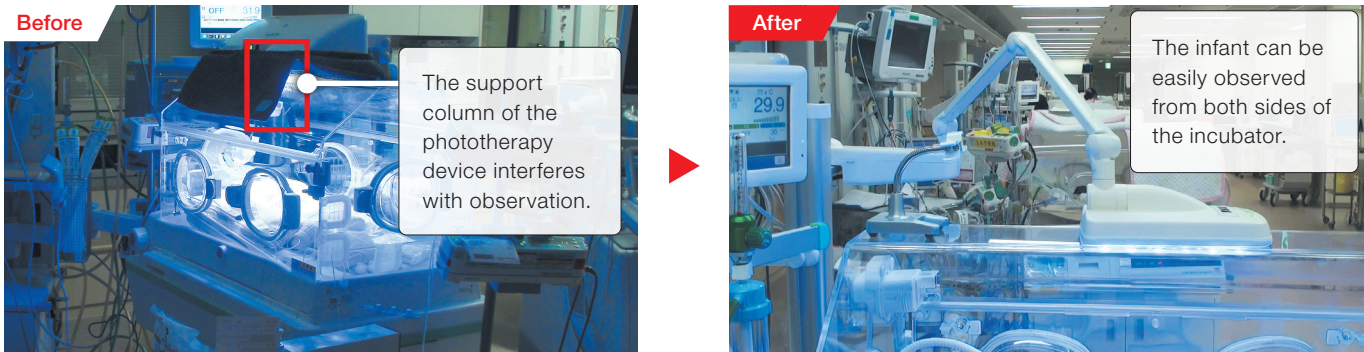


Point 7 Phototherapy management

We use phototherapy devices with support columns. The column occupied one side of the incubator, obstructing both observation and provision of care. By using phototherapy devices that can be installed on rails, it became possible to observe the infant from both sides, and X-ray pictures can now be taken smoothly. It also made approach to care easier.



Considerations and summary

When considering the usability of the environment around the incubator, it is important not only to think about the layout of surrounding equipment, but also to have medical staff actually operate the devices on site. In addition, a clean and well-organized appearance encourages tidiness. With these points in mind, understanding the characteristics of medical devices, considering their usability, and leveraging them effectively will ensure their functionality is realized in the clinical setting. Incubators and other medical devices are

constantly evolving. To fully utilize the functions of these medical devices, medical staff apply their ingenuity based on actual experience, however, it is essential to ensure that the devices remain user-friendly, always prioritizing the safety and comfort of infants. We believe this contributes to creating a "baby-friendly environment around the incubator". When planning a new NICU, we recommend visualizing staff workflows and movements in advance.

ATOM MEDICAL CORPORATION

<https://atomed-global.com>



Before and after improvements around the infant incubator —Making nurses' requests a reality—

*This article was written in 2011 and reflects the circumstances and initiatives that existed at that time.

Nurse
Anjo Kosei Hospital, Perinatal and Infant Medical Center, NICU
Akari Amano

Incubators are one of the important medical devices designed to protect infants. They not only enable temperature and insensible water loss to be controlled until infants have adjusted to the extrauterine environment, but also support infection control and ease of observation. In other words, incubators are indispensable for creating a therapeutic and developmental environment for infants. Additionally, quick and accurate care and medical procedures able to be performed by medical staff using these devices are believed to have a significant impact on management of the safety and development of infants.

Anjo Kosei Hospital's Newborn Center was newly built and relocated in 2010. The number of designated beds was increased to 15 in the NICU and 30 in the GCU, and in December, following the completion of the MFICU ward in the obstetrics department, we were officially designated as a Comprehensive Perinatal and Maternal-Child Medical Center. We took this opportunity to relocate to a new ward. With the relocation to the new ward and the increase in the number of beds, we have introduced the latest functional medical devices, including ATOM MEDICAL's Incu i.

However, when the newly expanded and beautifully renovated NICU began operations, it became apparent that the medical equipment, which was supposed to be functional, was not being fully utilized. Various problems arose, such as poor operability of respirators and monitors, difficulty in observing infants, and lack of organization. Front-line staff also struggled due to the limited mobility, and they experienced increasing levels of stress. We tried to improve the layout, however, the issue could not be easily resolved by doing that alone.

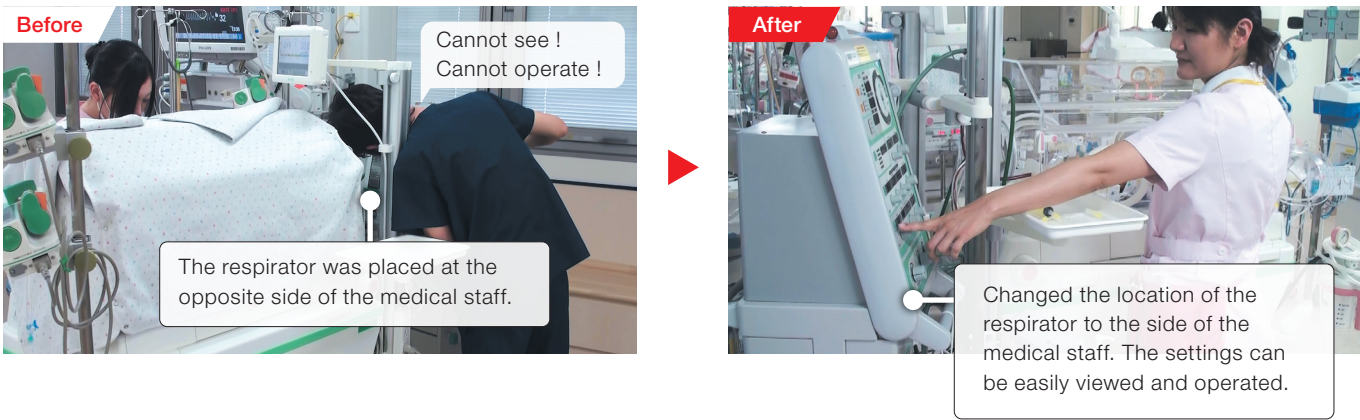
Therefore, this time, we focused on improving the usability of the incubator environment with an emphasis on nursing care, and, in collaboration with ATOM MEDICAL, launched an "operability improvement project for medical staff".

We introduce the status before and after the environmental improvements using seven points.



Point 1 Respirator management

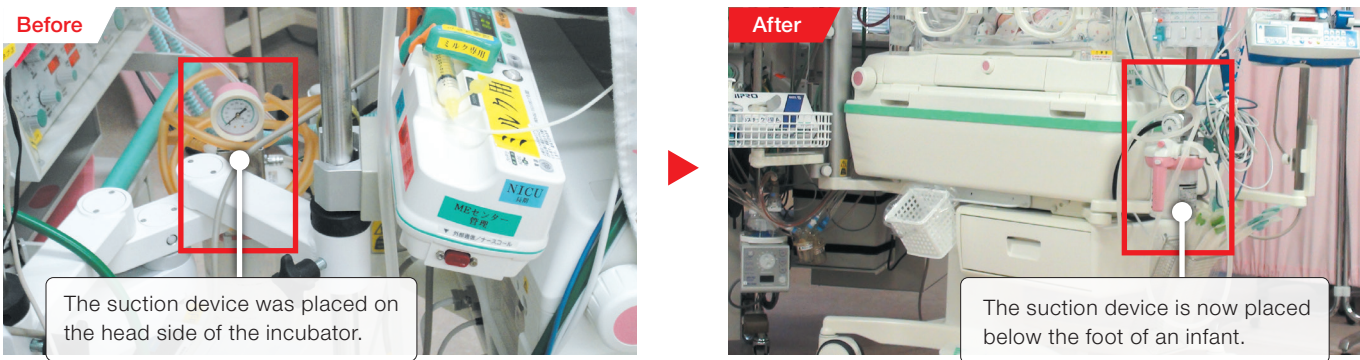
Problems arose when operating the respirators, which are essential in the NICU, such as difficulty reaching the controls and seeing the control panels. Changing the layout of the respirators themselves led to a dramatic improvement in staff members' ability to both understand the settings and usability.



Point 2 Suction management

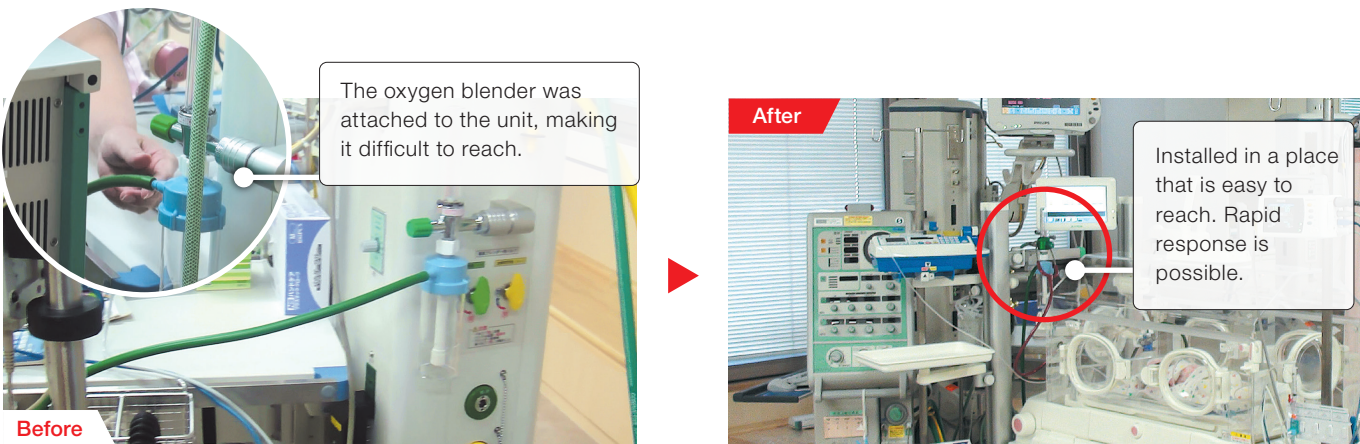
Opinions may be divided on whether suction devices should be placed at the head or foot of an infant. We plan to continue examining factors such as usability, the dominant hand of the person performing suction, and whether the suction device should be considered contaminated equipment. However, at this stage, we believe that placing it at the foot side of the infant is the better option.

It is also necessary to ensure the thorough implementation of standardized procedures.



Point 3 Management of oxygen blenders

Operating an oxygen blender, which often took time during an emergency, can now be quickly managed by installing it on the rail at the head side of the incubator.



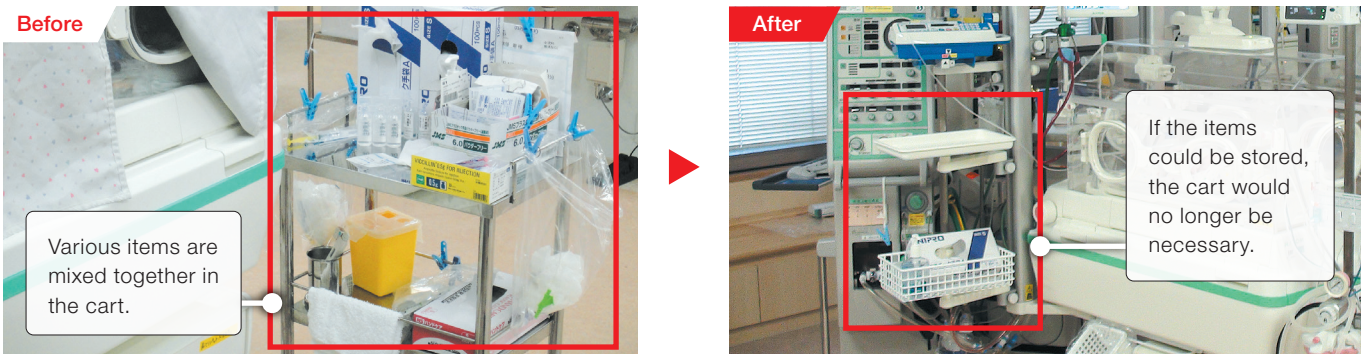
Point 4 Monitor management

Although the touchscreen panel had many usability issues, installing a small monitor on the incubator pole brought it into the medical staff's line of sight and made muting the alarm much easier.



Point 5 Storage management

Despite the unit containing shelves and drawers, stainless steel carts were used to place necessary items on, resulting in cluttered and disorganized storage spaces. By utilizing unused storage spaces, trays and baskets installed on rails, and drawers of the incubators, it became easier to organize and clean.



Point 6 Management of cords

Each medical device had its own power cord, resulting in a disorganized and potentially hazardous tangle of cables. However, using a triple syringe pump reduced the number of cords, and the use of cord holders made the entire area around incubators tidier. We hope that future developments will lead to the emergence of cordless medical devices.

