HISTORY OF KERATOPLASTY

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~200 AD 'abrasion cor'naea' proposed by Galean

1789 Keratoprosthesis suggested by Guillaume Pellier de Quengsy

1796 Erasmus Darwin proposes the first trephine

1813 Karl Himley (1772–1837) suggests corneal transplantation for animals.

1837 Samuel Bigger succeeds in corneal transplatation in a gazelle

1838 Sharp Kissam reports the first therapeutic corneal xenograft on a human , though unsuccessful

1886 Arthur von Hippel (1841–1916) reported the first partially successful lamellar graft

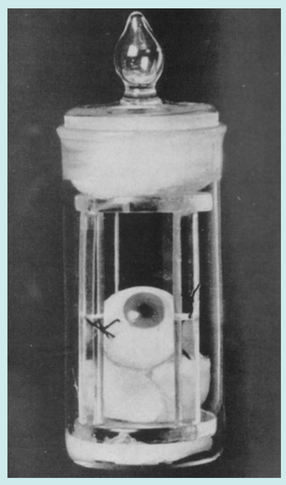
1888 von Hippel trephine invented by Arthur von Hippel

1905 Eduard Zirm completes the first successful human corneal transplant

1932 Castroviejo developed the square keratoplasty technique

1941 Castroviejo reported on 200 human corneal square transplants with 90% obtaining long term success

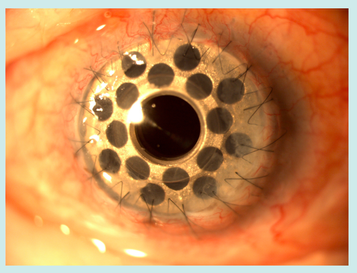
1944 First eye bank established by Richard Paton



1948 Paufique recognises immunological phenomenon of corneal graft rejection and repopularised lamellar grafting. The operating microscope is first used in opthalmology

1968 10/0 nylon suture developed specifically for keratoplasty by Ethicon

1965 Introduction of the first artificial cornea transplant, the Boston KPro type 1



1970'S Introduction of viscoelastic substances for endothelium protection, appositional sutures introduced and prolonged corneal tissue storage

1980 Hessburg-Barron suction trephine introduced

1998 First human endothelial keratoplasty reported by Gerrit Melles

2000 Mark Terry performs the first deep lamellar endothelial keratoplasty (DLEK)

2003 Superficial anterior lamellar keratoplasty first described by Kaufman et al.

2004 Melles et al modified DLEK and introduced Descemet stripping endothelial keratoplasty (DSEK)

2006 Melles et al present Descemet membrane endothelial keratoplasty (DMEK)

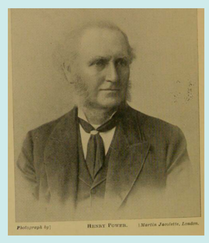
Key People

LOUIS PAUFIQUE (1899-1981)

Recognised the immunology of corneal graft rejection, repopularized lamellar grafting and introduced the limbal and eccentric grafts. Also advocated for tectonic grafts to restore structure to the compromised globe in ocular surgery.

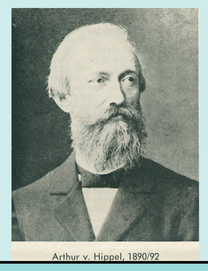
HENRY POWER (1829-1911)

An English ophthalmologist who was first to recognise the importance of using fresh allograft tissue with atraumatic, precise placement of the graft tissue in aseptic conditions. He preferred penetrating keratoplasty and recommended the use of human corneas

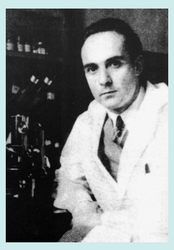


ARTHUR VON HIPPEL (1841-1916)

Invented the clockwork trephine, a deviation from the square graft trephine which allowed for circular grafts. This was a major advance in keratoplasty. In 1886, he performed the first partially successful lamellar graft



Arthur v. Hippel, 1890/92



RAMON CASTROVIEJO (1904-1989)

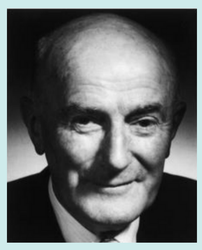
Studied surgical techniques in detail and made numerous instrument innervations, such as the Castroviejo twin knife for square grafting, which was used in keratoconus. He popularized the use of direct sutures.

VLADIMIR FILATOV (1875–1956)

A Russian ophthalmologist who completed an extensive study of keratoplasty, completing thousands of transplants. He developed a number of surgical interventions and instruments, whilst also suggesting the use of cadaver corneas. He also highlighted the importance of direct corneal suturing.

SIR THOMAS TRAVERS (1902-1999)

An Australian pioneer of corneal transplant, practicing the procedure from 1948 in Melbourne. Beginning with egg membrane under tarsorrhaphy he used various patterns of indirect suturing and finally, sutured with silk. He also contributed to the passing of the Corneal Grafting Act in 1956 which aided eye donation regularity.



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