

ANOSMIA NEWS from MONELL



January 2020

Welcome to the latest issue of Anosmia News from Monell.

The scientists at the Monell Center are dedicated to advancing the understanding of taste, smell, and related senses, and our broad research portfolio includes three separate projects on anosmia - the loss of the sense of smell. These projects are our hallmark regeneration study, discovering genes responsible for smell loss, and investigating new smell training and brain stimulation methods to enhance a diminished sense of smell. [You can read more about some of this research in past Anosmia Newsletters, found here.](#)

Anosmia Research Update

Monell is part of a wider scientific community seeking information about, and treatments for, [anosmia](#). We wanted to share some information about recent anosmia research developments.

Several new academic studies on smell loss have been published in the last few months of 2019, giving the scientific community and patient groups new hope to advance the field in 2020. For example, an otolaryngology research team from the Harvard Medical School described a new approach to possibly restoring the loss of smell in [International Forum of Allergy and Rhinology](#), which they likened to a “cochlear implant” for the nose.



Therapeutic options to combat anosmia are limited, but electrically stimulating the smell center in the brain may have potential. The Harvard group conducted a pilot study to see if smell could be artificially roused by exciting the olfactory bulb in people. Five subjects with intact smell took part by having electrodes placed along a thin bone separating the olfactory bulb from the nasal and sinus cavities, called the cribriform plate. Three of the five reported perceiving odors such as onion and fruit when the electrodes were activated. This is the first account of inducing smell using electrical stimulation of the olfactory bulb, and the authors say it supports the feasibility of developing an olfactory implant. [An article in Harvard Otolaryngology](#), notes that this proof-of-concept



study opens the door to extend the research to include anosmics, albeit in the long run, a nasal implant may be more difficult to develop than a cochlear implant.

Progress in the field is also taking place in model organisms. Researchers from the University of Miami Miller School of Medicine published a study in [Stem Cell Reports](#) that describes how a stem-cell-based method can restore smell in mice with experimentally induced anosmia. They demonstrated that purified, olfactory stem cells delivered to the nasal passages could produce functioning olfactory neurons. The investigators hope this work will provide a basis for growing adult sensory progenitor cells to test for potential therapies in humans.

Publishing in [Chemical Senses](#), researchers from Kanazawa Medical University in Japan took a different approach to tissue regeneration. Using mouse and cell culture experiments, they investigated the effects of a traditional Japanese Kampo therapy for treating post-viral anosmia. They identified specific chemical components of Kampo that seem to promote regeneration of olfactory neurons by increasing expression of nerve growth factors in the olfactory bulb.

A study in [Molecular Neurobiology](#), conducted by a team of investigators from several ENT clinics in Spain looked at how olfactory training improved rodents' ability to smell after experimentally induced olfactory dysfunction. The team found that one week of olfactory training enabled the animals to complete olfactory tasks at levels equivalent to those seen before dysfunction was induced. They attribute this result to an increase in dopamine-producing olfactory interneurons, cells that transmit impulses between other neurons. The provides a possible physiological mechanism to explain the efficacy of olfactory training.

Anosmia Awareness Day is Coming



Logo by Daniel Schein

February 27 is Anosmia Awareness Day. The researchers at Monell are pleased to join patient advocates around the world in pushing for greater awareness of this condition. Keep an eye out for more from Monell as we get closer to February 27.

Recipe: The Anosmia Sandwich

Leah Holzel, a multidisciplinary culinary professional and food journalist, lost her sense of smell in 2016 following an upper respiratory infection and turned her focus to designing recipes for anosmics. After Leah connected with the



scientists at Monell to learn more about anosmia, we partnered with her to bring you some of her amazing recipes.

In the spirit of 2020 and the sense of discovery a new year brings, she shares the first recipe she wrote at the beginning of her smell loss: **The Anosmia Sandwich**.



[Read and download Leah's The Anosmia Sandwich recipe here.](#)

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