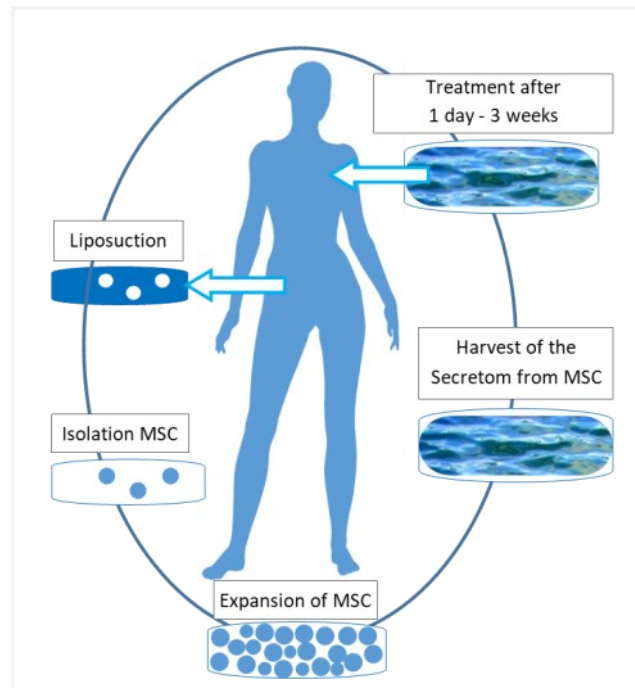




Treatment possibilities With your own Stem Cells



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Parkinson's Disease

Parkinson's Disease

- PD is a movement disorder with three cardinal signs: tremor, rigidity and bradykinesia.
- Parkinson's disease is the second most common age-related neurodegenerative disorder after Alzheimer's disease.
- An estimated 7 to 10 million people worldwide have Parkinson's disease.
- Men are 1.5 times more likely to have Parkinson's than women.
- The main neuropathological finding is α -synuclein-containing Lewy bodies and loss of dopaminergic neurons in the substantia nigra, manifesting as reduced facilitation of voluntary movements.
- The cause of PD is unknown in most cases.

Currently: There is no cure for PD

Treatments aiming to relieve PD motor symptoms include the use of oral medications and deep brain stimulation with surgically implanted electrodes.

These treatments have proved effective only to a point and can generate adverse effects.



Preclinical studies

- > **Mesenchymal stem cells** (MSCs) reach the lesion site already within 2 h after intranasal administration
- > **Intranasal application** of MSCs increased the tyrosine hydroxylase level in the lesioned ipsilateral striatum and substantia nigra
- > **Significant** and substantial improvement of motor function

Mesenchymal stem cells

- > Treatment of Parkinson's disease with mesenchymal stem cells and their secretome
- > Mesenchymal Stem Cells - Regenerate and Replace.
- > Stem cells can be transformed into Dopamine producing cells to replace the cells in the substantia nigra.
- > Additionally exosomes and several neurotrophic proteins such as BDNF and GDNF are produced by the stem cells.
- > Transformation into dopamine producing cells is done with herbal extracts and one single growth factor.

Treatment possibilities

We are suggesting a **two-fold approach to treatment of Parkinson Disease**: a) **replacing dopamine producing cells** with DPCs made from your adipose derived mesenchymal stem cells and b) intravenous **injection of exosomes and neuroregenerative substances** made by your MSCs (the secretome)

Application of DPCs initially will be done by simple intranasal application. If this should not generate the desired effect after 1 months, intramuscular, intranasal and subcutaneous injections will be considered. Intranasal application is considered safe in humans, but no relevant clinical data are available so far (please read T&C and treatment contract carefully). Intravenous injection of secretome has excellent safety profile after 4000 injections so far.

The estimated migration of DPCs and MSCs after intranasal application is fast, however the cells need time to settle down and produce Dopamine, hence the 4 week investigation on efficiency of the treatment. At the end of the first 4 weeks, clinical data and your own assessment will be considered and changes and future treatments discussed.



Mesencell can preserve your cells in liquid nitrogen for up to 10 years.