# Stem Cell Therapy Offers Hope for Multiple Sclerosis Patients



**Promising Stem Cell Therapy for Multiple Sclerosis Shows Positive Results**

Robin Gordon-Cartier, diagnosed with multiple sclerosis (MS) at age 50, faced debilitating symptoms that significantly impacted her career as a harpist and teacher. After an advanced diagnosis and lack of effective treatments, Gordon-Cartier found hope in a stem cell therapy trial in 2019 led by Dr. Violaine Harris at the Tisch MS Research Center of New York.

The treatment involved injecting her spine with restorative cells derived from her own bone marrow. Over the course of one year, she received six injections. Five years post-treatment, she has regained significant mobility and strength, allowing her to resume performing and teaching.

The therapy was initially tested in a smaller trial from 2014 to 2016, with promising short-term results but no long-term efficacy. The phase two trial, involving 54 patients, began in 2018 and showed that patients experienced improved walking speed and bladder control, although it did not reverse overall MS disability. The U.S. FDA is reviewing the treatment for compassionate use for patients with no other options.

MS affects approximately 1 million Americans, causing the immune system to attack the protective myelin sheath on nerve fibers. Stem cell therapy aims to regenerate lost nerve cells, providing potential improvements in patients' quality of life.

Meanwhile, stem cell therapy is also showing promise in other medical areas, including treating type 2 diabetes and potentially erectile dysfunction, lung disease, and blindness.

**New Depression Treatment Challenges Psychedelic Therapy Approach**

Dextromethorphan, an active ingredient in many cough syrups known for its hallucinogenic effects when abused, has been repurposed by Axsome Therapeutics in a new depression treatment, Auvelity. Approved by the U.S. FDA in August 2022, Auvelity combines dextromethorphan with buproprion to negate hallucinations while effectively treating major depressive disorder (MDD).

In clinical trials involving 1,100 participants, no hallucinations or drug-seeking behavior were reported. This approach challenges the notion held by some researchers that hallucinogenic experiences are necessary for therapeutic benefits in treating depression.

Auvelity's success suggests that effective treatment for MDD may not require the hallucinatory experiences often associated with psychedelic drugs like psilocybin or LSD, which complicate and increase the cost of therapy. Another similar drug combination by NRx Pharmaceuticals, targeting bipolar depression, is also seeking FDA approval following successful trials.

These advances highlight a potential shift in mental health treatment paradigms, focusing on neuron growth in the prefrontal cortex without the need for psychedelic experiences.