



Plastic Surgery

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Department of plastic surgery “endeavors in recovery of functions and repair them back to normal, while improving esthetic appearance.” With this principle in mind, the department of plastic surgery at Osaka University contributes to enhancing patients’ QOL using a variety of techniques. In this report, we asked Dr. Tateki Kubo his lighting requirements, and how useful OPELA III is in facial osteoplastic procedure and breast reconstruction.



A light that moves consistently with surgeon’s line of sight

Treatments and procedures in plastic surgery can be from a small skin incision or at times in very deep areas.

There are instances wherein I struggle to get sufficient light during facial bone surgery such as facial fractures and jaw deformities, head and neck reconstruction after malignant tumor resection, and breast reconstruction after mastectomy. This is especially true when the area I want to focus the light is constantly shifting, then I have to stop and ask for light adjustment every time, which gives me so much stress (Fig. 1). Now that I started using OPELA III, I can perform surgery more efficiently, free from stress because I can brightly illuminate exactly where I want to see.

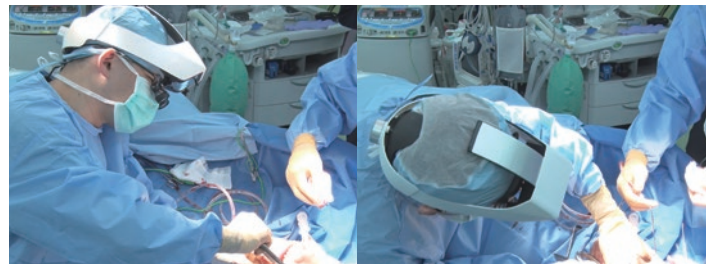


Fig. 1 | The surgeon is changing position frequently to get a better view of the surgical field

A light that can reach deep and narrow confines during facial fracture procedures

I decided to use OPELA III this time because I considered it effective in subciliary incision and oral side manipulation of open reduction and internal fixation for zygomatic fracture. In facial fracture surgery, I try to be conscious of making as small an incision as possible in approaching the facial bone, but then the surgical field becomes too constricted. Thus, it is dark. And that is when I require a form of light that can penetrate deep inside.

OR light can reach the area just beneath the subciliary incision, but when I try to see the infraorbital nerve and its caudal side, neither OR lights nor conventional headlights can reach there. With OPELA III, because the direction of light is consistent with my line of sight even when focus is shifting within the tight confines of the surgical field, it is easier to visually recognize the infraorbital nerve and therefore proceed with the surgery more effectively (Fig. 2).

Similarly, when performing procedures from the oral side, the conventional lights have difficulty illuminating the surgical field because often my own shoulder casts a shadow while I work inside

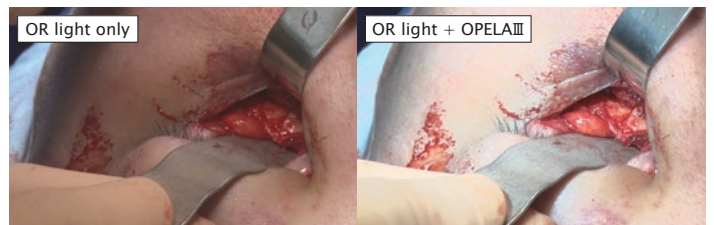


Fig. 2 | Zygomatic fracture (subciliary incision)
OPELA III illuminates the field at an angle that OR light cannot

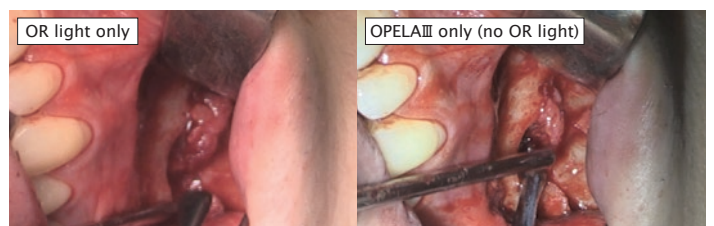
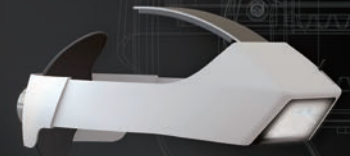


Fig. 3 | Zygomatic fracture (oral side)
OPELA III ensures a bright field of view without OR light



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the mouth. By using OPELA III, I could perform the surgery even with the OR light turned off as it provided ample light deep in the oral cavity (Fig. 3).

Orbital floor fracture requires a very deep approach with a small skin or conjunctival incision in an almost-vertical direction. However, this area is surrounded by bones so there is no room to maneuver and the view is often blocked by orbital fats. Surgery in such dark surgical field may result in inadequate treatment with dire consequences, and I cannot compromise safety without sufficient light especially when it is so close to the optic nerve. Also, in the subsequent bone grafting, it can be difficult to repair the defective bone if the deepest part of the fracture is not visible. Orbital floor fracture entails surgical operation in deep, dark, and narrow

confines; an area where I strongly felt the effectiveness of OPELA III (Fig. 4).



Fig. 4 | Orbital floor fracture
OPELA III ensures sufficient brightness in deep field even without OR light

Useful in breast reconstruction requiring clear visibility in the deep cavity

Beside facial osteoplastic procedure, I use OPELA III most commonly in breast reconstruction. It is especially useful in latissimus dorsi musculocutaneous flap reconstruction. The surgical field is very dark due to an incision starting at the back going towards the shoulder, creating a cavity 20cm deep that I need clear visual access to. It is where OR lights can hardly penetrate, and it only gets harder as the procedure goes on. Using a retractor with light has enhanced illumination, yet it still fails to provide sufficient light where I really

want to see because of the awkward angle. There is also an issue with the surgeon's assistant holding the retractor not being able to view the surgical field clearly, so it is difficult for the assistant to make proper adjustments. OPELA III can resolve these problems because it moves with my head, making my view bright, and that helps me perform more efficiently. OPELA III also proves very useful in the process of tissue expander insertion in breast reconstruction because it also requires looking into deep parts from a small incision.

Aiming for "surgery without leaving any scar"

Having clear visibility is a fundamental requirement in any field of surgery. A seasoned surgeon may be able to tell "what's there" from



Dr. Kubo performing a surgery wearing OPELA III

experience even in the dark. However, clear visibility can lead to more accurate and safer surgery, regardless of experience. Therefore, having clear visual access into surgical field is directly correlated to "superior performance and esthetically pleasing outcome." For example, if you cannot see well, you might pull the skin more than necessary. If the skin has been damaged as a result, then any careful suturing will not make the scar less noticeable. By using OPELA III to improve visibility, forcibly retracting the surgical field can be avoided, allowing for potentially less scarring. Since we are "plastic surgeons", we are working with the aim of "surgery without leaving any scar" as much as possible.

I believe that "good visibility" with OPELA III will lead to safer surgery with pleasant appearance as a result.

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Check the interview video!