

Groundbreaking research uses stem cells to relieve mouth, face pain

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Research from Boston University Henry M. Goldman School of Dental Medicine shows for the first time that a particular type of stem cell, bone marrow derived mesenchymal stem cells (BMMSCs), can suppress orofacial pain rapidly--within one day of treatment--by either IV injection of cells or direct injection of cells to the injured site.

In rat models, the pain never came back after stem cell injection. But in the untreated group, the pain lasted up to 22 weeks, or the length of the experimental period.

Researchers simulated two types of pain: myogenic pain (by ligating, or tying up, the masticatory muscle tendon) and neuropathic pain (by tying up the nerve on the face). [Stem cells](#) successfully reduced pain in both cases.

The next step is a clinical trial to treat recalcitrant orofacial pain.

Researchers also found that this [pain](#) suppression is in part mediated through the endogenous opioid system operated centrally (in the brain) and peripherally (at the injured site). Further mechanisms to explain how this works are now under investigation.

Associate Professor of Endodontics Dr. George Huang worked on the study with Dr. Ke Ren, professor at the University of Maryland School of Dentistry.

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We will do so in an ethical, supportive environment, consistent with our core values of respect, truth, responsibility, fairness, compassion; and our operational values of excellence, service and effective communication in synergy with the strategic plan of Boston University.

We will support this mission using responsible financial policies and philanthropy.

Provided by Boston University

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