

Nagoya City University, Graduate School of Medical Sciences, Department of Occupational and Environmental Health

Laboratory members

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Research to date

1) Japan Environment and Children's Study (JECS).

In January 2011, a nationwide birth cohort study called as 'Japan Environment and Children's Study' started to elucidate the effects of environmental exposure, especially chemicals, on children's health. Nagoya City University Graduate School of Medical Sciences founded Center for Research of Health of Mothers and Children and Environment, and has been conducting JECS as one of the 15 Regional Centers in Japan. Pregnant women who lived in Cities of Nagoya (Kita Ward) and Ichinomiya were invited to participate in JECS between January 2011 and March 2014, and the children who were given birth from the women have been followed-up. In 2021, we published papers including the themes of 'Relationship between delivery with anesthesia and postpartum depression' and 'Relationship between physical activity and physical and mental health status in pregnant women'. In addition, we are developing human biomonitoring (BM) methods (BM is the measurement of environmental chemicals/their metabolites in biospecimens to evaluate the exposure in individuals) of chemicals that potentially affect brain/nervous system. Our research interest also covers various health/developmental outcomes of newborns/children. We aim to establish evidence that can contribute to a better environment, not only chemical context but parenting.

2) Risk assessment of health effects by chemicals.

Exposure assessment is one of the key segments of risk assessment of chemicals. In recent years, human BM has been increasingly introduced into environmental health fields. This is because BM can evaluate exposure at individual levels that vary a lot reflecting the variety of lifestyles. However, the target chemicals/metabolites need to be fixed beforehand to detect/quantify low-level environmental exposure, and non-target analysis techniques are still under development. Our laboratory is involved in this issue.

In addition to the exposure assessment, our research interest covers effects of volatile chemicals on the olfactory system and the brain. We are conducting inhalation exposure experiments using animals, and histochemically and behaviorally assessing the effects of such exposure. Our goal is to provide evidence to set an environmental standard.

3) Ergonomics for fatigue-related health disorders and stress-related diseases and improvement of labor productivity

(1) In recent years, the relationship between neck pain and use of smart phones has been a focus of attention. This is a hot topic especially in the era of the prevailing working from home in the COVID-19 pandemic. We are conducting research using originally developed apps to establish evidence of effective interventions.

(2) Use of endoscopies can cause musculoskeletal disorders in medical staffs such as doctors, nurses, and technical staffs who work in the gastrointestinal department because of their awkward posture forced during the procedure. The problem gains increasing attention. We are doing biomechanical research to clarify effective ergonomic interventions to prevent such problems.

Our Achievement

<http://www.med.nagoya-cu.ac.jp/hygiene.dir/contact1.html>

Graduate School of Medical Sciences Information

Examination Dates

Application Guidebook

Application Documents (Prescribed Form)

<https://www.nagoya-cu.ac.jp/english/faculty/admissions/med/>

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