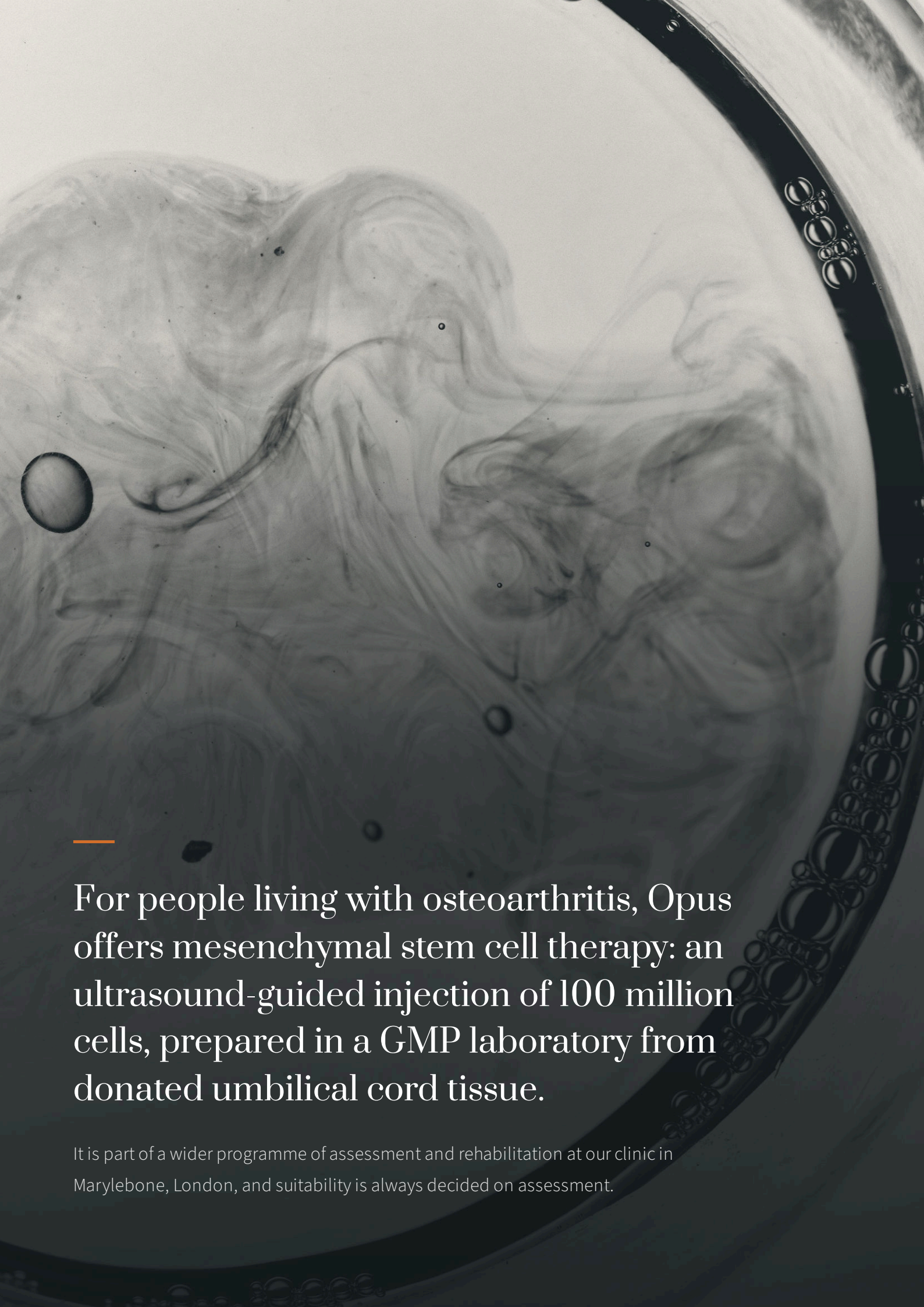


# Regenerative medicine

— in osteoarthritis

The science, the regulation, the pathway



For people living with osteoarthritis, Opus offers mesenchymal stem cell therapy: an ultrasound-guided injection of 100 million cells, prepared in a GMP laboratory from donated umbilical cord tissue.

It is part of a wider programme of assessment and rehabilitation at our clinic in Marylebone, London, and suitability is always decided on assessment.

## 01 THE TREATMENT

# What we treat, and why MSCs

**M**esenchymal stem cells (MSCs) are used in the treatment of musculoskeletal conditions, principally osteoarthritis. MSCs interact with the joint environment in ways that may help regulate inflammation and support overall joint health.

Each treatment uses 100 million MSCs, expanded to this dose in a laboratory that follows Good Manufacturing Practice (GMP).

MSCs carry low levels of MHC class II antigens and co-stimulatory molecules, the surface markers the immune system uses to identify foreign material. That is why cells from a donor are generally well tolerated. They also have immunomodulatory properties, influencing the immune environment around them through the secretion of soluble mediators.

Every patient receives a clear assessment, a structured plan and support from a team that treats regenerative medicine as part of a wider programme.

[STEM CELL TREATMENT AT OPUS →](#)

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100m

MSCS PER TREATMENT

GMP

LABORATORY STANDARD

HTA/MHRA

REGULATORY FRAMEWORK

## 02 SOURCE AND TESTING

# From donation to release

The cells we use are allogeneic, derived from umbilical cord tissue and prepared before treatment, so nothing needs to be harvested from the patient beforehand.

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01

**DONATION**

Umbilical cord tissue, donated for therapeutic use by consenting donors following birth.

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02

**EXPANSION**

Cells are expanded to dose in a GMP laboratory, so no harvest procedure is needed from the patient.

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03

**TESTING**

Sterility, viability, identity and the absence of infectious agents. Cells are karyotyped to confirm genetic stability.

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04

**RELEASE**

Every batch is assessed and documented before release, in line with HTA and MHRA requirements.



#### CELL QUALITY

Umbilical cord-derived MSCs are neonatal in origin. Unlike cells from adult sources such as bone marrow or adipose tissue, they are not subject to the effects of biological ageing, and retain greater proliferative capacity.

#### REGULATED

The treatment sits within a regulated framework under the Human Tissue Authority and the Medicines and Healthcare products Regulatory Agency. Every stage is documented and assessed.

## 03 MECHANISM

# How MSCs work in the joint

Injected into a joint, tendon or muscle, MSCs migrate towards areas of damage, drawn by chemical signals released from injured tissue. This homing process peaks within the first few days.

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## Regulating the environment

MSCs sense the inflammatory environment and release anti-inflammatory signals, alongside inhibitors that reduce the activity of enzymes that break down the extracellular matrix.

## Supporting repair

MSCs release growth factors, including TGF- $\beta$ , BMP and IGF-1, that stimulate resident cells. In articular cartilage this includes the production of type II collagen and proteoglycans.

## 05 THE PATHWAY

# What to expect

For anyone considering regenerative medicine, the process starts with a conversation. Suitability is always decided on assessment.

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01

**CONSULTATION**

A specialist assessment of the joint, your history and your goals, to establish whether MSC treatment is appropriate.

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02

**PLAN**

A structured plan that brings treatment and rehabilitation together from the outset.

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03

**TREATMENT**

An ultrasound-guided injection at Opus, delivered by experienced clinicians.

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04

**REHABILITATION**

A graduated return to activity, supported by the Opus physiotherapy and performance team.

## 06 COMMON QUESTIONS

# Good questions to ask

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## Who is it suitable for?

Suitability is always decided at a consultation, after a specialist assessment of the joint, your history and any scans.

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## Where do the cells come from?

Umbilical cord tissue, donated for therapeutic use by consenting donors following birth, and expanded in a GMP laboratory.

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## How is it regulated?

The treatment sits within a regulated framework under the Human Tissue Authority and the Medicines and Healthcare products Regulatory Agency.

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## What happens on the day?

An ultrasound-guided injection at Opus. You stay nearby for 4 to 6 hours afterwards so the team can monitor you.

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## What does recovery involve?

48 hours of rest, then a graduated return to activity with the Opus physiotherapy and performance team.

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[MORE QUESTIONS ANSWERED →](#)



#### GET IN TOUCH

To find out whether regenerative medicine is right for you, speak to our team.

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