

## NHS BLOOD AND TRANSPLANT

### OCULAR TISSUE ADVISORY GROUP

#### SUMMARY FROM STATISTICS AND CLINICAL RESEARCH

#### INTRODUCTION

- 1 This report summarises current and future work being undertaken by Statistics and Clinical Research, as well as providing details of conference presentations given and manuscripts submitted.

#### UPDATE FROM STATISTICS AND CLINICAL RESEARCH

- 2 The Annual Organ Donation and Transplantation Activity report for 2023/24 was published in July 2024 and is available online at [www.odt.nhs.uk/statistics-and-reports/annual-activity-report/](http://www.odt.nhs.uk/statistics-and-reports/annual-activity-report/).
- 3 Surgeon datasets were provided in September 2024. Please review these for any outstanding tissue outcome and transplant record forms or one-year, two-year, and five-year follow-up forms. The Annual Surgeon reports were produced and circulated in December 2024, following updates to the NHSBT Divergent Outcomes policy.
- 4 Transplant record forms have been processed but there is still a backlog of follow-up forms awaiting input, primarily the five-year follow-up form, still requires input. Additional standard OTAG papers were produced in October, including issued and unreturned forms, as well as a donation and transplantation equity paper. The group is welcome to provide suggestions for additional standard OTAG papers to develop.
- 5 Ocular staffing support in the team currently include Mark Jones and Konstantina Soumilas. Please note our current arrangements for staff responsibilities in support of organs and tissues below.

Area	Lead
Assistant Director for Statistics and Clinical Research	Rachel Johnson
Head of Organ and Tissue Donation and Transplantation Studies	Lisa Mumford
Ocular Tissue	Cathy Hopkinson
Organ donation	Susanna Madden
Organ retrieval	Rachel Hogg
Organ utilisation	Jenny Mehew
Enquiries	statistical.enquiries@nhsbt.nhs.uk
Kidney transplantation	Matthew Robb
Pancreas transplantation	Claire Counter
Liver transplantation	Rhiannon Taylor
Multi-visceral and composite tissue	Rhiannon Taylor
Cardiothoracic transplantation	Sally Rushton
Blood transfusion / stem cells	Elisa Allen

#### CONFERENCE PRESENTATIONS

- 6 Eye donation and corneal transplantation trends in the UK were presented by Cathy Hopkinson at The Bowman Club in March.

## PUBLICATIONS

- 7 Papers in preparation and those submitted or accepted for publication are listed below. Publications over the last 10 years are listed in the **Appendix**.

### ***Papers in preparation***

Demographics, clinical characteristics and surgical outcomes of corneal transplantation to treat Aniridia Associated Keratopathy in the UK  
N Onwuka, MN Sarfraz, G Figueiredo, F Figueiredo

Standard risk-adjusted graft rejection and survival models at two and five years  
C Hopkinson, E Curnow, S Kaye

Primary Graft Failure Audit  
F Larkin, A Narayanan, K Soumilas, L De Benito Llopis

### ***Papers submitted/accepted for publication***

*None*

### ***Papers published since last report***

Investigating the influence of surgeon learning on outcome of DSAEK and DMEK grafts  
L Downward, C Hopkinson, F Larkin, S Shanmugaranjan

### ***Projects on hold due to poor return rates***

The influence of donor and recipient factors on endothelial keratoplasty survival and rejection at two years.

J Armitage, D Tole, F Carly, V Romano, C Hopkinson, M Jones

Endothelial graft survival according to graft size for DMEK and DSEK in the UK  
K O'Kane, I Sian, J Chen, V Romano, S Ahmad, S Kaye, K Soumilas, C Hopkinson

To characterise the rate of graft dislocation. Is graft dislocation associated with an increased rate of graft failure?

S.P Chow, D Tole, M Rajan, K Soumilas,

## CURRENT AND FUTURE WORK

- 8 Statistics and Clinical Research are currently working on several ocular projects:
- i. A new landing page on the website for the OTAG Audit Clinical and Research Sub-Committee, describing the group and process for submitting research proposals, is in progress.
  - ii. An electronic version of the SAEARs form is being developed using Microsoft Forms, and updates are in progress for the Transplant Record form.
- 9 Future planned work includes:
- i. Donor factors that determine the suitability and quality of corneas stored by organ culture for corneal transplantation

- ii. Infection type is the main determinant of graft outcome following microbial keratitis

**Cathy Hopkinson**  
**Statistics and Clinical Research**

**January 2025**

## AUDIT AND RESEARCH PUBLICATION LIST

### Publications over the last 10 years

#### OTAG11

Stylianides A, Jones MNA, Stewart RMK, Murphy CC, Goodson NJ, Kaye SB. Mortality and Graft Survival of Patients Receiving Penetrating Keratoplasty for Rheumatoid Arthritis associated Corneal Ulceration. *Ophthalmology* 2013; 120(4): 682-686

#### OTAG14

Chua P, Azuara-Blanco A, Hulme W, Jones MNA, Kaye SB. The effect of socioeconomic deprivation on corneal graft survival in the UK. *Ophthalmology* 2013; 120(12): 2436-2441

#### OTAG12

Armitage WJ, Jones MNA, Zambrano I, Carley F, Tole DM. Influence of donor and recipient factors on five-year graft survival of corneas stored by organ culture used in penetrating keratoplasty. *Investigative Ophthalmology and Visual Science* 2014; 55(2): 784-791.

#### OTAG15

Kasbekar S, Jones MNA, Ahmad S, Kaye SB. Corneal Transplant Surgery for Keratoconus and the Effect of Surgeon Experience on Deep Anterior Lamellar Keratoplasty Outcomes. *American Journal of Ophthalmology* 2014; 158(6): 1239-1246

#### OTAG16

Greenrod E, Jones MNA, Kaye DB, Larkin DFP. Center and Surgeon Effect on Outcomes of Endothelial Keratoplasty versus Penetrating Keratoplasty in the United Kingdom. *American Journal of Ophthalmology* 2014; 158(5): 957-966

#### OTAG17

GS Figueiredo, MNA Jones, Y Krishna, FC Figueiredo, DFP Larkin, SB Kaye. Transplant rejection following endothelial keratoplasty and penetrating keratoplasty in the United Kingdom: incidence and survival. *American Journal of Ophthalmology* 2015; 160(3): 416-421

#### OTAG18

Chen JY, Jones MNA, Srinivasan S, Neal TJ, Armitage WJ, Kaye SB. Endophthalmitis after penetrating keratoplasty. *Ophthalmology* 2015; 122(1) 25-30

#### OTAG19

Wakefield MJ, Armitage WJ, Jones MNA, Kaye SB, Larkin DFP, Tole D, Prydal J. The impact of donor age and endothelial cell density on graft survival following penetrating keratoplasty. *British Journal of Ophthalmology* 2015 [Epub ahead of print].

#### OTAG21

Steger B, Curnow E, Romano V, Cheeseman R, Kaye A, Jones MNA, Kaye SB. Bilateral corneal transplants increase graft survival in the first eye. *American Journal of Ophthalmology* 2016; 170: 50-57

#### OTAG20

Hopkinson CL, Romano V, Kaye R, Steger B, Stewart R, Tsagkataki M, Jones MNA, Larkin DFP, Kaye SB. The influence of donor and recipient gender incompatibility on corneal graft rejection and failure. *American Journal of Transplantation* 2017; 17: 210-217

OTAG23

Sing-Pey Chow, Cathy L Hopkinson, Derek M Tole, Mark N Jones, Stuart D Cook, W John Armitage. Stability of Visual Outcome Between 2 and 5 Years Following Corneal Transplantation in the United Kingdom. *British Journal of Ophthalmology* 2018 Jan; 102(1):37-41

OTAG4

Hossain P, Tourkmani AK, Kazakos D, Jones M, Anderson D on behalf of the NHS Blood and Transplant Ocular Tissue Advisory Group and Contributing Ophthalmologists. Emergency corneal grafting in the UK: a 6-year analysis of the UK Transplant Registry. *British Journal of Ophthalmology* 2018;102:26-30

OTAG22

SJ Robbie, MNA Jones, DFP Larkin

The influence of socio-economic deprivation on visual acuity in patients undergoing corneal transplantation. *Cornea* 2018; 37(1):28-32.

Armitage WJ, Winton HL, Jones MNA, Crewe JM, Rogers CA, Tole DM, Dick AD. Corneal transplant follow-up study II (CTFS II): a prospective clinical trial to determine the influence of HLA class II matching on corneal transplant rejection: baseline donor and recipient characteristics. *The British Journal of Ophthalmology* 2018 Mar 22. pii: bjophthalmol-2017-311342. doi: 10.1136/bjophthalmol-2017-311342.

OTAG25

Jonathan Aboshiha, Mark N.A Jones, Cathy L. Hopkinson, Daniel F.P Larkin. Differential survival of penetrating and lamellar transplants in management of failed corneal grafts. *JAMA Ophthalmology* 2018;136(8):859-865. doi:10.1001/jamaophthalmol.2018.1515

OTAG26

Daniel Sibley, Cathy L Hopkinson, Stephen J Tuft, Stephen B Kaye, Daniel F P Larkin. Differential effect of primary disease and corneal vascularisation on corneal transplant rejection and survival. *British Journal of Ophthalmology* <http://dx.doi.org/10.1136/bjophthalmol-2019-314200>

OTAG27

Michael Rotenberg, Lewis Downward, Elinor Curnow, Daniel F. Larkin, Stephen J. Tuft. Graft Survival following penetrating and endothelial keratoplasty in iridocorneal endothelial syndrome. *Cornea*. 39(1):18–22, January 2020

OTAG29

Denise Wajnsztajn, Cathy L Hopkinson, Daniel F P Larkin

Keratoplasty for keratoconus in paediatric patients: demographics, clinical features and post-transplant outcomes. *American Journal of Ophthalmology*; 226: 68-75 February 2021

OTAG30

W John Armitage, Helen L Winton, Mark N A Jones, Lewis Downward, Julie M Crewe, Chris A Rogers, Derek M Tole, Andrew D Dick. Corneal Transplant Follow-up Study II: a randomised trial to determine whether HLA class II matching reduces the risk of allograft rejection in penetrating keratoplasty *British Journal of Ophthalmology* 2020; 0: 1–6. December 2020

OTAG32

Cathy Hopkinson, Elinor Curnow, Daniel F.P Larkin, Jeremy Prydal, Stephen Tuft. Graphical comparison of surgeon outcomes for the audit of a national corneal transplant registry. *Eye* 2022 published online

**OTAG31**

Downward L, Ahmed M, Hopkinson C, Romano V, Curnow E, Kaye S.  
Endothelial failure and rejection in recipients of corneas from the same donor. *BMJ Open Ophthalmology* 2022

**OTAG33**

Shanmugaranjan S, Hopkinson CL, Downward L, Larkin DFP. Influence of surgeon learning on outcomes in new ophthalmic procedures: quantified nationwide evidence in endothelial corneal transplantation. *Br J Ophthalmology* 2024;0:1-7