

Advancing Treatment Options for Type I Diabetes with Dental Stem Cells

Perhaps one of the most exciting promises found in dental stem cells is their potential to play a role in treating Type 1 Diabetes. Also known as Juvenile Diabetes, this chronic disease often is diagnosed in childhood and affects every aspect of one's life – carefully managing blood sugar levels, diet and exercise on a daily basis, and monitoring long term risks of conditions such as cardiovascular disease. The CDC estimates that nearly one million Americans have type 1 diabetes, with more than 15,000 newly diagnosed each year. Research suggests that stem cells from teeth could enable new therapies for diabetes in the future.

There are stem cells in teeth...

In 2000, scientists at the National Institutes of Health discovered stem cells in and near teeth that are similar to those found in bone marrow – both are classified as Mesenchymal Stem Cells (MSCs). They are complementary to the hematopoietic stem cells found in umbilical cord blood.

Mesenchymal Stem Cells are being studied for the treatment of Type 1 Diabetes...

MSCs from bone marrow are being used in a human clinical trial, supported by the Juvenile Diabetes Research Foundation (JDRF), with the goal to halt or reverse the autoimmune attack that causes Type 1 Diabetes.

Specifically, Dental Stem Cells are being studied for diabetes...

A study published in 2011 by the University of Malaya showed that stem cells from the dental pulp of baby teeth, pulled as part of routine dental care, could create islet-like cell aggregates which produced insulin in a glucose responsive manner. Researchers at the University of Miami's Diabetes Research Institute reported evidence that stem cells from periodontal ligament are capable of differentiating into cells that secrete insulin. These findings suggest that dental stem cells may one day enable new therapies for Type 1 diabetes, such as autologous transplantation of pancreatic islet cells.

Dental Stem Cells are also being studied for other serious diseases... (See Research Summary)

- Dental stem cells improved cardiovascular function in rats after a heart attack.
- Stem cells from dental pulp reduced damage from spinal cord injury in animals.
- Stem cells from dental pulp were used to repair bone loss in humans.
- Cells found in the periodontal ligament were used to treat periodontal disease.
- Dental stem cells were reported to induce nerve regeneration and differentiate into neurons.

What does this mean?

Overall, research using dental stem cells is early, but promising. We cannot guarantee these stem cells will ever be used for the treatment of Type 1 Diabetes or related conditions, however initial dental stem cell applications, such as for the treatment of bone loss, are already becoming a reality. Baby teeth, wisdom teeth, and teeth pulled for braces are normally discarded. Instead, consider saving these teeth and preserving your family's stem cells. As one client said, 'it's like an insurance policy – added protection in case our child ever needs whatever medical breakthroughs are around the corner.'

Dental Stem Cells – a Future Treatment for Diabetes?

Saving a tooth could help protect your family's health

Store-A-Tooth™ enables you to collect and save the stem cells in your family's teeth. Stem cells are found in baby teeth that are naturally coming out and other healthy teeth being extracted, such as wisdom teeth. Dental stem cells have the potential to be used in both dental and medical applications, and have already been shown to regenerate jaw bone and treat periodontal disease in humans. Similar to cord blood stem cells (which have been used to treat leukemia and blood-related cancers), dental stem cells are being studied by researchers to see how they could eventually play a role in treating conditions such as diabetes, spinal cord injury, stroke, heart attack and neurological diseases like Parkinson's and Alzheimer's.



Baby Teeth

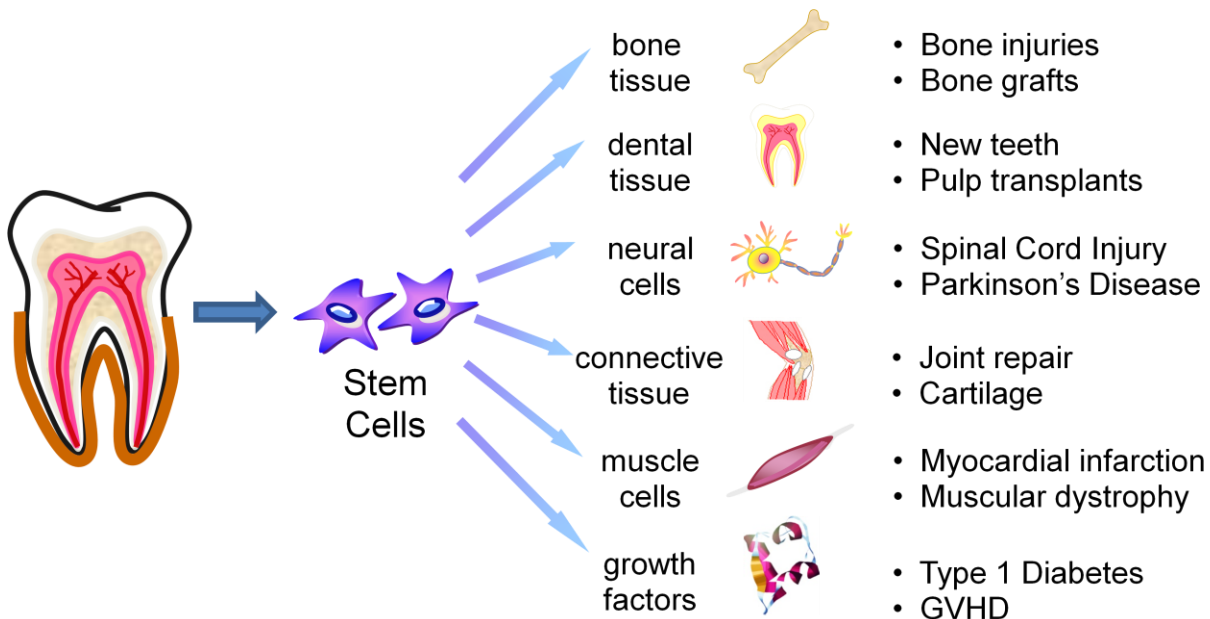


Orthodontia



Wisdom Teeth

There are many opportunities to save stem cells from teeth. Any healthy tooth is a viable candidate for stem cell preservation.



Stem cells from teeth could lead to new therapies for a number of diseases.