Focal distance

The focal distance, also known as the focal length, is a measure of the distance between the lens of an optical system (such as a camera, microscope, or eyeglasses) and the point where light rays converge to form a clear image. The focal distance determines the magnification and angle of view of the optical system. In photography, a short focal length lens (such as a wide-angle lens) will have a short focal distance and provide a wider field of view, while a long focal length lens (such as a telephoto lens) will have a longer focal distance and provide a narrower field of view. In eyeglasses, the focal distance helps to correct nearsightedness, farsightedness, and other refractive errors.

The ORBEYE surgical exoscope system with a blue light filter is a powerful imaging tool for 5-ALA fluorescence-guided surgery of Glioblastoma. The ORBEYE blue filter performs optimally at shorter focal distances with moderate light intensity. Similar to microscope systems, decreasing focal distance significantly influences visualized fluorescence [1].

1)
Witten AJ, Ben-Shalom N, Ellis JA, Boockvar JA, D'Amico RS. Optimization of novel exoscopic blue light filter during fluorescence-guided resection of Glioblastoma. J Neurooncol. 2023 Feb 6. doi: 10.1007/s11060-022-04231-0. Epub ahead of print. PMID: 36745272.