

## Medicine beyond frontiers

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# Recent Advances in Cornea and External Eye Diseases

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There are two crucially important issues of great interest, concern, and focus in the field of cornea and external eye diseases. The first is refractive surgery and the other is ocular surface diseases. Great interest and focus are still centered on refractive surgery even though the technique is well - recognized, safe, and the results have been successful. The new concept of laser refractive surgery does not stop at the point of good vision, but aim to attain "supernormal vision". The objectives also to satisfy any concerns regarding quality of vision such as glare and halo effect which occurred sometimes in previous excimer laser refractive surgeries - PRK and LASIK. This brings us to the exploration of wavefront analysis system together with new generation excimer laser in order to overcome problems and obtain perfect results. The other concern is regarding ocular surface diseases, the disease of cornea and conjunctival epithelium abnormalities, and dry - eye conditions. The finding of stem cell theory leads to the new treatment called "limbal stem cell transplantation" in the treatment of limbal stem cell deficiency such as Stevens - Johnson syndrome and in the case of chemical injuries. Not only would the new treatments have great potential, but also bring back to the usefulness of amniotic membrane transplantation to treat various types of ocular surface disease. In case of dry-eye conditions, better understanding of dry eye concept, precise diagnosis , and new specific treatments including tear supplementation, the use of autologous serum, immunosuppressive drug and hormonal replacement therapy, all play the crucial roles in developing treatment techniques and protocols.