TÜRK
PLASTİK REKONSTRÜKTİF
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DERGİSİ
Cilt 19 / Sayı 3

OUTDOOR HEAD LAMP: A PRACTICAL AND CHEAP LIGHT SOURCE

KAFA LAMBASI: PRATİK VE UCUZ BİR IŞIK KAYNAĞI

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Dear Sir;

Dissecting through right tissue plans and obtaining accurate hemostasis are the first rules that taught us by the senior plastic surgeons. Adequate illumination of the operative field must be provided in order to differentiate the plans and notice the tiny vessels.

While working through a small opening, under a flap or deep areas, it is hard to properly lighten the field with the overhead lamps.[1] Surgeon's head or hands darken the field most of the time. Lighted retractors help to lighten the cavities but a slight shift in the surgeon's gaze requires a shift of the retractor.[2]

Some surgeons prefer fiber optic headlights attached to a head cap. Those headlights emit the light parallel to the operator's line of vision, thereby eliminating shadows. Although some of the conventional fiberoptic light sources have the advantages of coordinated video recording function and perfect operative field lightening quality with high lumens of light, they are connected to the light source or battery with a fiber optic cable which limits the surgeon's mobility and must be re-sterilized for every operation.[3] Besides, cable and head cap are heavy for long operations and the surgeon can easily develop bad postural habits resulting in neck and back pain.[4]

Recently we have been using an alternative headlight which is efficiently effective (Figure 1). Outdoor led headlamps do not limit the surgeon's mobility and provide sufficient bright white light parallel to the surgeons gaze. They are easily put on and taken off when necessary thanks to the elastic head band (Figure 2). They do not produce noise or considerable heat. They offer long lasting high density light even with a one AA size rechargeable battery. Most headlamps may produce over 30000 lux of light that is quite similar to fiberoptic headlamps. These led lamps are considerably light, that the one we use is only 49,5 gr without batteries, in comparison to the heavy fiberoptic light sources and cables. Also it does not require additional power source or cord in the operating theatre. Moreover these lamps are much less expensive when compared with the standard fiberoptic headlamps. The headlamp we use costs no more than 50 US Dollars. However an operating room fiberoptic headlamp may cost several thousands dollars.

The headlamp we use has no adjustable focusing function and its focal length is 80 cm. It provides a flood of light with a diameter of 35 cm at this distance. It has three levels of brightness ranging from 4 lumens to 105 lumens. Most of the conventional lightening sources have adjustable lens options but there are led headlamps with adjustable focusing function that can be focused to even a 1 cm spot.

Also bulb of fiberoptic headlamps that has a lifetime of 50-500 hrs have to be chanced regularly while led lamps offer 50.000 hours of lifetime.

After being tethered many times by the cords of conventional head lamps we found outdoor head lamps liberating and convenient for plastic surgery procedures.

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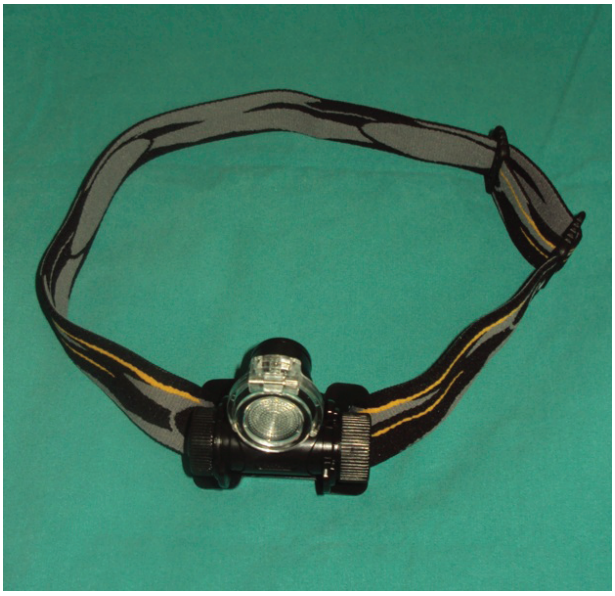

Figure 1. The LED headlamp

Figure 2. The headlamp produces sufficient light to allow working of two teams in different operative fields

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