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In emergency and critical care, it is important to diagnose the patient thoroughly and take appropriate measures without delay. In the event of a disaster, designated hospitals in the affected area must have an established procedure in place to provide effective medical response. Dr. Tomohisa Shoko who has a vast experience in treatment of traumatic injuries, shares insights as to the advantages of OPELA^{III} and explains how beneficial it can be in crisis situations.



OPELA^{III} performs the functions of OR light and headlight

At critical care facilities that handle tertiary care, there are many situations in which surgery is performed right in the ER (Fig.1). Our hospital has a normal ceiling-mounted surgical light with 2 arms in the ER, yet when performing emergency thoracotomy for instance in cases such as rib fracture in the thoracic cavity, liver injury below the diaphragm, spleen injury or retroperitoneal bleeding during open surgery, the light does not sufficiently reach deep into the surgical field. And during hemostatic suture, it becomes increasingly difficult to stop the bleeding in one attempt without sufficient illumination for clear visibility. For this reason, I have always wanted a surgical light that can illuminate deep cavities while controlling shadows from forming.

In severe trauma cases where patient's vital signs are unfavorable yet no time to examine thoroughly by CT scan, it is not uncommon to begin surgery without clear knowledge of which organ is damaged. In order to identify the affected area, the surgeon and the assistant will examine by moving their posture around to get a visual confirmation. With limited resource in the ER at times, it is not easy for the circulation nurse to accurately direct light from ceiling OR light into the surgical field,

compounding to the already stressful environment.

In that respect, by using OPELA^{III}, not only can the surgical field be illuminated without adjusting the ceiling OR light, but also focus the light precisely where it is needed most. It is truly amazing how OPELA^{III} alone can perform the functions of both ceiling OR light and headlight at the same time. Being battery-operated and untethered help make life easier as well for surgeons at ER who change positions and move their posture frequently (Fig.2). Also with its light weight and comfortable fit, there is less stress especially during long surgeries.

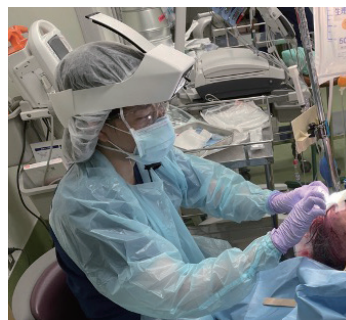


Fig. 1 | Scene at ER treating head injury

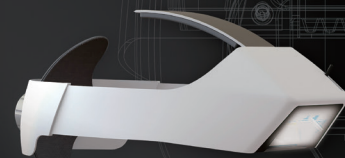


Fig. 2 | OPELA^{III} main unit and battery

OPELA^{III} proves effective for tracheostomy in ICU with superior brightness

OPELA^{III} is effective in tracheostomy performed in ICU's. Since moving patients undergoing intensive care to operating room adds to the risk, as tracheostomy is usually performed in ICU while connected to ventilators and dialysis machines. Until now, tracheostomy was performed using a mobile OR light, but since it is placed between other medical devices around the bed, often behind the surgeon's head thus shadows form and interfere in surgery.

By using OPELA^{III}, technically a movable type of surgical light itself, now I perform tracheostomy with the surgical field brightly illuminated without having my staffs go through the trouble of bringing in a mobile OR light into ICU and vie for space. Therefore, I reap benefits in terms of both securing ample lighting and convenience of preparation for urgent surgery.



Surgery can be performed in cramped spaces like ambulance and field hospital

We hold emergency preparedness drills regularly in anticipation of surgery during a disaster. In the event of an NBC disaster for instance, various section of the hospital must be sanitized and cordoned off to prevent contamination before even accepting patients for first aid treatment or emergency surgery. We developed a special emergency vehicle especially for such an incident to be used as a temporary operating room where hemostasis and other lifesaving procedures can be performed. Parked in front of the ER unloading area and equipped with essential surgical equipment, we simulate performing surgery inside the vehicle (Fig.3). OR light is one of the most important equipment during surgery. However, it became apparent that its large size cannot fit in the vehicle. Even if we managed to fit one in, adjusting its angle and position will be extremely difficult.

Opela III is extremely small and bright enough to perform open surgery



Fig.3 | Simulation performed inside Special Ambulance

like thoracotomy, making it an ideal surgical illumination for use in cramped spaces. In fact, its effectiveness has been proven during these simulated surgical drills inside the special ambulance.

In 2015, I participated in the International Disaster Relief Team (JDR) of the Japan International Cooperation Agency (JICA) to support in treating the earthquake victims in Nepal, and I experienced performing surgery inside field tent hospital (Fig.4). I remember how difficult it was to bring in large, heavy OR lights and having to assemble them. OPELA III is portable yet exceptionally bright and battery-powered to boost, which no doubt will demonstrate its advantages during surgeries at disaster-stricken areas as well.



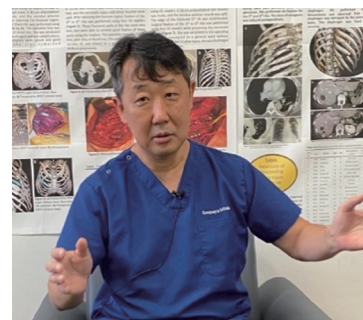
Fig.4 | Field hospital of JICA during relief mission in 2015. JICA adopted OPELA III as essential equipment in 2018.

Getting accustomed to using OPELA III on a daily basis prepares you for emergency

In case of a power outage, after a massive earthquake for example, the emergency power supply in the hospital will allow some medical equipment and computers to operate by plugging to specific electrical outlets in limited number. And during a disaster, surgical procedures may have to be performed outside of typical operating rooms where no ceiling-mounted OR light is available. These are the situations wherein OPELA III comes in handy to provide illumination for surgery due to being battery-powered and portable to bring anywhere. When there is a rush of trauma patients who need immediate attention, a surgeon must treat them quickly and effectively by moving from one patient to another. OPELA III will surely contribute to increased efficiency by providing surgical lighting needs on a fly.

It is also important to familiarize yourself with OPELA III on a daily basis so that you can use it smoothly in an emergency. We established the Acute Care Surgery Center to provide training of

trauma surgery and thoracoabdominal surgery. It is my sincere desire for surgeons to develop skills, no matter which organ is damaged or bleeding, to be able to control the situation and save lives. I am actively using OPELA III in procedures for acute abdomen, tracheostomy, PCPS vascular suture, and more because not only can it illuminate the surgical field effectively, but also because it keeps me sharp and prepared for emergencies and disaster situations; while also helping younger surgeons to gain experience and improve daily together.



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[Manufacturer]

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