

SPD Graduation Opportunity

Mapping the potential usage of the reusable video laryngoscope

Company: Layco and Erasmus Medical Center



Climate change is having a major impact on our society. In the Netherlands alone, we notice the effect of climate change, with increasingly frequent heat waves and extreme drought during our summers and the threat of rising sea levels. The healthcare sector in the Netherlands is responsible for 7% of the national carbon footprint. Currently, the healthcare sector is 'single-use' driven, a linear economy approach, resulting in large amounts of waste. In the case of the intensive care unit at the Erasmus Medical Center, seven bags of waste per patient per day are being generated. Urgent action is needed to move towards a more circular healthcare system. One of the opportunities in making healthcare more sustainable is to reduce the use of single-use items. To reduce this amount, we need to look for equipment that can be reused.

Layco Medical Devices (<https://laycomedical.com>) is developing a reusable video laryngoscope. This is a tool that is used for intubation; the placing of a breathing tube into a patient's airway. Although video laryngoscopes already exist, many video laryngoscopes use disposable parts. To change this, Layco has designed a properly sterilisable video laryngoscope.

Erasmus Medical Center is one of the frontrunners in making healthcare more sustainable in the Netherlands. Dr. Nicole Hunfeld of Erasmus MC together with Dr. J.C. Diehl of TU Delft founded the Green Intensive Care Room. Within the Green Intensive Care Room they started mapping and understanding waste streams and developing new and more circular alternative product (service) systems.



To bring Layco's reusable video laryngoscope into use, the potential use of the video laryngoscope in the hospital needs to be better identified. It is important to map the entire process surrounding the use of a reusable video laryngoscope. A device that needs to be sterilised is often taken to the central sterilisation department, making it temporarily unusable. How long is it then gone? And would it also be possible to sterilise it within the operating room or intensive care unit themselves? Sterilisation itself is a process that requires a lot of water and energy, is sterilisation really necessary or will disinfection suffice?

Are you interested in mapping the potential use of a reusable video laryngoscope in the Erasmus Medical Center?

Please reach out to j.c.diehl@tudelft.nl