

# Regenerative medicine: using the body to heal itself

## Introduction

Regenerative medicine seeks to develop the science and tools that can help repair or replace damaged and diseased human cells or tissues to restore normal function. It is revolutionizing treatment in the 21st century through the transplantation of stem cells, progenitor cells or tissue and the use of cells as delivery-vehicles for therapeutic agents such as genes and cytokines. All these advances lead to the stimulation of the body's own repair processes.

By using different cell sub-populations extracted from blood or bone marrow, Ortholdaho involves the patient's own body to achieve long-lasting results and offers longer lasting respite and an alternative to surgery to its patients. Knees, joints, tendons and back discs are the most common treatment locations for this practice.

## Challenges

The key challenges are to be able to deliver rapid and accurate quality assurance to both patients and practitioners and to make continuous improvements to all the processes leading to better care.

For regenerative medicine, the latest studies on platelet-rich plasma and bone marrow aspirate and concentrate show that these treatments allow more directed healing to joints, tendons, muscles and discs. This is allowing patients a greater amount of time and activity before joint or disc replacements.

## User Commentary

*We purchased the NC-200™ NucleoCounter® because the nucleated cell count enables us to see the percentage of quality cells obtained in each bone marrow sample. A percentage of these are mesenchymal stem cells (MSCs) believed to be part of the regenerative or healing process.*



*There are no other cell counters on the market that allow us to do this with the ease of use of the NC-200™ and its technology transfers very well to the clinical setting. We found that, after our bone marrow sample is drawn, we can run a cell count and look at both total nucleated cell count and viability and relay this information to the patient, giving vital assurance that a quality sample has been taken. If not adequate, we have the option of a second aspiration. The NC-200™ also allows us, in the long run, to monitor the quality of the samples we are getting and adjust and improve our optimization technologies.*

*This is a quick, clean system which is simple to use, and the data is easy to read. It is fast and easy to transfer the data into our patient database and print out for the patient making the NC-200™ an essential component within our treatment process.*

Amanda Dunahoo, assistant to Dr. Anthony Joseph.

Learn more about Ortholdaho at <http://orthoida.com>

## Unrivalled Consistency and Ease of Use



- Cell sampling and staining are combined into one simple step
- Loading, imaging and analysis of sample performed in only 50 seconds
- Minimal user training required. Results will be consistent between multiple users and sites for easy and reliable process implementation and validation
- Total cell count and viability is precisely quantified, enabling stromal vascular fraction (SVF) use in patient treatment
- Precise counting of bone marrow-derived MSCs
- Chemicals are locked into the mixing channels of the Via1-Cassette™ and pose no risk to the user
- No ongoing maintenance or calibration requirements
- Unlimited software licenses

If you would like to evaluate the NucleoCounter® NC-200™ you can request a free demo at [www.chemometec.com](http://www.chemometec.com).