

The cheapest headlamp for Plastic Surgery

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Citation

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Abstract

Although many visual apparatus were designed and invented, classical headlamps are still widely used by many plastic surgeons in rhinoplasty, breast and abdominal aesthetic surgery.

Until today, ideal features of the headlamps were described in the literature but there was no data about the prices. We believe that cheap headlamps which produced for general puposes can be used instead of expensive headlamps.

INTRODUCTION

Visualization of the surgical site is one of the most important factors for the best results in all kind of operations. Good visualization requires good lightening. Headlamps are indispensable devices for the most surgeons. The first paper about headlamp was presented in 1959 by Cutler₁ in the literature and one of the most detailed one was presented in same year by Morey₂. According to this study headlamp should have following standarts :

1. the light must be of high intensity;
2. the beam must be either coincident with, or parallel to and in line with, the visual axes;
3. the light must be focused into a clear homogeneous circle;
4. the whole apparatus must be light in weight and not be too bulky;
5. it must not get too hot.

After 1949, technology was changed so much. Although many visual apparatus were designed and invented, classical headlamps are still widely used by many plastic surgeons in rhinoplasty, breast and abdominal aesthetic surgery.

Until today, ideal features of the headlamps were described in the literature but there was no data about the prices. Undoubtedly, prices are related with the technology and crude material of the devices. Prices varied between from 100 to 2500 USD on the searching of the internet by Google.₃

METHODS

We use 12 Led headlamp which produced for the camp and general purposes (figure 1 and 2).

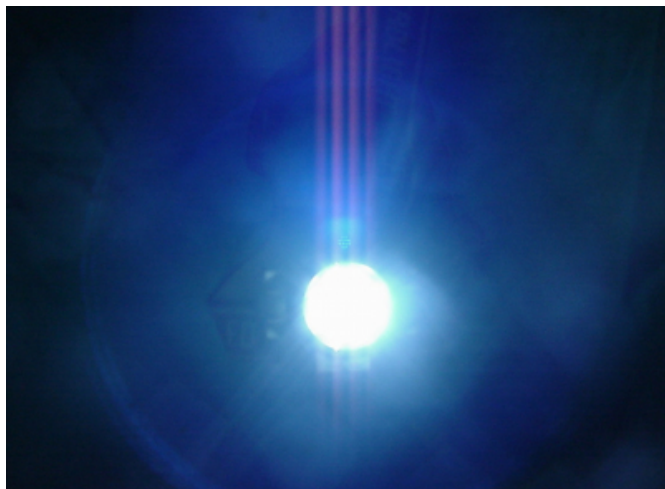
Figure 1

Figure 1: The headlamp for general purposes



Figure 2

Figure 2: Illumination of the lamp



Price of lamp was less than 5 USD. It consists of high intensity 12 LED with adjustable headstrap. Inclination of the lamp can be adjustable, also. It works with three 1.5 volt AAA batteries and battery life is maximum 120 hours.

RESULTS

There were no problems related with using of this headlamp. Different surgeons were used and no complaints were reported. Good visualization were achieved.

Figure 3

Figure 3: Headlamp in the operation



There was no need extra illumination. Application of the headlight and focusing were quite easy.

DISCUSSION

There are three important study about using of the headlamp in Plastic Surgery. One of them was presented by Furnas⁴.

He described ideal headlamp for overseas surgery. Other one is presented by editor of our journal, Rohrich⁵. He strongly emphasized that potentially, the most detrimental combination for a surgeon's cervical spine is the use of the headlight with loupes. While attempting to adjust the head and neck to match the focal length of the loupes and the light together, we set ourselves up for a cervical spine sprain or strain. Always put on your headlight and focus it before you scrub, as it is more accurately done by the surgeon.

The last study was presented by Okoro et al. in 2007⁶. The use of surgical headlights is ubiquitous in plastic surgery. According to their study, ideal operating light should have five components. First three conditions were defined by Kaye in 1976 :

1. light must be centered on the surgeon's immediate field,
2. it must illuminate a wide or narrow field with high-intensity light,
3. it must penetrate into the cavity or under a flap⁷.
4. the light source must be cool and
5. the light source must not hinder the surgeon's mobility

CONCLUSION

Finally, according to our experience headlamps can not be commuted of the surgical ceiling lamps but we believe that the cheapest lamps can be used in many operations instead of the expensive ones.

References

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