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Bonus BioGroup aims to create human spare parts

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Israel based biotech company Bonus BioGroup has entered the second trial of a clinical study seeking to regrow bones in a lab. The first trial, which began four years ago and comprised 32 patients, was completed successfully, according to Dr. Shai Meretzki, CEO and founder of Bonus BioGroup.

The second trial will consist of over 60 operations, with two groups of patients, cranial and orthopedic, and will be followed by another trial with a larger group of participants. The bone regenerating treatment is expected to finish its trials, gain FDA approval and hit the market in three to four years.

Liposuction is used to retrieve fat cells from the body, from which damage-controlling cells are isolated. The isolated cells are then grown in a bioreactor, a man-made simulation of the human body. After two weeks, the new bone, tailored to the patient's needs, is injected back inside of the patient in the form of thousands of tiny, living bone particles called BonoFill.

In the next stage of development, the team hopes to focus on regenerating fat and cartilage. The goal is to create spare parts for human beings, to be able to heal knees, hips, shoulders and elbows.