KING SKYFRONT
Kawasaki INnovation Gateway at SKYFRONT
i-Newsletter
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First Look at the Oral Health among the Working Generation

From December last year through March this year, Kubota laboratory at Graduate School of Health Innovation, Kanagawa University of Human Services (Tonomachi Campus) carried out the first “Oral Health Survey” with people involved in projects at KING SKYFRONT . Nearly 400 people took part in this new initiative. We had the opportunity to speak with Dr. Yu Kubota, DDS and PhD, who launched the project, about the background of the survey and the analysis of interest.

Regular Dental Checkups for Adults!

Many of us probably remember having dental checkups at school when we were children. Since oral diseases—such as cavities and gum disease—can affect us throughout our lives, regular dental checkups are important for maintaining good oral health.

For this reason, dental checkups for children are mandatory in Japan, and a system for continuous follow-up has been established. On the other hand, dental checkups for adults are voluntary, and whether they go regularly often depends on their own awareness and daily habits. As a result, adults’ oral health can vary from person to person.

As a result, following the Cabinet decision made in 2022, research and surveys have been promoted to support policies encouraging dental checkups throughout life (dental checkups), particularly targeting the working generation. Surveys in the workplace are one part of these efforts. We thought KING SKYFRONT is an area where companies and institutions from various fields—such as biotech, healthcare, transportation, and manufacturing—are concentrated, making it an ideal location for conducting workplace oral health surveys.

Start Oral Frailty Prevention among Working Generation

There are two main reasons why workplace dental checkups are important. The first is that oral health risks can vary depending on the type of occupation. For example, people with irregular work schedules are more likely to have a higher riskof cavities and gum disease. For example, people with irregular work schedules may be more may be prone to have more cavities and gum diseases. Because it is often difficult to make dental appointments or to continue treatment, patients are prone to fall into a vicious cycle in which their dental condition worsens further.

The second is the prevention of oral frailty, or the decline of oral functions. As we age, many people start to notice it becomes harder to chew or swallow. However, this doesn’t happen suddenly at a certain age—it develops gradually over time. Understanding this slow progression is important, because it gives us the chance to spot early signs and take preventive steps long before serious problems arise. That’s why we’re looking into when the first signs might show up and how our work life and overall health could be connected. Learning more about these things while people are still in their working generations could help prevent problems down the line.

20% in the KING SKYFRONT Survey

About 400 people took part in the KING SKYFRONT survey, and we are currently analyzing data from approximately 370 people. The majority of participants are in their 40s and 50s, representing Japan’s working generation. A notable feature of this survey is the gender ratio: while other workplace surveys tend to have a higher proportion of men, at KING SKYFRONT the ratio of men to women is nearly equal. As for occupations, many participants work in research, technical, or development roles. In the survey, we asked about five items related to oral frailty: 1) number of teeth, 2) chewing ability, 3) swallowing, 4) conversation, and 5) dry mouth. Although the analysis is still underway, it appears that around 20% of participants show signs of oral frailty.

In another survey, about 30% of people in their 70s were found to have oral frailty. To determine whether the 20% observed in this survey is high or low, we will need to compare it with data from other workplace surveys and different age groups in future analyses. We have also included items related to presenteeism (such as reduced work efficiency, inability to concentrate on tasks, or impaired judgment during work), and we plan to further analyze the relationship between these factors and oral frailty in the future.

As part of our survey, we hosted activities such as “bite force measurement,” which encouraged some participants to take more interest in their own oral health. We hope to continue contributing to everyone’s well-being through future surveys and activities.

Leveraging Our Location for Research Collaboration

Based on the results of this year’s survey, we are planning to conduct new research from a different perspective in fiscal year 2025. For example, we’d like to look at topics such as the relationship between menopause and oral frailty, or how women’s life stages relate to oral healthrisks as well. In the future, we hope to contribute to society by publishing the results of this survey as an academic paper and presenting them at academic conferences. One of KING SKYFRONT’s strengths is its location, so we also hope to pursue research collaborations with institutions in the area.

About the laboratory ▶

News

Niigata Co., Ltd. has joined KING SKYFRONT

Niigata Co., Ltd. provides research and development services.No two inquiries or requests from researchers are ever the same. Each presents an element of “you never know until you try”—a world that can only be discovered by experimenting, creating, and stepping forward together with our clients.We see this very process as the essence of research and development services, and we strive to be a true partner who thinks and explores alongside our clients. Across a wide range of fields, we are committed to supporting the creation of new value and helping solve the challenges of tomorrow.

≪Case Studies≫

- Design and fabrication of custom proof-of-concept equipment, from lab scale to pilot scale
- Collaborative product development and technical consulting, from prototypes to mass production
- Assessing challenges and providing tailored solutions for multiple operational situations

NIIGATA

For more details ▼

Event Report

Regenerative Medicine & Cell Therapy Stamp Rally in KING SKYFRONT

The Kanagawa Prefectural Government collaborated with the popular anime "Cell at Work!" to host a stamp rally in KING SKYFRONT. The event made it fun and easy to learn about initiatives to advance the industrialization of Regenerative Medicine and cell therapy. The three-day event, held from August 12 to 14, invited visitors to collect stamps at three different spots. Those who completed the rally received an exclusive gift. Families and children enjoyed the activities from morning, creating a lively and cheerful atmosphere throughout the event.

For more details ▼

TONOBITO

"TONOBITO" is a feature series that introduces the personalities and everyday lives of the people working at KING SKYFRONT, offering a chance to get to know them and fostering opportunities for connection.

Cellab Healthcare Service CO.,LTD.
Tetta Chiba

For more details ▼

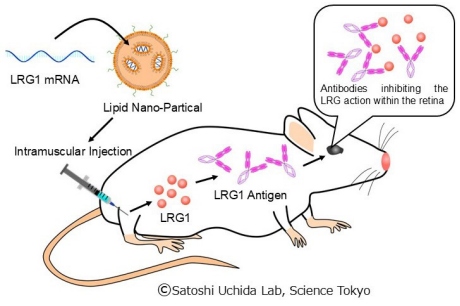
We spoke with Mr. Chiba, who plays an active role at Cellab Healthcare Service CO. LTD., a company that supports the field of regenerative medicine through contract manufacturing, as well as designing, building, and operating facilities.
Since joining the company, he has been acquiring knowledge about facilities and equipment, and in addition to manufacturing, he also handles a variety of responsibilities, including facility management and hygiene control. He says that the experience he gained in university through his own research project, “Identification of Novel Anticancer Agents through Spheroid-Based Screening,” has become the foundation for his current work in quality control. Working with cells is always intense, as it directly affects patients’ health. Still, he finds great satisfaction when a product successfully passes through manufacturing and quality checks, knowing he is helping shape the future of medicine. He shared what makes working at KING SKYFRONT appealing: “It’s a valuable place where companies and researchers taking on regenerative medicine can gather and share knowledge and experience, and it’s great that it allows for collaboration between companies.” His hobbies are fishing and golf, and he smiles as he says, “The best part is the bath and a drink after a round.” The contrast between his serious dedication to advancing the future of medicine and his relaxed smile when talking about his hobbies truly highlights Mr. Chiba’s charm.

iCONM NOW

Development of a vaccine to suppress abnormal proliferation of retinal capillaries and prevent blindness

A research group led by Prof. Satoshi Uchida (Principal Research Scientist at iCONM) of the Institute of Science Tokyo, in collaboration with Visiting Professor Yasuo Yanagi of the Graduate School of Medicine at Yokohama City University, has developed a therapeutic vaccine for age-related macular degeneration (AMD), a leading cause of blindness, and demonstrated its efficacy in mice. AMD is an eye disease where abnormal proliferation of capillaries at the back of the eye causes the retina to deform into uneven surfaces, leading to blurred vision in the central field of vision. As the disease progresses, the area of impaired vision can expand, potentially leading to blindness. Currently, the only treatment involves injecting an antibody drug into the eye to suppress the action of VEGF (Vascular Endothelial Growth Factor), which promotes angiogenesis. However, despite the injections being monthly, many patients feel reluctant about having a needle inserted into their eye to slow progression, leading to a high number of patients discontinuing treatment midway.

The method developed by Prof. Uchida and colleagues involves treating LRG1—a protein that promotes blood vessel growth and inflammation—as an antigen. It involves injecting an mRNA vaccine into the muscle that produces antibodies against it. Similar to COVID-19 vaccines, antibodies produced at the injection site travel to the fundus and inhibit LRG1, which is involved in vascular proliferation and is a causative agent of retinal deformation. Compared to intravitreal injections, this approach significantly reduces both the physical and psychological burden on patients. Part of this research is funded by Project CHANGE. By preventing the major event of blindness, which not only severely impairs quality of life but also places a heavy burden on caregivers, it contributes to establishing a healthy, long-lived society.



The mechanism by which vaccines injected into muscle produce LRG1 antibodies and suppress the proliferation of new blood vessels

Y. Yanagi et al., Vaccine, 61, 127451 (2025).
https://doi.org/10.1016/j.vaccine.2025.127451

This magazine shares a variety of information about KING SKYFRONT-affiliated institutions. Please send us your feedback via the QR code survey.
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