

The ACT-OA Clinical Trial

Cytori Therapeutics, Inc. is currently conducting a clinical trial designed to test whether or not Adipose Derived Regenerative Cells (ADRCs), prepared using the investigational Celution® device, can reduce knee pain and improve function in patients with knee osteoarthritis who are currently receiving medical treatment and still have pain.

The study is being conducted at multiple sites across the United States and will enroll 90 patients. Approximately 60 patients will receive the investigational ADRC treatment and about 30 will receive placebo. Clinic visits will occur over 12 months and at these visits several measurements will be made to assess your knee. These include questionnaires about knee pain, knee function and how this has affected your quality of life. An x-ray and MRI will be taken of your knee at the start and end of the study.

Who Can Be In The study?

The study doctor and team will assess whether or not you are eligible to participate in the study. However, the major qualifications to participate in this study are:

- you have knee osteoarthritis
- you have had knee pain for at least 6 months
- you are between 40 and 70 years old
- you are able to undergo a liposuction procedure (a procedure to remove approximately 1½ cups of fat tissue from your body)

If you think you or someone you know may be eligible for the ACT-OA clinical trial or you would like to learn more please refer to the back cover of this brochure for the applicable contact information.

Find A Clinical Trial Center

Cytori is conducting the ACT-OA clinical trial across multiple sites in the United States in order to investigate the potential of ADRCs for the treatment of osteoarthritis of the knee.

For more information: www.ACT-OA.com or www.clinicaltrials.gov

Please contact your nearest site if you or someone you know is suffering from knee osteoarthritis.

If you would like more information about participating in a clinical trial:

- http://www.nlm.nih.gov/medlineplus/tutorials/clinicaltrials/htm/_no_50_no_o.htm (video tutorial)
- <http://www.fda.gov/ForConsumers/ByAudience/ForPatientAdvocates/HIVandAIDSactivities/ucm121345.htm>



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ACT-OA Clinical Trial Patient Brochure, Version A: 11 November 2014

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ACT-OA
CLINICAL STUDY

**A CLINICAL TRIAL
FOR PATIENTS
WITH KNEE
OSTEOARTHRITIS**



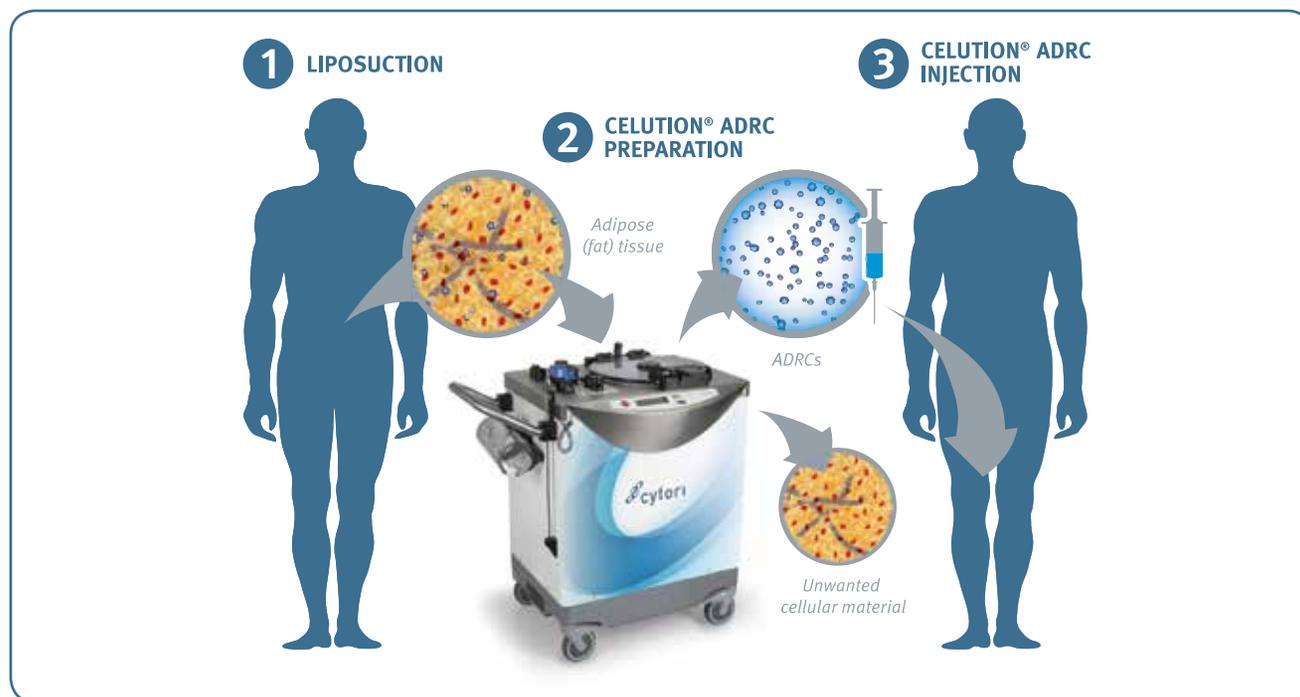
What Are Adipose-Derived Regenerative Cells (ADRCs)?

Repair and regeneration of adult tissues after injury or disease requires the presence of adult regenerative cells. Adult regenerative cells from a variety of tissues, including bone, peripheral blood, and adipose (fat) tissue, have been investigated for tissue repair and regeneration in many disease and injury states. The adult regenerative cells derived from adipose (fat) tissue are referred to as **Adipose Derived Regenerative Cells (ADRCs)**.

ADRCs are a mixed population of cells including adult stem cells, endothelial progenitor cells, leukocytes, endothelial cells, and vascular smooth muscle cells; fat cells are removed. ADRCs are thought to promote healing of scarred or injured tissue. While the exact mechanisms continue to be investigated, there is scientific evidence that ADRCs counteract inflammation, stimulate new blood vessel formation, prevent cell death, and secrete substances that encourage repair and regeneration.

ADRCs are a unique approach in the field of regenerative medicine with several key advantages over regenerative cells from other sources such as bone marrow and embryonic stem cells.

1. Fat is a rich source of adult stem cells:
 - 1 gram of fat contains approximately 5,000 stem cells
 - 1 gram of fat contains approximately 200,000 to 400,000 regenerative cells
2. The abundance of ADRCs in adipose tissue and the ability to easily collect adipose tissue using standard liposuction techniques eliminates the need for culturing the cells. This reduces the complexity and duration of the procedure; investigational ADRC Therapy is administered in a procedure completed within one day.
3. The investigational ADRC Therapy used in the ACT-OA clinical trial is autologous, which means your own cells and not someone else's are used in the procedure. This removes issues around tissue matching, tissue rejection, and possible transfer of disease from a donor to a patient.
4. ADRCs are not derived from embryonic sources.



Once you have been deemed eligible by the study doctor to participate in the ACT-OA trial, a time will be scheduled for you to be admitted for the procedure. The procedure consists of 3 phases as shown in the figure above:

1. Liposuction to collect approximately 1½ cups of fat from your body; this procedure will be conducted under local anesthesia with or without medications to make you sleep.
2. The fat tissue collected from you is then processed using investigational Celution® technology to prepare ADRCs. During the ADRC preparation (approximately 3 hours) you will be resting.
3. After preparation of your ADRCs is complete, the appropriate study treatment (ADRCs or placebo) will be injected into one of your knees with a small needle.

The entire procedure from start of the liposuction through to completion of the knee injections will take approximately 5 hours. You will be able to return home the same day.

Are There Any Risks To Being In The ACT-OA Clinical Trial?

The investigational Celution® prepared ADRCs being studied in the ACT-OA clinical trial have not been studied enough yet to know whether the cells provide benefits to patients with osteoarthritis of the knee. The information gathered during the ACT-OA trial will give doctors and scientists a better idea about whether there might be a benefit and then further clinical studies will be needed.

There are both known and unknown risks associated with the liposuction procedure, the knee injection procedure, and the use of investigational Celution® prepared ADRCs. If you are interested in participating in this study the study doctor will discuss all of these risks with you.