

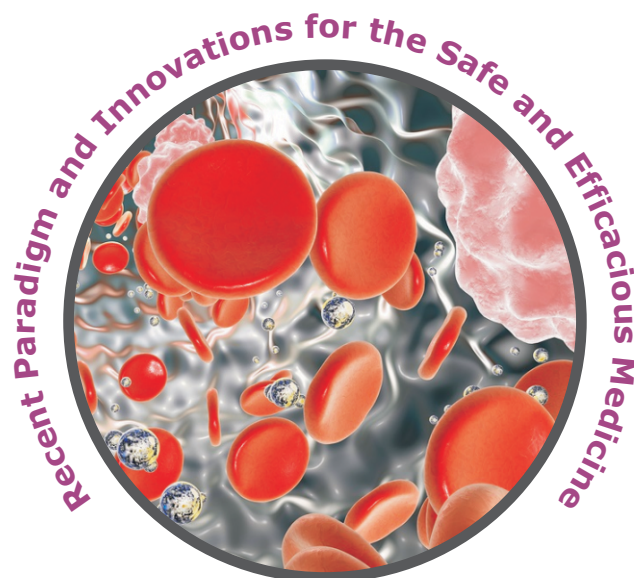


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oral health-care services. Further, the emotional components such as fear, anxiety, and emotions contribute to increase in the sensation of pain. Hence, the management of pain is an arduous task for dentists. Vestibular system has enormous to and fro connections with cortical and subcortical structures and produce analgesia effects. To review the possible mechanisms by which vestibular stimulation may relieve pain, and to suggest necessary translational research in this area, for the benefit of diabetic patients and to the society in general. A detailed review of published literature from <http://www.google.com>, <http://www.pubmed.com>, British medical <http://www.journal.com>, Medline, ERIC, <http://www.frontiersin.org> and other online journals was performed and analyzed. Stimulating the vestibular system relieves pain by modulating the somatosensory perception. Vestibular stimulation produces analgesia effect by decreasing the attention by inhibiting the visual areas. Vestibular system is well connected with thalamic nucleus and it is known that thalamic stimulation relieves pain. Stimulation of vestibular system excited the activity of neurons in the midbrain, and stimulation of this area was being used to alleviate pain for decades. Vestibular stimulation was reported to activate the neurons of dorsal raphe nucleus, cerebellum, periventricular nucleus, periaquiductal gray matter and dorsol motor nucleus of vagus which inhibits the spinal neurons located in lamina I, V, and VI. Vestibular stimulation may be useful as an adjunctive therapy in the management of dental pain. Vestibular stimulation is expected to produce better results because it not only relieves pain but also relieves the negative emotions such as anxiety and promotes sleep. All these effects may reduce the quantity of analgesics used for the treatment. It is the need of time to identify the importance of vestibular stimulation and to start translational research to provide scientific evidence for the management of chronic orofacial pain through vestibular stimulation to promote oral health and quality of life.

#### PH-25

#### ✓ GENOME EDITING TECHNOLOGY FOR BIOLOGICAL AND BIOMEDICAL INVESTIGATIONS

**Chitra S. Paytode\*, Sneha R. Chandewar, Tejaswini K. Mankar, Vinod M. Thakare**

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#### ABSTRACT

The clustered regularly interspaced short palindromic repeats (CRISPR)-Cas9 is a simple, efficient, and versatile technology for targeted genome editing in a wide range of organisms and cell types. It continues to gain more scientific interest and has established itself as an extremely powerful technology within our synthetic biology toolkit. It works upon a targeted site and generates a double strand breaks that become repaired by either the Non-homologous end joining (NHEJ) or the Homology directed repair (HDR) pathway, modifying or permanently replacing the genomic target sequences of interest. Recently, CRISPR/Cas9 mediated genome engineering has been widely applied to model organisms, including *Bacillus subtilis*, enabling facile, rapid high-fidelity modification of endogenous native genes. These can include viral targets, single-mutation genetic diseases, and multiple-site corrections for wide scale disease states, offering the potential to manage and cure some of mankind's most persistent biomedical menaces. Here, we present the developing progress and future potential of CRISPR-Cas9 in biological and biomedical investigations, toward numerous therapeutic, biomedical, and biotechnological applications.

#### PH-26

#### ✓ HEALTH APPLICATIONS AND ITS RISKS

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#### ABSTRACT

Use of health apps by the general public and health consumers has both advantages and disadvantages. Undisputedly, the use of apps in all health-related areas carries a number of risks in addition to the obvious. These can relate both to an application's efficacy (including any adverse effects) or the lack of thereof (not achieving the desired effect).