KONICA MINOLTA

News Release

Konica Minolta Launches Kunkun dental, a VSC Odor Visualization Tool, Incorporating Odor Detection Technology that Combines Sensors with Machine Learning

Tokyo (June 22, 2020) – Konica Minolta, Inc. (Konica Minolta) today announced that the company launched Kunkun dental in Japan, a tool to measure odors from VSCs (VCS odors*), which incorporates the company's odor detection technology that combines sensors with machine learning. This is the second product developed as part of the company's body odor visualization project. With its ability to visualize VSC odors more easily and promptly, Kunkun dental, designed to be first used by dentists as a measuring tool, is expected to contribute to healthier living.

Kunkun dental

* VSC odors are odors arising from volatile sulfur compounds (VSCs), such as hydrogen sulfide (H_2S), methyl mercaptan (CH_3SH), and dimethyl sulfide (CH_32S).

Features

In developing Kunkun dental, Konica Minolta applied the odor detection technology used in Kunkun body, the preceding model launched in 2018. With a neural network-based AI odor-detection algorithm tailored to VSC odors, Kunkun dental can discriminate among three types of VSC odors – hydrogen sulfide, methyl mercaptan and dimethyl sulfide – and display the level of each of these odors. It takes only two minutes to prepare for measurement, then the measurement result is displayed in only one minute after a breath sample is taken. This makes the product easier to use for both the measurer and the person being measured. Equipped with a portable battery charger, Kunkun dental can be conveniently carried around and used anywhere.

With these features, Kunkun dental is ideal for use in dental clinics, as well as for in-home dental and nursing care.

* Kunkun dental is an auxiliary diagnostic tool, not a medical device.

Body of Kunkun dental

The measurement result is displayed on a tablet screen in a clear, easy-to-understand manner.

Background

In 2014, Konica Minolta established Business Innovation Center Japan (BIC Japan) with the aim of developing new businesses from customers' viewpoints in fields yet to be explored. BIC Japan noticed the growing need for deodorization solutions as an added value to various services, and thought it would be useful to develop a way to visualize odors, which had not existed before. Thus, the High Accuracy Nose Assist (HANA) project was started as a standard platform for visualizing odors. As a first step of the project, a tool to measure body odors, Kunkun body, was developed and released in the market.

BIC Japan then started developing a tool to visualize and measure VSC odors, following the advice of Dr. Maki Morishita, a dentist and one of the advisors to the company's odor visualization project, that Konica Minolta's technology could be effectively used for measuring VSC odors to detect risk factors of various systemic diseases present in the oral environment. The result is Kunkun dental, a tool incorporating odor detection technology tailored to VSC odors, which can measure odors faster and more easily than the preceding model, and at lower cost.

BIC Japan will continue to promote Kunkun dental to contribute to a healthier society by encouraging the measurement of VSC odors in dental clinics and at home.

Future Business Prospects

Konica Minolta will remain focused on the visualization of odors, and will launch the Kunkun X service this autumn to quantify all types of odors by customizing its odor detection technology. The service will provide objective indicators of specific odors, such as cigarette smoke and pet odors in a room or car, according to the needs of respective corporate and individual customers. It can also be used to assess the effectiveness of deodorizers and deodorizing materials. Konica Minolta is confident that its odor visualization service will add value to various industries.

Profile of Dr. Maki Morishita

D.D.S., Ph.D., President of Japan Dental Research Institute Inc.

Dr. Morishita graduated from the Faculty of Dentistry of Tokyo Medical and Dental University (TMDU) at the top of the class. She also studied at the King's College London Dental Institute in the U.K. while at TMDU. After working as a resident at TMDU Dental Hospital, she entered TMDU Graduate School and received a Ph.D. She also served as a research fellow of the Japan Society for the Promotion of Science while in graduate school.

In 2017, she established a company, Japan Dental Research Institute Inc., and became its president. She has since been working to develop the dental industry to achieve her mission: to make Japan the most advanced country in dentistry. The company has developed IKIREI, an innovative gel-type breath care product that helps users eliminate bad breath by licking the gel.

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