartilage loss

Joint space narrowing

Bony spurs

OA knee joint

Figure 1: Normal versus Osteoarthritic knee



## Why you shouldn't ignore it?

If you ignore knee OA, it could progress from grade I to grade IV, the latter being the most severe in terms of joint damage.<sup>3</sup>

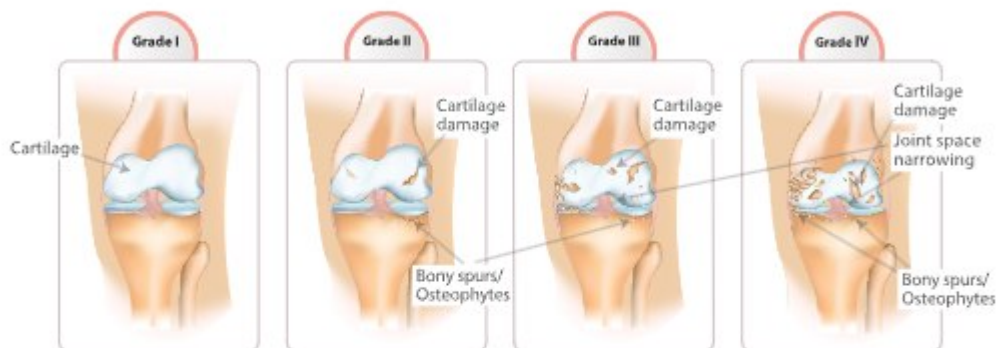


Figure 2: Progression of knee OA from Grade I to Grade IV

The body tries to heal the damaged cartilage. At times, the increased repair activity leads to an uneven surface, which does not allow smooth movements at the joint.<sup>1</sup>

Tiny pieces of broken cartilage and/or bone may float in the liquid present inside the joint. When the cartilage gets worn out, the ends of the bones forming the joint start rubbing against one another and cause the formation of little bony growths, medically known as bony spurs/osteophytes. The joint space and shape may change.<sup>1</sup>

## Risk factors that can contribute to knee OA

There are many factors that can increase your risk of suffering from knee Osteoarthritis:<sup>2</sup>



## Signs and Symptoms of knee OA<sup>1</sup>

### Joint pain

- Pain that comes from deep within the joint
- Typically worse with joint use and better by rest

### Swelling with warmth around the joint

- Caused as a response to cartilage damage and irritation

### Stiffness and loss of movement

- Limited range of motion
- Freezing of the joint into a bent position

### Cracking of the joint

- Crunching sounds on moving the joint
- Due to roughening of the cartilage

## Living well with OA<sup>4</sup>

### Use Heat therapy

- Take a warm bath
- Use a heating pad

### Eat healthy to shed/maintain your weight

- Consume lots of fruits, veggies, legumes, and whole grains
- Minimize the intake of processed foods

### Plan ahead

- Eliminate unnecessary activities
- Be organized and keep frequently used items within reach

### Exercise regularly

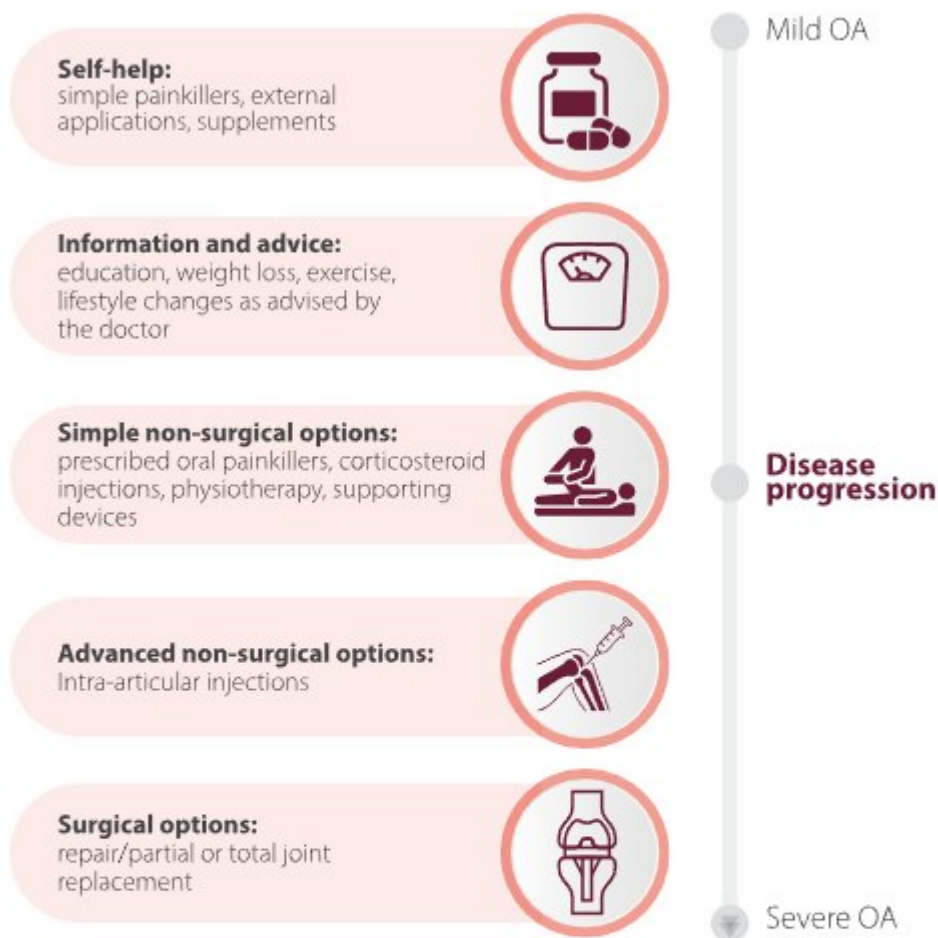
- Increase range of motion and strengthen your muscles
- Build stamina and improve your balance

### Wear the right type of shoes

- Avoid heeled shoes, as they are hard on the knees
- Select shoes with only a small amount of arch support



## Treatment journey in knee OA<sup>5</sup>



Being progressive in nature, OA can eventually lead to disability. The symptoms usually become more severe, more frequent, and more debilitating with time. The rate of disease progression varies from person to person.<sup>6</sup>

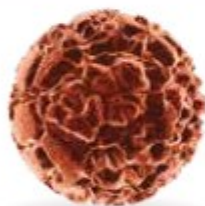
The current treatment options focus on reducing pain and disability, but they are not capable of treating the root cause of disease.<sup>6</sup> Thus, there is the need for a more dependable and restorative approach that focuses on **treating the root cause of knee OA, i.e. damage of the joint cartilage.**<sup>7</sup>



A first-in-class, standardized, off-the-shelf, stem cell therapy, approved by the Drug Controller General of India (DCGI)<sup>8</sup>

StemOne™: Intra-articular administration in patients with Grade II and Grade III knee OA<sup>8</sup>

### What are stem cells?



Stem cells are raw materials of the body from which all other cells are formed. These cells are not only capable of multiplying by dividing into daughter cells, but also into specialized cells like cartilage cells, bone cells, and muscle cells. This ability to generate new cell types is not present in any other cell in the body.<sup>9</sup>

### Advantages of stem cells in StemOne™



Easy to obtain, as they are found in abundance<sup>7</sup>

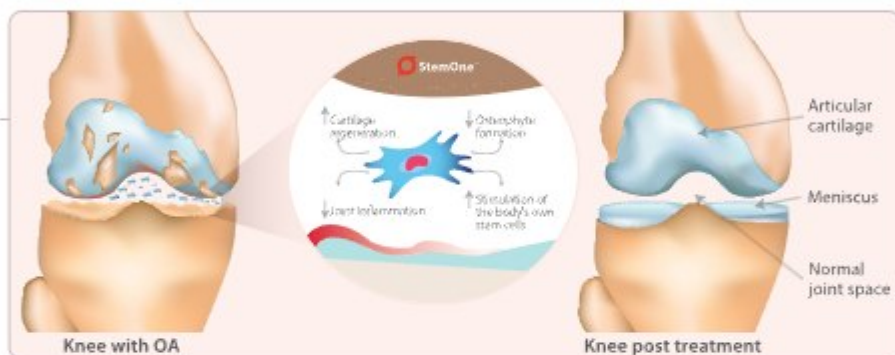
Have the ability to convert into several different cell types<sup>7</sup>

No ethical issues, as they are sourced from healthy adult bone marrow<sup>7</sup>

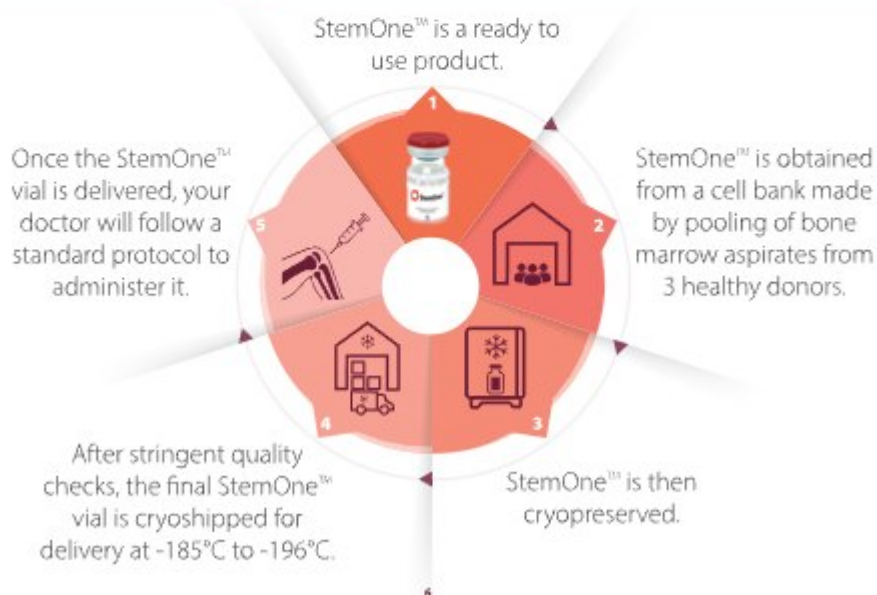
## How StemOne™ helps treat knee OA?

StemOne™ offers to clinically repair the knee joint cartilage. As depicted in the figure, these cells help to:<sup>10</sup>

- ↓ Decrease the joint pain and stiffness
- 🏠 Stimulate the body's own cells to repair or replace the cartilage tissue
- ↑ Improve physical function



## How StemOne™ is prepared?<sup>11</sup>



## Getting ready for your StemOne™ injection

You will need to get admitted to the hospital the day before getting your StemOne™ injection and will be discharged on the next day.<sup>8</sup>

StemOne™ leaves the manufacturing facility using specialized cryochain logistics.

Before your doctor actually injects StemOne™ into your joint, you may watch him preparing the injection. The entire process has been illustrated below for your knowledge and understanding:<sup>11</sup>



The cryoshipper is received at your doctor's clinic/hospital.



Wearing cryogenic gloves, the cryoshipper will be opened.



The temperature will be checked on the data logger to ensure product stability.



The StemOne™ vial will be retrieved from the vial box.



The canister stand will be removed.



The lid of the cryoshipper will be opened.



The StemOne™ vial will be thawed to bring it to room temperature.



1 ml of a solution called Plasmalyte-A will be drawn into a syringe.



This will be injected into the StemOne™ vial.

Finally, your doctor will inject StemOne™ into your knee joint with Hyaluronic acid.

## Precautions to be taken after an intra-articular injection<sup>12</sup>



**Dos**



**Don'ts**

### 0-3 Days Post Intra-articular Injection

Rest for 24 hours after the injection, except for bio breaks.	Avoid strenuous or prolonged weight-bearing activities for 72 hours after the injection.
Stay hydrated, eat your regular food, and drink plenty of water to promote healing.	Do not take any medications, unless specified by your doctor.
Apply only a cold pack, if required, on the injection area.	Avoid massaging or applying a hot pack over the injection area.
You may take a bath with lukewarm water after 24 hours.	Do not take a bath with very hot water.
	Avoid smoking and drinking alcohol.
<b>3-14 Days Post Intra-articular Injection</b>	
You can gradually get back to your regular activities and exercise.	Avoid consuming any alcoholic beverages in the first 7 days.

**Note:** Kindly contact your doctor for any further information.



## Why StemOne™ is preferable in the management of knee OA?<sup>11</sup>

The first DCGI\* approved healthy donor-sourced stem cell therapy product in India for knee OA



Can be used off-the-shelf; hence, no waiting period to avail the therapy

Works at the root cause; repairs and maintains cartilage integrity



Effectively relieves pain and stiffness

Qualitatively improves physical function; produces speedy recovery



Effectiveness and safety well established in clinical trials for more than 2 years

A minimally-invasive procedure that does not require any surgery



\*Drug Controller General of India

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# StemOne™

Allogeneic mesenchymal stem cells  
25 million cells/1 ml vial

The information contained herein is not intended to be a substitute for professional medical advice or treatment in any manner. Always seek advice of your physician with any questions, you may have regarding any medical conditions.

For more detailed information, please consult your doctor.

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