NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE

OCULAR TISSUE ADVISORY GROUP MEETING HELD AT 12.30 PM ON WEDNESDAY 29TH JUNE 2016 AT ODT, BRISTOL

PRESENT:

Mr Jeremy Prydal	Deputy Chair and Regional Representative for East Midlands
Prof John Armitage	Bristol Eye Bank and Head R&D-Ocular, NHSBT Tissue and Eye Services
Mr Mark Batterbury	Regional Representative – North West
Mrs Hazel Bentall	Lay Member
Dr Iain Bryce	Regional Representative – Scotland
Mrs Fiona Carley	Manchester Eye Bank
Mr Mark Chamberlain	SNOD & EPSOD Representative
Mr Andrew Chung	Regional Representative – Yorkshire and the Humber
Prof Dave Collett	Associate Director – Statistics & Clinical Audit, NHSBT
Mr Ewan Craig	Regional Representative – West Midlands
Prof John Forsythe	Associate Medical Director, ODT, NHSBT
Ms Helen Gillan	General Manager, NHSBT Tissue and Eye Bank Services
Ms Cathy Hopkinson	Statistics & Clinical Studies, NHSBT
Mr Parwez Hossain	Regional Representative – South West
Dr Nigel Jordan	East Grinstead Eye Bank
Mr Mark Jones	Statistics & Clinical Studies, NHSBT
Mr Vinod Kumar	Regional Representative – Wales
Mr Damian Lake	Royal College of Ophthalmologists & OTTSG Representative
Mr Frank Larkin	Regional Representative – London
Ms Ulrike Paulus	Consultant Haematologist, NHSBT Tissues and Cells Donation and Transplantation
Ms Amanda Ranson	Eye Retrieval Scheme Representative
Dr Khilan Shah	Moorfields Eye Bank
Ms Anne Sheldon	Duty Office Services Manager, ODT
Mr Michael Tappin	Regional Representative – South East Coast

IN ATTENDANCE:

Mrs Kamann Huang	Clinical & Support Services, ODT
Ms Vicki Harding	(Observer)

ACTION

1 WELCOME & APOLOGIES

Apologies from the Chair, Derek Tole.

Welcome:

- Professor John Forsythe, new Associate Medical Director, ODT
- Mr Andrew Chung, the new Yorkshire and Humberside representative, replacing Mr Nigel James.

Apologies:

Mr Kyle Bennett, Dr Akila Chandrasekar, Prof John Dark, Mr Nabil Habib, Ms Zoe Johnson, Prof Johnny Moore, Mr Madhavan Rajan, Mrs Anne Sheldon, Mr Derek Tole, Ms Emma Winstanley and Dr I Zambrano.

Mr Nabil Habib has been appointed the new South West representative, replacing Mr Jonathan Luck, but was unable to attend.

ACTION

2 DECLARATIONS OF INTEREST

2.1 There were no declarations of interest.

3 MINUTES OF THE OCULAR TISSUE ADVISORY GROUP – WEDNESDAY 20 JANUARY 2016 – OTAG(M)(16)1

3.1 **Accuracy**
The minutes of the previous meeting were agreed as an accurate record following the inclusion of the amendments below:

Page 4 - 6.1.4: Replace the first sentence with: 'D Tole will write a letter to Amanda Ranson, Irene Reynolds, John Armitage, Khilan Shah, Nigel Jordan and Isaac Zambrano thanking them for their help and support in putting the eye retrieval manual together.'

Page 5 - 6.3.1:
bullet point 4: sixth line 'Opthalmic' to be corrected to 'Ophthalmic'.
bullet point 6: Replace the second sentence with: 'This is advisory, not regulatory, and is intended to unify standards and practices across all 47 Member States of the Council of Europe.'
bullet point 7: Replace with, 'A project to establish a European Cornea and Cell Transplant Registry (ECCTR) is being led by the European Society for Cataract and Refractive Surgery (ESCRS). The European Eye Bank Association (EEBA), EU Cornea and the three existing cornea registries in the UK, Sweden and Netherlands are all partners in the project. D Collett and J Armitage are representing, respectively, NHSBT and EEBA. An application for EU funding (60%) has been successful.' Remove the final sentence.

Page 7 - 10.1, third line. Sentence to be amended to 'This is now available off the shelf.'

Page 7 - 11: Replace the last two sentences of the first paragraph with: 'Until the JPAC Change Notification is issued, if this time frame is exceeded it should be logged as a quality incident and considered on a case-by-case basis. The total death to processing (preservation) time should not be more than 48 hours.'

Page 8 - 12.1, Anniversaries: Amend '30 March 2016' to '13 March 2016'.

3.2 **Action Points**

Action points have been completed or are listed as an agenda item.

AP2 ERS Activity
Centre Representatives agreed it would be beneficial for individual units to complete a questionnaire on the subject of importing corneas in order to determine how common this is, where tissue is sourced from and also to make hospitals aware of regulations requiring return of data to NHSBT. D Tole to draw up the questionnaire. **D Tole**

H Gillan stated that the collation of this data would require resource and in turn a cost for NHSBT to follow up every cornea.

A written update was supplied by K Bennett for his two actions, AP10 and AP12, listed below.

AP10 Amniotic membrane
NHSBT Tissue and Eye Services (TES) do not provide 'Fresh' or 'Freeze Dried' Amnion therefore a comparison on prices cannot be provided. NHSBT

ACTION

TES only currently supply frozen, preserved amnion. The cost of this is:

2 x 2 cm = £220
3 x 3 cm = £440
5 x 5 cm = £1100

AP12 Standard acknowledgement for electronic ordering/fax for eyes.
If cornea tissue is ordered via email then NHSBT TES would usually reply to acknowledge the order. If orders are placed by fax then there is no standard response/reply notification system in place. The system is to be reviewed to confirm the placing of an order.
This is to be carried over to the next meeting on 25 January 2017. **Clinical Support Services**

3.3 **Matters arising, not separately identified**
There were no other matters arising.

4 OCULAR TISSUE ADVISORY GROUP

4.1 **Chairman's report**

4.1.1 **Update on PbR tariffs – OTAG(16)26**
Four letters have been sent to Monitor since 11 February 2014. We are still awaiting a response.

5 TISSUE AND EYE SERVICES (TES) UPDATE – OTAG(16)27

5.1 A summary of H Gillan's update to members is outlined below:

- Positive feedback and approval given to the amended Strategic Plan 2013-2018 submitted to the NHSBT Board in May this year.
- Bristol Eye Bank stopped receiving tissue at the beginning of June and has diverted its processing activity to Manchester Eye Bank during its relocation to the NHSBT Filton site.
- Ten deceased eye donors are required per day to meet demand; a good day means 14 -15 donors whilst a poor day equates to 3 or 4 donors therefore the challenge is to obtain a steady supply.
- Donation levels have been low in April and it has been a struggle to maintain the 350 corneas required within NHSBT eye banks at any one time to meet demand. The aim is to have no cap so demand can always be met.
- The age donor limit is 95 years; which in effect means there is no age cap on corneal donation. Younger donors are prioritised as age does affect useability and storage. Analysis published in 2014 indicates that meeting endothelial criteria is more important than donor age (see Armitage et al. Invest Ophthalmol Vis Sci 2014;55:784-791).
- As donor age increases there will be a greater number of eyes that have had cataract surgery, which increases the risk of the corneas being unsuitable for transplantation.
- Corneal donation is triaged if there are sufficient referrals. There are two referral routes, one being direct from specialist nurses and the other from the National Referral Centre.
- The percentage of corneas used has increased due to shorter storage times.
- Recording dates of when a patient is registered for corneal transplantation is pending IT implementation.
- Good feedback has been received for the second issue of the TES Ocular newsletter. The third newsletter will be issued later this year.

ACTION

6 NHSBT TISSUE AND EYE SERVICES REPORT

6.1 Eye retrieval Schemes (ERS)

6.1.1 Update – OTAG(16)28

A summary from A Ranson's presentation is listed below:

- TES is working on increasing donation rates and referral by ensuring eye retrieval staff are available out-of-hours and at weekends and by providing cover for periods of leave and sickness.
- The monthly total target of 120 donors for the combined teams up until April 2016 has not been realistic and has been reduced to 113 donors for 2016/17 to be achievable.
- Newcastle has seen an increase in tissue donation via ward staff undertaking direct electronic notification to the National Referral Centre which has caused an increase in out of hours / weekend referrals.
- Nottingham are looking to increase their referral rate and will move towards the electronic offering notification system. This should lead to a more positive rate by the end of the year.
- A meeting is being held with Southampton next month to review their eye retrieval team arrangements and sign NHSBT's contract with them.
- D Tole and H Gillan will in future hold regular discussions with the Clinical Leads of the Eye Retrieval Teams.
- Monitoring the impact on eye and tissue donation in Wales following the change in transplant legislation on 1 December 2015 to and 'opt out' system of consent for transplantation. The hospital development nurse in Bristol will extend her area to Wales to ensure that procurement arrangements are in place to meet the anticipated increase in numbers of potential donors. It is too early at this stage to report any increase in donation (see 6.1.4).

6.1.2 ERS activity – OTAG(16)29

The key points from the data presented were:

- Exeter and Merseyside were the only two Eye Retrieval Schemes to have exceeded their target in the last year: Preston missed their target by one donor.
- The total number of corneas retrieved by the schemes as a whole was below target and was lower than 2014/15: 2651 compared with 2692.
- The percentage of corneas suitable for transplant remained the same at 72%.
- There was a slight increase in the number of eyes suitable for transplant in the second half of 2015/16.

6.1.3 Update on National Referral Centre and "Super Centres" – OTAG(16)30

A Ranson highlighted the following points:

- Electronic notification of all deaths has begun at Bristol Royal Infirmary, Salford and Wigan.
- Currently 40% of notifications result in donation: the highest conversion rate to-date. Electronic notification at Southmead and Romford is under consideration.
- The potential of community care for increasing eye retrieval is also under consideration.
- Work with an external research company has just been completed to improve understanding of public and professional perceptions of donation.

ACTION

H Gillan believes that it is not a question of donor numbers or having the right number of eye retrieval centres but the key strategy is getting the referral through to the National Referral Centre.

Shortages in corneas occur in phases and are difficult to predict. The availability of having eye bank prepared corneas for DSAEK and DMEK is expected to increase demand thus reinforcing the need to have a robust referral channel. Every suitable death must be referred and not just Monday to Friday.

The removal of age matching between donors and recipients such that donors were never more than 30 years older than recipients was previously approved by OTAG and there is currently no mechanism to prevent extremes of donor-recipient age differences; e.g., a cornea from a 93 year old donor was allocated to a 29 year old recipient. However, OTAG approved an upper donor age limit for DALK of 80 years. H Gillan and F Carley requested guidance on age matching and clarification on this point in the Allocation Policy. D Lake to raise the issue at OTTSG and report back at the next OTAG meeting. **D Lake**

6.1.4 **Update Welsh donation activity – OTAG(16)31**
Since the change to the law in Wales to bring in a soft 'opt-out' system for consent to organ and tissue donation for transplantation on 1 December 2015, 112 corneas were donated in Wales in the six months up until 21 May 2016, compared with 114 corneas in the previous six month period.

6.1.5 **Donor age limits and Eye Retrieval Scheme Contract**
Refer to minute 6.1.3 last paragraph for update on donor age limit and minute 6.1.1 for Eye Retrieval Scheme Contract.

6.2 TEPSOD

6.2.1 **Update**
M Chamberlain reported that an update will be available following the meeting to be held week commencing 4 July.

6.2.2 **TEPSOD activity – OTAG(16)32**
Main points are:

- Eye donation rates from organ donors were lower for the first two quarters of 2015/16 but increased in the second half of the year with the donation rate at 43% for the final quarter of 2015/16.
- Donation rates from DBD (brain stem death) and DCD donors (non-heart beating) are similar. There are still some significant regional differences.
- The percentage of eyes procured from medically suitable donors in 2015/16 was lower than the pervious two financial years mainly due to a fall in eye donation from DCD donors from 42 to 37%. The reasons for this are currently being investigated. Anecdotally more organs are retrieved from DBD donors.
- It was confirmed that if organ retrieval does not go ahead, families are still asked to consider eye donation.
- The percentage donation rate in 2015/16 ranged from 30% in the Northern, N Ireland and Midland teams to 69% in the South Central team.
- The main reasons for eye donation not proceeding in organ donors in the last 3 years were family refusal, which has encouragingly fallen from 51% in 2014/15 to 42% in 2015/16, and medical contraindications. A larger proportion of DCD donors were declined due to medical reasons compared with DBD donors.

ACTION

It was reported that the presence of a SNOD can affect the donation rate significantly.

6.3 EYE BANKS

6.3.1 Eye Bank subgroup report: 3 June 2016 – OTAG(16)33

J Armitage raised the following points:

- In the event of a serious adverse event, serious adverse reaction or other concern about tissue quality/suitability, surgeons must always send the tissue back to the issuing tissue bank for investigation and should not carry out an investigation themselves because it is the issuing eye bank's responsibility to carry out this investigation under the terms of their HTA licence. Regional Representatives are requested to communicate this back to ophthalmologists in their regions. **Centre Reps**
- Currently reviewing the wording on NTxD to describe the different types of graft that a cornea can be used for.
- SAREs (Serious Adverse Reactions/ Events) should also be reported to U Paulus.
- Following a review of the Tissue Donor Selection Guidelines by U Paulus and J Armitage, updates or other changes will be submitted to SAC-TCTP for further consideration.
- Bristol and Manchester Eye Banks now have slit lamps to aid the detection of corneal opacities and other abnormalities that may not otherwise be evident.
- The question was raised regarding the reliability of endothelial cell density (ECD) estimates undertaken at the Eye Banks. F Larkin asked whether an audit of ECD estimates could be carried out. A slide of 12 laser-etched endothelial images has since been provided to J Armitage by Prof Gilles Thuret (St Etienne). This would provide a standard for all Eye Banks to be measured against. Ultimately, the best way to improve the reliability of the ECD estimates is to use an automated image analyser, such as the NIDEK Navis Eye Bank Solution.
- J Armitage to review and update the Donor Information Sheet given to surgeons as this contains information, such as the mandatory donor blood test results, that is not required by the surgeon. This will be submitted to OTTSG and then to OTAG for final approval. **J Armitage**
- NHSBT is taking collaborating in two EU-funded initiatives; namely, the establishment of a European Cornea and Cell Transplant Registry (ECCTR), and the European Good Tissue Practice II project (Euro-GTP II) to implement the use of clinical follow up for determining the quality and safety of tissue transplants.

6.3.2 Reports from the Eye Banks – OTAG(16)34

A report, which covered the last two financial years, was presented to members by M Jones giving a summary of numbers of corneas and sclera processed, stored, assessed and distributed for patient treatment or disposed of as unsuitable for clinical use.

6.3.3 Update on pre-cut lamellar service – OTAG(16)35

An update report was given by F Carley on behalf of the NHSBT Manchester Eye Bank.

ACTION

- Manchester Eye Bank has been issuing pre-cut corneas for DSAEK for nearly a year. The total number of pre-cut corneas between 23 July 2015 and 2 June 2016 was 141, approximately 3 per week.
- Graft thickness is approximately 100 μm with a 6.5% discard rate.
- A customer satisfaction letter will be sent to 32 surgeons requesting feedback. It is believed that only 3 to 4 surgeons will be heavy users of the pre-cut service. It was highlighted that surgeons must check the labelling on the tissue containers and the accompanying paperwork to ensure that they have received the correct tissue for the intended procedure. Centre reps to communicate this back to their centres. **Centre Reps**

6.3.4 **Emergency requests**
For the period July 2015 to March 2016, there were 62 emergency requests for corneal grafts. These were matched to Transplant Record forms to check that the reason for graft was recorded as perforation or infection; 42 confirmed, 6 queried and 14 forms remained outstanding. Abuse of this service was not evident but monitoring will continue.

6.3.5 **DMEK update**
J Armitage gave an update on the Bristol project to implement an eye bank service for preparation of DMEK grafts. Following a report published by Rotterdam Eye Bank in which DMEK grafts were prepared without thinning corneas in dextran and returning the rolled DMEK grafts to organ culture for up to three weeks, this approach was trialled. The graft was left attached in the centre and laid back down on the stroma to prevent rolling. Endothelial cell loss after Descemet stripping was negligible; however, cell loss during subsequent two weeks of organ culture was too variable to be acceptable. A further validation study is underway preparing the DMEK grafts directly from organ culture but then pacing them in dextran medium for up to 4 days. Initial results look encouraging.

7 THE ROYAL COLLEGE OF OPTHALMOLOGISTS OTTSG REPORT – 13 April 2016 – OTAG(16)36

7.1 K Shah reported two occasions where Moorfields requested corneas for emergency grafts that were not met. K Shah will send the details to H Gillan. **K Shah**

OTTSG approved a change in policy concerning the exclusion of corneas that have previously undergone corneal refractive surgery. It was agreed that these corneas may be suitable for DMEK preparation but only where the grafts are prepared in an eye bank.

8 STATISTICS & CLINICAL STUDIES REPORT

8.1 **Conference presentations, current and future work – OTAG(16)37**
A report summarising current and future work being undertaken by NHSBT and details of conference presentations and abstracts was presented for information.

D Collett reported that the Statistics and Clinical Audit department has been down by 6 members of senior staff due to maternity leave with some members starting to return on a part-time basis.

		ACTION
8.2	**Audit Clinical and Research subgroup report: 20 January 2016 – OTAG(16)38**	
	It was reported that there are significant concerns regarding the implementation of the Single European Code required to follow up information held on the NHSBT transplant database since 1999.	
	It is proposed to apply for external funding for a study on donor-recipient gender matching for Fuchs and keratoconus, as there appears to be an adverse affect on survival where corneas from male donors are used for female recipients. The aim is to enlist female patients to take part in a trial with NHSBT.	
9	**EYE GOVERNANCE**	
9.1	**Governance sub group report – OTAG(16)39**	
	U Paulus outlined the individual major adverse events reported in her presentation. In summary, over the last 6 months, there have been13 major adverse events, compared to 10 for the preceding 5 months. Of these incidences, 6 have been reported to HTA.	
	The OTAG Eye Governance Subgroup will be reconvened. U Paulus will take over from A Chandrasekar who has stepped down. J Prydal will discuss this with D Tole.	**J Prydal**
9.2	**Analysis of corneas issued but not used – OTAG(16)40**	
	K Bennett's report stated that there has been a small increase in the number of corneas issued but not used. The reason for this is the recording of non-use in the past year as been categorised as 'Other' or 'Not Recorded' which is a change from previous years when the reason was clearly defined.	
	E Winstanley to clarify in the next newsletter what should happen to corneas if they cannot be used and who hospitals should contact. This used to be undertaken by the Duty Office who would write to the surgeon asking why the corneas were not used. There is a need to improve the process for identifying and recording the actual reason for non use of corneas.	**E Winstanley** **K Bennett**
	The reporting of corneas used and not used has now been transferred from M Jones at NHSBT to K Bennett at Tissue and Eye Services.	
	H Gillan to look into the issue of transport used for collecting corneas following K Shah reporting that it was quicker for Moorfields to make their own transport arrangements rather than rely on couriers.	**H Gillan**
10	**SAC-TCTP report – OTAG(16)48**	
	The Standing Advisory Committee on Tissues and Cells Therapy Products (SAC-TCTP) deals with quality and safety standards for tissues and cells, including donor selection criteria. This is chaired by A Chandrasekar and is also attended by J Armitage.	
	The recommendation is enucleation must be carried out no longer than 24 hours after death and enucleation to processing/preservation must not exceed 24 hours has been approved by JPAC.	
	J Armitage to email K Huang the wording of the JPAC Change Notification.	**J Armitage**
	<u>Post meeting note</u>:	
	J Amitage confirmed the correct wording for the JPAC Change Notification for enucleation as: 'Corneas should be excised and placed in an appropriate	

ACTION

storage solution as soon as possible, but no longer than 24 hours after enucleation.'

The question of whether to test for antibodies should Hep B and protein testing comes up positive (not specific to corneas, includes tissues, cells and gamates) has been referred to JPAC and SaBTO for discussion.
A Chandrasekar will provide an update when the guidance is updated. **A Chandrasekar**

J Armitage to find out what the questions were posed to HTA on importation of corneas by A Chandrasekar. **J Armitage**

Post meeting note:
A Chandrasekar reported the following. This is to understand how importation of corneas directly by the hospitals from overseas establishments not going through licensed eye bank in the UK is regulated. This action was reviewed at the SAC TCTP April meeting. It was reported that this was discussed at the HTA Quality and Safety Group, who had advised that further information was needed for them to investigate. It was agreed that this query be passed to OTAG. If OTAG is aware of any hospitals who are importing corneas that are not on this list, the HTA will be happy to look into it.

11 The Single European Code for tissues and cells

J Armitage informed members that the Single European Code for tissues and cells is a statutory requirement for all tissues and cells used for patient treatment. The SEC implementation date is 29 April 2017. Ocular tissue will first be coded by an ISBT128 code, which is already used by NHSBT for blood, blood products and other tissues. This will allow the SEC to be generated. The SEC is 40 characters long and includes a Donation Identification Sequence and a Product Identification Sequence country and tissue establishment identifiers. The SEC will be displayed both as eye-readable text and as a bar code on all tissue labels.

At present, all ocular tissue donor and recipient information (including post-operative clinical outcome data) is recorded on the NHSBT National Transplant Database (NTxD), but the system cannot generate the required ISBT 128 codes or the SEC. In order to do so, and to bring ocular tissue in line with all other tissue processing, it is planned to transfer data to the PULSE system used for blood and other tissues. Discussion is taking place between IT personnel from NTxD and PULSE on how to link the donor information and recipient registry details.

The concern is to ensure continuity of clinical follow up data on corneal transplants, with no loss of data in the transfer from PULSE to NTxD.
H Gillan gave definite categorical assurance that there would be no loss of data, and that the new system would allow continued recording of all current data fields.

The issue is how much effort should be put in the current system as opposed to the new system. Tissues sit across NTxD and PULSE. There is a full day meeting on 28 July to discuss this and map out the process. Resources may need to be put in place should double entry of data into both systems be required as part of an interim solution.

12 ANY OTHER BUSINESS

12.1 K Shan reported that this would be his last attendance at OTAG. Recruitment will take place to find a replacement for him. OTAG members thanked him for his contribution to OTAG to-date.

ACTION

13 FOR INFORMATION

The following papers were presented to members for information:

13.1 **Provision of non-EU corneas within the UK – OTAG(16)41**

13.2 **May 2016 Activity Report – OTAG(16)42**

13.3 **ICT Progress Report: 7 March 2016 – OTAG(16)43**

13.4 **Surgeon Transplant Activity – OTAG(16)44**

13.5 **Eye Donation, retrieval and usage – OTAG(16)45**

13.6 **Tissue and Eye Services newsletter – OTAG(16)46**

13.7 **EEBA letter – OTAG(16)47**

14 DATE OF NEXT MEETING:

Wednesday 25th January 2017 – Council Room,
Royal College of Ophthalmologists, London

June 2016