Anti-smoking concert held

It’s been an exciting few weeks for the Russian American Dental Association (RADA) since the non-profit officially kicked off its annual Oral Cancer/Tobacco Cessation Project. Since 2008, the group has held free oral cancer screenings as well as a Kids Anti-Smoking Drawing Contest for children in kindergarten through eighth grade in New York City. This year, the organization expanded its programs, setting up extra oral cancer screenings in Queens and New Jersey as well as a fundraising concert that was held on April 27. Piano students from YM Studio performed at Young Musicians for a Smoke Free Planet at Jazz in the Lincoln Center to a packed room of proud parents and other attendees.

Playing at Jazz is an honor, as it is a well-known performance space that features prominent jazz and blues musicians such as Eric Clapton, Herbie Hancock and Lynda Carter. The Edward John Noble Foundation Studio consisted of talented pianists in elementary, middle and high school who wanted to display their hard work while playing for a charitable cause. The goal of the event was to inform children of the dangers of cigarette use and encourage conversation between kids and their peers.

The concert was a fundraiser, with more than $1,000 in proceeds going toward RADA’s many initiatives that seek to prevent children from smoking and support dental wellness. RADA President Dr. Rada Sumareva spearheaded the event and was happy with the results. “RADA is glad to reach out to kids and families and make them aware of how to maintain their health,” she said.

Pieces from Beethoven, Mozart, Rachmaninoff and Bach were played, just to name a few. Throughout the afternoon, the room was filled with flawlessly executed tunes that portrayed a mix of moods, from upbeat to sad and everything in between. There were different levels of experience; with the younger kids playing A-Tooth dental stem cell banking. This service enables families to collect and preserve the stem cells from their children’s teeth for future use. Sharpe has earned an international reputation for his research into using stem cells to grow new teeth. He has demonstrated in animal studies that a natural tooth, together with its associated bone, root and nerves, will grow from a
Tooth “bud” or “primordium” of stem cells placed into an incision in the gum.

He was among the invited speakers at the first International Conference on Dental and Craniofacial Stem Cells, held in April in New York City. There he discussed his most recent research into the niches in tooth pulp where stem cells reside.1

“In the future we envision,” explained Sharpe, “a patient who loses a tooth and wants a replacement will be able to choose between current methods and a biological-based implant — a new natural tooth — derived from the patient’s own dental stem cells.”

Notwithstanding steady progress in the prevention and treatment of dental disease, the toothless and those lacking some or most of their teeth still make up a huge population. According to the most recent national health surveys, about 70 percent of adults in the United States have lost at least one tooth; about 58 percent of those aged 50 and older have fewer than the 21 teeth considered “function- al denition”; and about 18 percent aged 65 or older have no natural teeth left.2

To be sure, it will be some years before there is no one removing a mouthful of dentures at night to place them in a cup on the bedside table. Yet the work of Sharpe and other investigators has brought another option into view.

In 2004, for example, he and his colleagues reported in the Journal of Dental Research (JDR) that they had used stem cells to grow teeth in mice.3 The stem cells used in that work were not human dental stem cells but rather mouse embryonic stem cells and bone-marrow-derived stem cells. Even so, as the editor of JDR said in a commentary, “Clearly, the future for regenerative and tissue-engineering applications to dentistry is one with immense potential, capable of bringing quantum advances in treatment for our patients.”4 Later Dr. Sharpe and his team received the William J. Gies Award for best paper published in JDR that year in the category of biomaterials and bioengineering.

Sharpe has noted the particular advantages that human dental stem cells offer in taking this research further. Unlike human embryonic stem cells, they are plentiful and raise no ethical issues — a potential source becomes available every time a dentist or dental surgeon pulls a loose baby tooth or a molar; unlike bone-marrow stem cells, dental stem cells do not require an additional invasive procedure to obtain; and dental stem cells can be preserved for the donor’s own use, eliminating the chance of rejection if used for later treatment.

Although experiments in growing new teeth remain early-stage research, other applications of dental stem cells have already been demonstrated in human studies. These cells have been successfully used to regrow jawbone and treat periodontal disease. Moreover, leading-edge research in regenerative dentistry fosters progress in regenerative medicine as well. Teeth, unlike, say, the pancreas or the heart, are readily accessible, making it relatively easy to do studies that demonstrate general principles in organ restoration. As Sharpe once quipped, “Patients just have to come in and open their mouths.”5

References
1. “The rodent incisor mesenchymal stem cell niche.”

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