



# Stem cell treatments

- Stem cells are special cells that enable your body to function
- Stem cell treatments are still experimental - so there are questions about safety and effectiveness
- It's important you're well informed, ask lots of questions and talk with your doctor if you're thinking about trying stem cell treatments

You've probably heard about stem cells - they seem to be in the media all the time as the latest treatment or 'cure-all'. But like most of us, you probably don't know all that much about them.

Here's some basic information to help you understand this complex, but fascinating, topic.

## What are they?

Stem cells are special cells that enable your body to function. They have the unique ability to make copies of themselves (self-renew). They can also develop into a more specialised cell every time they divide.

There are many different types of stem cells. They can be obtained from the patient (known as autologous) or from a donor (allogeneic). Other types of stem cells include those made from embryos (embryonic stem cells), isolated from tissues (such as blood stem cells from the bone marrow) or even a new type of stem cell made in the laboratory from a skin cell (induced pluripotent stem cells).

The type of stem cell that's most often promoted as a treatment for conditions that affect the muscles, bones and joints (musculoskeletal conditions) is the mesenchymal stem cell or stromal cell. They're generally referred to as MSCs. These cells can be obtained from many different types of organs including bone marrow and fat.

In the laboratory MSCs can divide to produce large numbers of cells, and have been shown to develop into bone and cartilage. They can also release substances that may alter how the immune system responds to injury and encourage other types of cells to grow.

This has encouraged scientists and doctors to explore whether MSCs have a role in restoring function to damaged joints and tendons.

## More research is needed

For most conditions stem cell treatments are still considered experimental and have not yet been shown to be safe or effective in clinical trials.

While there's a lot of excitement about the future, more research is needed to understand how to best obtain, handle and administer stem cells or the cells made from them. We need to know some of these answers to ensure that new stem cell treatments don't cause more harm than benefit.

## Be wary

Unfortunately despite the lack of reliable evidence that stem cell based approaches work or are even safe, stem cell treatments are actively promoted for musculoskeletal conditions and many other health conditions by clinics in Australia and overseas.

Some clinics use cells obtained from the patient on the same day they're collected, while others may grow the patient's or donor cells in the lab over several weeks before returning them to the patient.

Most charge substantial fees (thousands of dollars). They encourage multiple treatments and may imply they're doing research, but aren't usually part of a registered clinical trial. They also often use testimonials from celebrity patients to support their claims of success or improvement.

## Ask questions

If you're thinking about trying stem cell treatment, it's important that you're well informed - so ask lots of questions. For example:

- Is this treatment part of a registered clinical trial listed on the Australian New Zealand Clinical Trial Registry (ANZCTR) or elsewhere?
- Was ethics review and approval obtained, and if so by whom?
- Does the doctor, or any of the researchers involved, have any conflicts of interest, including financial?
- What are the full costs associated with this treatment, and how much am I expected to pay?
- You should not be expected to pay for any of the costs associated with your participation in a trial.
- Is there any scientific evidence (not testimonials or anecdotes) that the treatment does provide benefit for my condition/health issue?
- Are there any side effects or risks involved?
- How many treatments are required?

Ask questions, learn as much about the treatment and how it might affect you as possible and discuss your intentions with your doctor or specialist.

Stem cell treatment is still in its early days, so it's important that you're informed and prepared.

## Where to get help

- Your doctor
- Musculoskeletal Australia  
[www.msk.org.au](http://www.msk.org.au)  
MSK Help Line: 1800 263 265

### How we can help

Call our MSK Help Line and speak to our nurses. Phone 1800 263 265 or email [helpline@msk.org.au](mailto:helpline@msk.org.au).

We can help you find out more about:

- arthritis and musculoskeletal conditions
- ways to live well with these conditions
- managing your pain
- upcoming webinars, seminars and other events.

### More to explore

- Stem Cells Australia  
[www.stemcellsaustralia.edu.au](http://www.stemcellsaustralia.edu.au)
- Australasian College of Sport and Exercise Physicians - 5 things you should know about stem cells  
[www.acsep.org.au/content/Document/5thingsyoushouldknowaboutstemcells\\_v5.pdf](http://www.acsep.org.au/content/Document/5thingsyoushouldknowaboutstemcells_v5.pdf)
- Australian New Zealand Clinical Trial Registry (ANZCTR) [www.anzctr.org.au](http://www.anzctr.org.au)
- Better Health Channel  
[www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)

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