Title (en)

Device for the corrective surgery of defective vision of an eye and method for generating control data therefor

Title (de)

Behandlungsvorrichtung zur operativen Fehlsichtigkeitskorrektur eines Auges und Verfahren zum Erzeugen von Steuerdaten dafür

Title (fr)

Dispositif de traitement de correction d'un défaut visuel de l'oeil par opération et procédé de production de données de commande pour ce dispositif

Publication

EP 2529712 B9 20140910 (DE)

Application

EP 12180466 A 20071109

Priority

- EP 07819732 A 20071109
- DE 102006053120 A 20061110
- US 85820106 P 20061110

Abstract (en)

[origin: WO2008055697A1] A device is described for corrective surgery of defective vision of an eye (3) of a patient (4). The device comprises a laser apparatus (L) that is controlled by a controller (12) and cuts corneal tissue by means of a laser beam (2). In order to focus the laser beam (2) in the cornea (5), the controller (12) steers the laser apparatus (L) towards a target point (28) located in a pattern in the cornea (5), and selects the pattern in such a way that it lies at the boundary of a volume (18) in the cornea (5) which, when removed from the cornea (18), produces the desired correction of defective vision. The controller selects the pattern in such a way that the boundary circumscribes a volume formed such that the cornea (5) less the volume (18) has a radius of curvature R_{CV}* which satisfies the following equation: R_{CV}*=1/((1/R_{CV})+B_{BR}/((n_c-1)(1-d_{HS}·B_{BR})))+F, in which R_{CV} is the radius of curvature of the cornea (5) before the volume (18) is removed, nc is the refractive power of the cornea (5) tissue, F is a factor, B_{BR} is the refractive power of spectacles (17) capable of correcting defective vision, and d_{HS} is the distance from the corneal apex at which the spectacles (17) having the refractive power B_{BR} would have to be located for the spectacles (17) to achieve the desired correction of defective vision.

IPC 8 full level

A61F 9/008 (2006.01)

CPC (source: EP)

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