



2014 EYE BANKING STATISTICAL REPORT

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Table of Contents

Statistical Report Analysis: Surgical Use and Indications for Corneal Transplant, 2014	3
Statistics from United States Eye Banks	
Referral Trends, Transplant and Conversion Rates	9
Donor Demographics	16
Eligibility and Suitability for Tissue Intended for Surgery	20
Reasons Released Tissues Were Not Transplanted	33
Outcomes of Tissue Recovered For Transplant	36
Use of Donated Tissue	40
Annual Comparison of the Number of Corneal Transplants Supplied by U.S. Banks	41
Domestic Surgery Use of Intermediate-Term Preserved Tissue	42
Annual Comparison of the Domestic Use of U.S. Supplied Intermediate-Term Preserved Tissue	45
International Use of Intermediate-Term Preserved Tissue	47
Long-Term Preserved Tissue Preservation and Distribution	51
Tissue Processing for Transplant	55
Forwarded Tissue	59
Indications for Corneal Transplant	61
Statistics from International Eye Banks	
Referral Trends, Transplant and Conversion Rates	70
Donor Demographics	75
Eligibility and Suitability for Tissue Intended for Surgery	78
Reasons Released Tissues Were Not Transplanted	86
Outcomes of Tissue Recovered For Transplant	88
Use of Donated Tissue	90
Domestic Surgery Use of Intermediate-Term Preserved Tissue	92
International Use of Intermediate-Term Preserved Tissue	95
Long-Term Preserved Tissue Preservation and Distribution	99
Tissue Processing for Transplant	103
Forwarded Tissue	106
Indications for Corneal Transplant	107
Eye Banks Submitting Data for the 2014 Statistical Report	114

Surgical Use and Indications for Corneal Transplant Statistical Report Analysis – 2014

Introduction:

The 2014 Eye Banking Statistical Report from the Eye Bank Association of America (EBAA) includes information on all 76 U.S. and 10 international member eye banks reporting data for the calendar year 2014, and represents an essentially complete picture of eye banking activity of the eye banks in the United States. For details on the history and methodology of the reporting process and information on EBAA Connect, please refer to the Overview from the 2012 EBAA Statistical Report Analysis.

Utilization of Tissue:

The 76 domestic eye banks in 2014 reported 65,558 total donors (5.3% increase over 2013) and 128,675 total eyes/corneas donated (4.5% increase over 2013). Please see Table 1 below for additional details on donations and distribution. Intermediate-term preserved corneas, by far the largest category, included all refrigerated tissue used for full thickness and lamellar procedures.

Table 1: Total Donations and Distribution of Tissue in 2014

Donations	2014	2013	% Change
Eye Banks Reporting	76	76	0.0%
Total Whole Eyes and Corneas Donated	128,675	123,079	4.5%
Total Number of Donors	65,558	62,274	5.3%
Distribution	2014	2013	% Change
Intermediate-Term Preserved Corneas	72,013	68,526	5.1%
Sclera	3,345	3,693	(-9.4%)
Long-Term Preserved Corneas	7,223	4,840	49.2%
Research	17,670	17,384	1.6%
Training	9,295	7,451	24.7%

Utilization of tissue supplied by U.S. eye banks is shown below in Table 2: Use of U.S. Donated Tissues. This table includes all tissue supplied by domestic eye banks whether used domestically or internationally. Total grafts were 76,431 in 2014, up 5.1%. Penetrating keratoplasty numbers increased 5.2% in 2014 to 38,919 from 36,998 in 2013. Tissue used for endothelial keratoplasty (28,961) increased 6.1% in 2014, compared to a 12.4% from 2012 to 2013. There was a 2.8% decrease in tissue used for lamellar keratoplasty (ALK) from 2,009 in 2013 to 1,953 in 2014, compared to an 8.3% increase in the previous year from 2012 to 2013. The number of corneas used for KLA decreased 20% from 110 to 88 in 2014, and corneas used for keratoprosthesis increased 15.3% from 255 to 294 in 2014.

Table 2: Utilization of Tissue from U.S. Eye Banks

Distribution	2014	2013	2012	2011
Corneal Grafts Total	76,431	72,736	68,681	67,590
Penetrating Keratoplasty	38,919	36,998	36,716	36,144
Anterior Lamellar Keratoplasty	1,953	2,009	1,855	1,778
Endothelial Keratoplasty	28,961	27,298	24,277	23,287
Keratolimbal Allograft	88	110	97	95
Keratoprosthesis (K-Pro)	294	255	263	358
Glaucoma Shunt Patch or other non-keratoplasty use	755	687	676	604
Other keratoplasty (experimental surgery)	17	17	44	14
Unknown or Unspecified	1,026	1,068	1,554	2,223
Sclera	3,345	3,693	3,497	5,507
Long-Term Preserved Corneas	7,223	4,840	5,095	4,409
Keratoplasty	938	499	305	276
Glaucoma Shunt Patching	6,212	4,040	4,435	3,802
Other Surgical Uses	73	301	335	331
Research	17,670	17,384	19,320	19,230
Training	9,295	7,451	6,850	6,940

There was a 7.9% decrease in domestic penetrating keratoplasty procedures performed in the US in 2014 (20,954 in 2013, 19,294 in 2014) and there had been a 2.2% decrease from 2012 to 2013 (See Table 3 and Figure 1, below). At the same time, the number of corneas used domestically for endothelial keratoplasty (25,965) increased 3.9% in 2014 and 8.4% in 2013. Endothelial keratoplasty has been the most commonly performed keratoplasty procedure in the United States in the last three years. Domestically, there was a decrease in both ALK (3.9%) and keratolimbal allograft (12.1%) procedures in 2014.

**Table 3: Domestic Use of Intermediate-Term Preserved Tissues
Annual Comparison 2005 – 2014**

Domestic Surgery Use	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Penetrating Keratoplasty	19,294	20,954	21,422	21,620	21,970	23,269	32,524	34,806	37,776	42,063
Endothelial Keratoplasty	25,965	24,987	23,049	21,555	19,159	18,221	17,468	14,159	6,027	1,398
Anterior Lamellar Keratoplasty	914	951	883	932	1,041	774	1,072	950	806	641
Keratolimbal Allograft	80	91	80	69	130	120	173	207	138	175

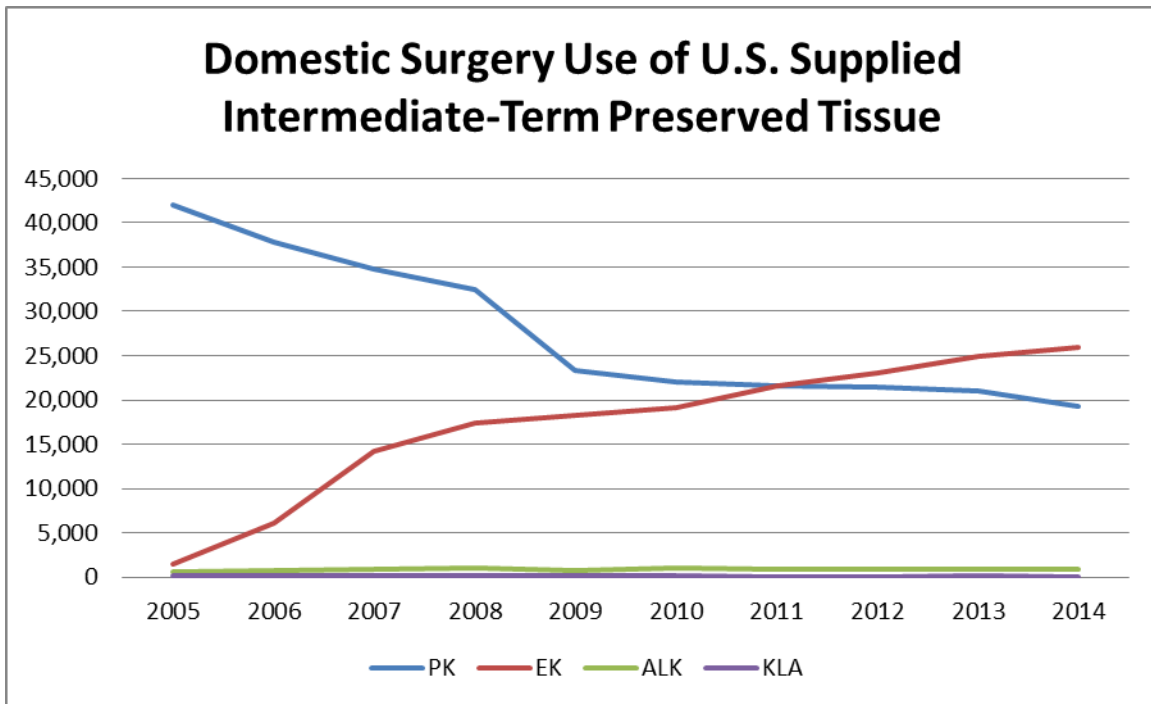


Figure 1: Domestic PK vs. EK vs. ALK Surgery Trends

The relative frequency of PK, EK and ALK procedures performed in the U.S. over the last 10 years can be seen above in Figure 1: Domestic PK vs. EK vs. ALK Surgery Trends. The figures below track the number of DSEK and DMEK procedures on a monthly basis and show the increase in DMEK procedures starting in 2012. Figures 2 (2011-2014 Domestic DSEK trend) shows relatively flat numbers. Figure 3 (2011-2014 Domestic DMEK Trends) shows increased interest in DMEK as an endothelial keratoplasty procedure. Table 4 below shows that while there was a slight decrease in DSEK numbers, DMEK increased 88.2% in 2014, following a 103.5% increase in 2013.

Figure 2: Domestic DSEK Trends

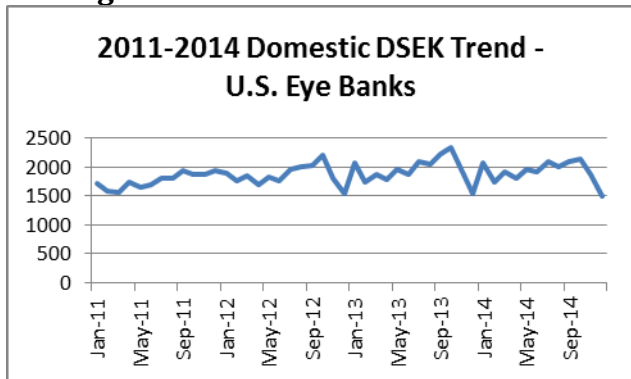
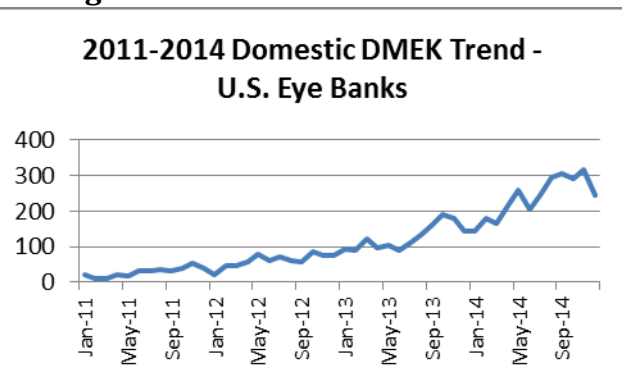


Figure 3: Domestic DMEK Trends



**Table 4: Domestic Endothelial Keratoplasty Numbers
Annual Comparison 2012 – 2014**

Domestic Surgery Use	2014	2013	2012
Total Endothelial Keratoplasty Procedures	25,965	24,987	23,049
DSEK, DSAEK, DLEK Procedures	23,100	23,465	22,301
DMEK or DMAEK Procedures	2,865	1,522	748

Indications for Transplant:

The indications for keratoplasty procedures utilizing 69,833 corneas provided by U.S. eye banks for PK, ALK and EK are shown in Table 5: Indications for Corneal Transplant Reported by U.S. Banks, on page 61 of the report. Unfortunately, since 2011 the most frequent indication for transplant noted on forms returned to eye banks has been “unknown”. The data for different procedures that are used for different diagnoses is potentially skewed since the diagnosis is unknown for over one third of PKs, one third of ALKs and one sixth of EKs.

Table 6 below shows the data in Table 5 (page 61) condensed into four basic categories that illustrate the main diagnoses for procedures performed: 1) endothelial cell failure, 2) stromal or full thickness (non-endothelial) disease, 3) regrafts and 4) unknown. Within specific diagnosis categories, Fuchs’ dystrophy was the most common indication for keratoplasty in 2014 (15,013, 21.5%). Post cataract surgery edema was second (8,529, 12.2%) and keratoconus (6,981, 10.1%) was third. Repeat transplants were fourth (6,811, 9.8%). The order of these four categories was essentially unchanged from 2013.

The data in Table 6 are essentially unchanged from 2013. 92% of patients with Fuchs’ dystrophy were treated with EK. Presumably those 8% who received a penetrating keratoplasty had stromal haze that would have impaired visual acuity after endothelial cell replacement. 89% of patients with keratoconus were treated with penetrating keratoplasty, while 11% had ALK. Presumably the difficulty of ALK or uncertainty over reimbursement continues to hold this ratio unchanged for the past three years.

Endothelial keratoplasty numbers increased about the same amount as the increase in DMEK, suggesting that DSEK numbers remain fairly constant and the increase in EK is propelled by increasing numbers of DMEK. Endothelial keratoplasty as seen previously in Figure 1 was the most common type of keratoplasty procedure performed in 2014.

Note: Tables 1, 2, 5, and 6 refer to corneas provided by U.S. eye banks.
Figures 1, 2, and 3 and Tables 3 and 4 refer to corneas transplanted in the U.S.

Table 6: Indications for Transplant 2014								
Endothelial Cell Failure								
Surgical Diagnosis		PK		ALK		EK		TOTAL
A	Post-cataract surgery edema	3,378	39.6%	--	--	5,151	60.4%	8,529
C	Fuch's Dystrophy	1,196	8.0%	--	--	13,817	92.0%	15,013
M	Other causes of endothelial dysfunction	1,423	31.5%	--	--	3,099	68.5%	4,522
	Subtotal	5,997	24.6%	0	0%	22,067	75.4%	28,064
		15.4% PK				76.2% EK		40.2% of grafts

Stromal or Full Thickness (non-endothelial) Disease								
Surgical Diagnosis		PK		ALK		EK		TOTAL
B	Keratoconus	6,224	89.2%	757	10.8%	--	--	6,981
E	Other Degenerations of Dystrophies	1,209	91.9%	107	8.1%	--	--	1,316
F	Post-refractive Surgery	74	90.2%	8	9.8%	--	--	82
G	Microbial Changes	800	96.2%	32	3.8%	--	--	832
H	Mechanical or Chemical Trauma	1,139	96.0%	47	4.0%	--	--	1,186
I	Congenital Opacities	816	96.8%	27	3.2%	--	--	843
J	Pterygium	12	66.7%	6	33.3%	--	--	18
K	Non-infectious ulcerative keratitis or perforations	1,197	95.9%	51	4.1%	--	--	1,248
L	Other causes of corneal dysfunction or distortion	2,814	95.3%	140	4.7%	--	--	2,954
	Subtotal	14,285	92.4%	1,175	7.6%	0	0%	15,460
		36.7% of PK		60.2% of ALK				22.1% of grafts

Regraft								
Surgical Diagnosis		PK		ALK		EK		TOTAL
D	Repeat Corneal Transplant	4,399	64.6%	27	0.4%	2,385	35.0%	6,811
		11.3% of PK		1.4% of ALK		8.2% of EK		9.8% of grafts

Unknown / Unspecified								
Surgical Diagnosis		PK		ALK		EK		TOTAL
Z.	Unknown, unreported, or unspecified	14,238	73.0%	751	3.9%	4,509	23.1%	19,498
		36.6% of PK		38.5% of ALK		15.6% of EK		27.9% of grafts

		PK		ALK		EK		TOTAL
Total for Each Procedure		38,919	55.7%	1,953	2.8%	28,961	41.5%	69,833

Forty percent of all keratoplasty procedures were performed for endothelial failure (Fuchs, post cataract surgery edema and other causes of edema). Included in the 40.2%, were 22,067 EKs (76.2%) and 5,997 PKs (15.4%). 22.1% of all keratoplasty procedures were performed for stromal or full thickness disease; 92.4% were PKs and 7.6% were ALK, almost identical to last year. For keratoconus, there were 6,224 (89.2%) PKs and 757 (10.8%) ALKs performed, again almost identical to last year. The overall regraft rate was 9.8% (6,811 total), down from 9.9% last year: regraft rates were 1.4% for ALK, 8.2% for EK and 11.3% for PK.

Still of concern is the 27.9% “unknown” diagnosis for keratoplasty procedures, which can skew the data in any number of directions and limit the significance of the conclusions that can be drawn from these data. The “unknowns” may be mostly internationally distributed tissue, which as a group may or may not have the profile of domestic tissue that has been accounted for.

Conclusions:

- 1) Endothelial keratoplasty was the most common (54.6%) domestic keratoplasty procedure in 2014 for the third year in a row. 37.9% of U.S. donated tissue was used for EK.
- 2) 40.2% of all keratoplasty procedures were for endothelial disease in 2014.
- 3) The slight increase in domestic EK in 2014 was accounted for by the increase in DMEK
 - a) DMEK increased 88.2% in 2014 (103.5% in 2013)
 - b) DSEK decreased 1.6% in 2014 (5.2% increase in 2013)
- 4) The number of domestic penetrating keratoplasty procedures using tissue in intermediate-term storage medium decreased again in 2014 for the tenth straight year.
- 5) Keratoprosthesis use of U.S. donated tissues in 2014 increased 15.3% (16.6% domestically).
- 6) The number of keratoplasty procedures reported as “Unknown” continues to be a significant surgeon induced source of error in the statistical reporting process and may be improved by implementing a recipient registry.

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2014 Eye Banking Statistics Reported by U.S. Banks: Death Referrals and Tissue Recoveries 76 U.S. Eye Banks Reporting

Donations	2014	2013	2012	2011	2010
Number of Eye Banks Reporting	76	76	80	79	79
Total Whole Eyes and Corneas Donated	128,675	123,079	116,990	114,348	110,630
Total Number of Donors	65,558	62,274	59,221	57,835	55,913

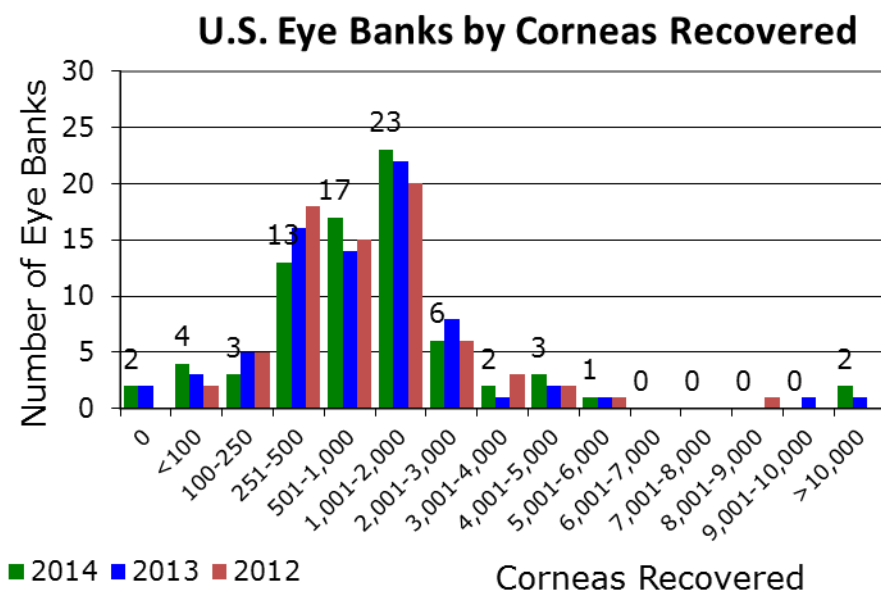
Death Referrals	2014	2013	2012
Total Death Referrals	748,786	738,404	770,479
Death referrals determined eligible	166,849	168,977	165,688
Tissue Recoveries			
Total Donors	65,558	62,274	59,221
Donors recovered not found on donor registry or known to have first person consent	32,306	32,628	33,016
Donors recovered found on donor registry or known to have first person consent	33,252	29,646	26,205
Eyes or Corneas Recovered with Intent for Surgical Use	116,071	110,365	103,774
Eyes or Corneas Recovered for Other Uses	12,604	12,714	13,216

Using the number of corneas recovered for transplant as a measure of eye bank size, a trend of eye bank growth is evident. The numbers tell the story of two banks that have grown immensely. The number of corneas recovered for transplant use grew by 5,706 between 2013 and 2014, compared to growth of nearly 7,000 corneas between 2012 and 2013. 79 U.S. banks reported data in 2011, 80 in 2012, 76 in 2013, and 76 in 2014. The change in 2013 did not reflect that there were fewer eye banks, rather a series of associated eye banks began reporting as one entity.

In the third year of reporting data using the same system as U.S. domestic eye banks, 10 international EBAA member eye banks reported data in 2014, compared to 10 in 2013 and 8 in 2012. The average number of corneas recovered per eye bank decreased by 169 between 2012 and 2013, but increased by 15 between 2013 and 2014, indicative of smaller eye bank activity.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Comparison of Eye Bank Cornea Recovery Rates
76 U.S. Eye Banks Reporting**

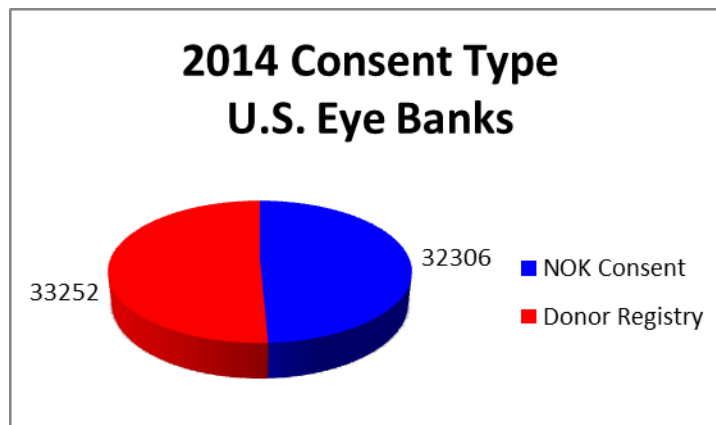
Recovered Corneas	2011	2012	2013	2014
0	2	0	2	2
<100	2	2	3	4
100-250	5	5	5	3
251-500	13	18	16	13
501-1,000	15	15	14	17
1,001-2,000	29	20	22	23
2,001-3,000	5	6	8	6
3,001-4,000	5	3	1	2
4,001-5,000	2	2	2	3
5,001-6,000	1	1	1	1
6,001-7,000	1	0	0	0
7,001-8,000	1	0	0	0
8,001-9,000	0	1	0	0
9,001-10,000	0	0	1	0
>10,000	0	0	1	2
Avg. Corneas Recovered for Transplant	1253	1297	1452	1527



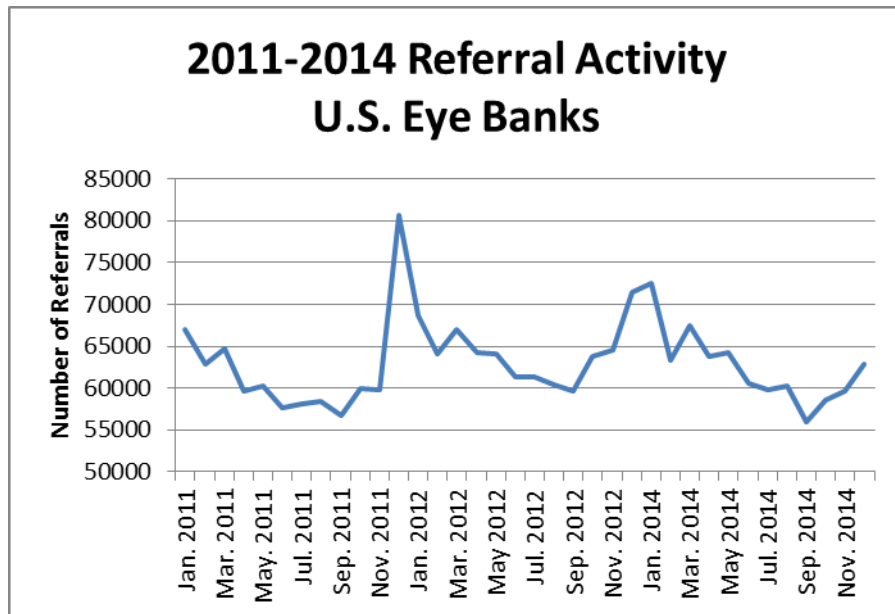
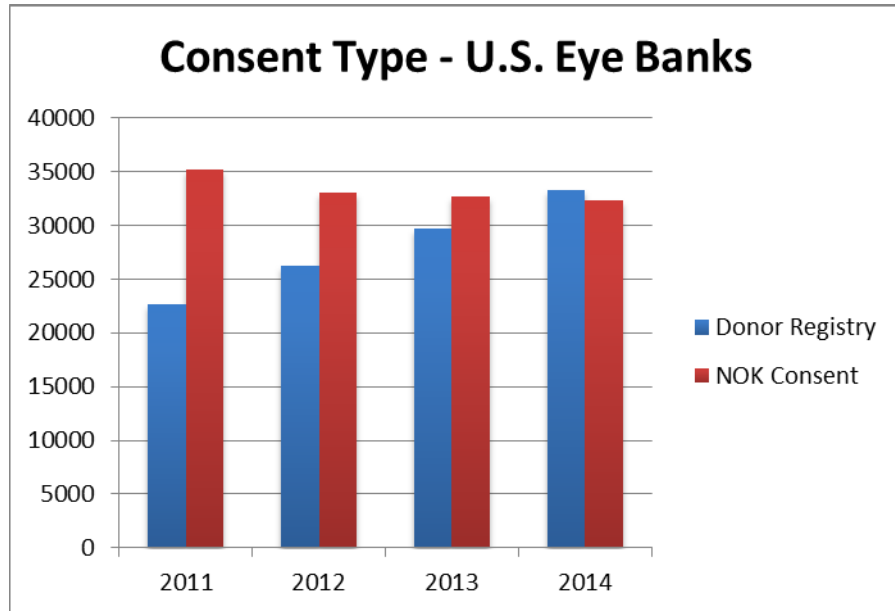
2014 Eye Banking Statistics Reported by U.S. Banks: Referral Trends, Transplant and Conversion Rates 76 U.S. Eye Banks Reporting

U.S. Eye Banks					
Month	Transplant Rate	Conversion Rate	Death Referrals	Transplant Eligible Referrals	Transplant Intended Corneas Recovered
Jan. 2014	63.7%	34.5%	72,498	15,347	10,379
Feb. 2014	64.8%	32.8%	63,294	13,984	8,963
Mar. 2014	65.2%	34.7%	67,464	14,841	10,065
Apr. 2014	64.8%	33.5%	63,710	14,202	9,357
May 2014	68.9%	32.4%	64,232	15,350	9,729
Jun. 2014	67.3%	33.4%	60,526	14,378	9,393
Jul. 2014	66.2%	38.2%	59,831	13,023	9,811
Aug. 2014	66.2%	37.2%	60,281	13,202	9,720
Sep. 2014	65.8%	37.5%	55,947	12,879	9,493
Oct. 2014	66.1%	38.2%	58,548	13,655	10,221
Nov. 2014	64.8%	38.4%	59,574	13,360	10,034
Dec. 2014	66.2%	35.9%	62,881	12,628	8,906
2011 Total	66.5%	30.1%	745,405	170,388	101,533
2012 Total	66.2%	31.7%	770,479	165,688	103,774
2013 Total	65.9%	33.0%	738,404	168,977	110,365
2014 Total	65.9%	35.4%	748,786	166,849	116,071
2014 Avg.	N/A	N/A	62,399	13,904	9,673
Std. Dev.	1.4%	2.3%	4398	938	468

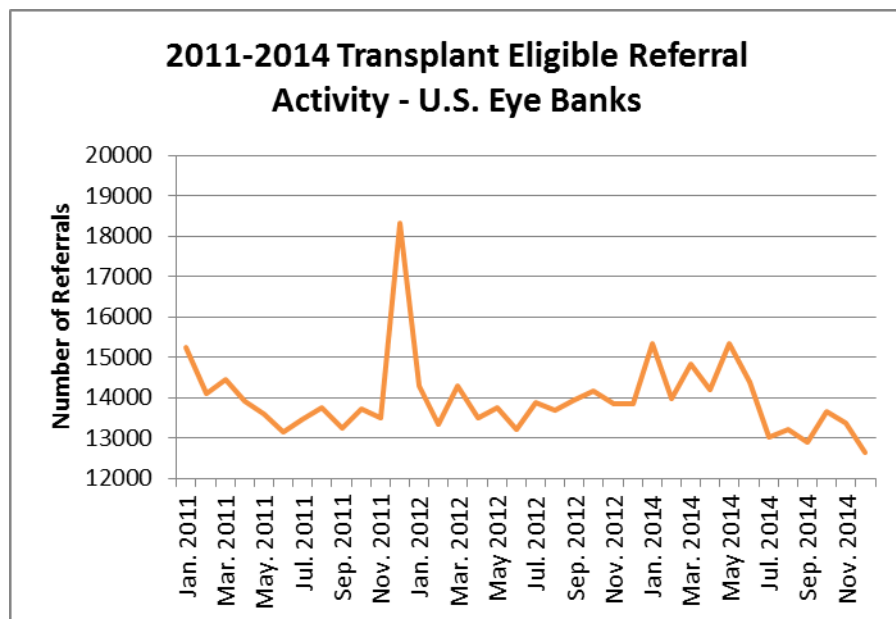
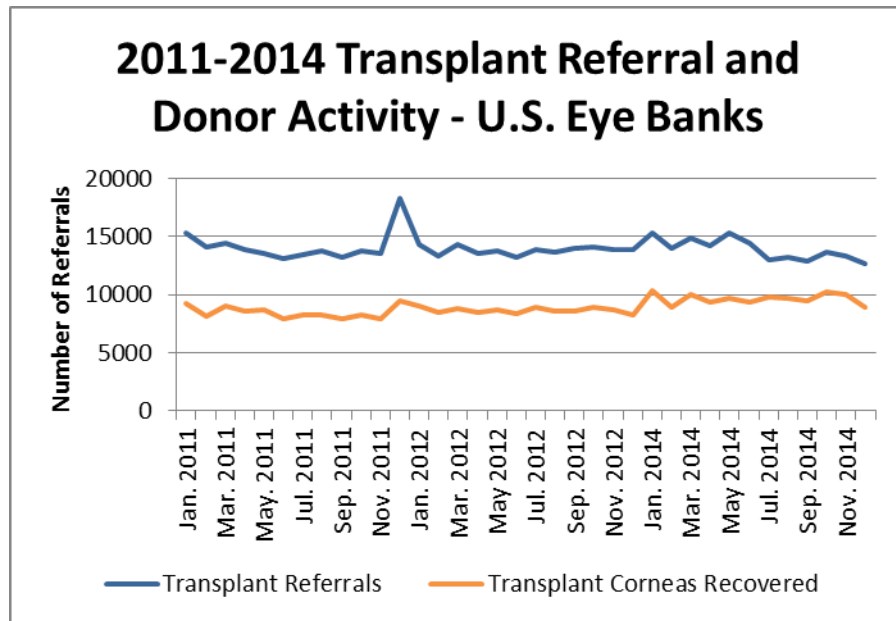
*Transplant rate is the number of corneas used for transplant divided by the number recovered for transplant. Conversion rate is the number of transplant donors divided by the number of transplant eligible referrals.



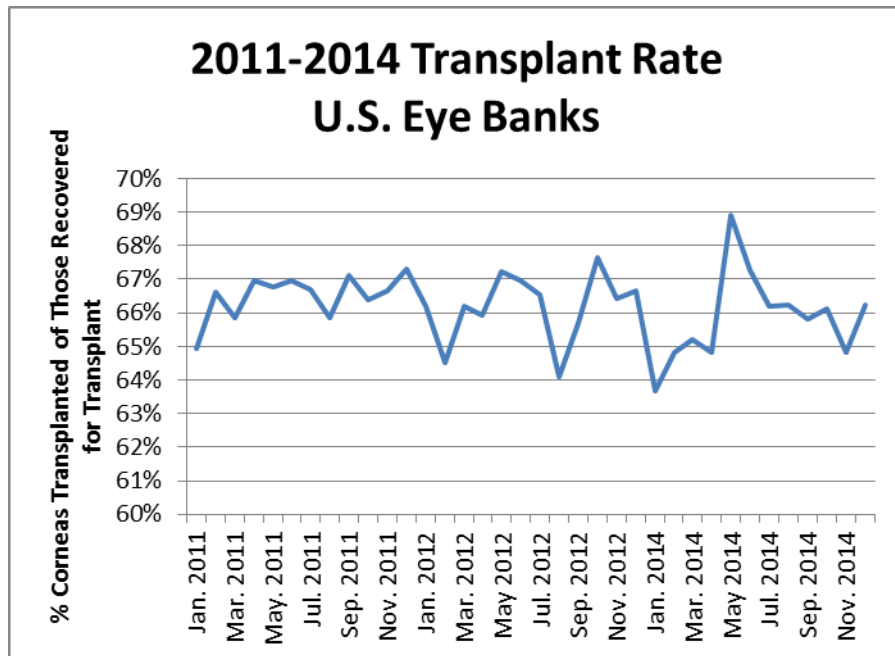
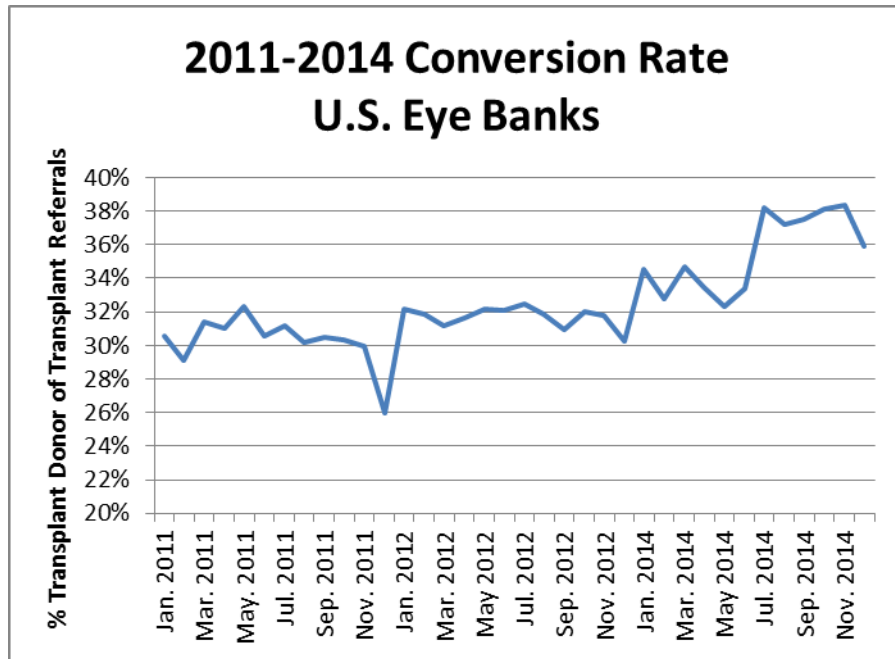
2014 Eye Banking Statistics Reported by U.S. Banks: Referral Trends, Transplant and Conversion Rates 76 U.S. Eye Banks Reporting



2014 Eye Banking Statistics Reported by U.S. Banks: Referral Trends, Transplant and Conversion Rates 76 U.S. Eye Banks Reporting



2014 Eye Banking Statistics Reported by U.S. Banks: Transplant and Conversion Rates 76 U.S. Eye Banks Reporting



2014 U.S. Eye Banking Statistics: Analysis of Referrals, Transplant & Conversion Rates 76 U.S. Eye Banks Reporting

In the U.S., the rate of death referrals ranged between 55,947 (September) and 72,498 (January) per month. This showed a small trend of spiking death referral activity annually during cold months (perhaps related to winter season pathogens like influenza). Not surprisingly, the pattern of referrals determined eligible for transplant roughly matched the pattern of referrals received. This is the same trend as in previous years.

Throughout 2014, the conversion rate of eligible death referrals into donors continually increased. A survey is to be performed attempting to determine if use of donor registries is contributing to this trend. Additionally, conversion rate trends repeatedly demonstrate how eye banks reduced supply of tissue during periods of reduced surgical activity. The conversion rate is defined as the number of transplant donors recovered from transplant eligible referrals.

The U.S. transplant rate decreased slightly in 2014, as it did in 2013. During this time period, no significant new eligibility criteria changes by the EBAA or FDA occurred. WNV NAT and HBV NAT discard rates were measured in 2014 and showed negligible rates.

A trend of donors with known donor registry documentation continued to increase, while those with no known donor registration decreased. In fact, comparing 2014 to 2011, donors not on a registry had decreased by 8.1%, while donors on a registry increased by 46.5%. As predicted, in 2014, donors on a registry exceeded donors not on a registry for the first time in history. This was an expected outcome of eye banks applying donor registry as consent more actively since 2007. In 2014, registered donors accounted for 50.7% of donors in the U.S., compared with 2.8% at international banks.

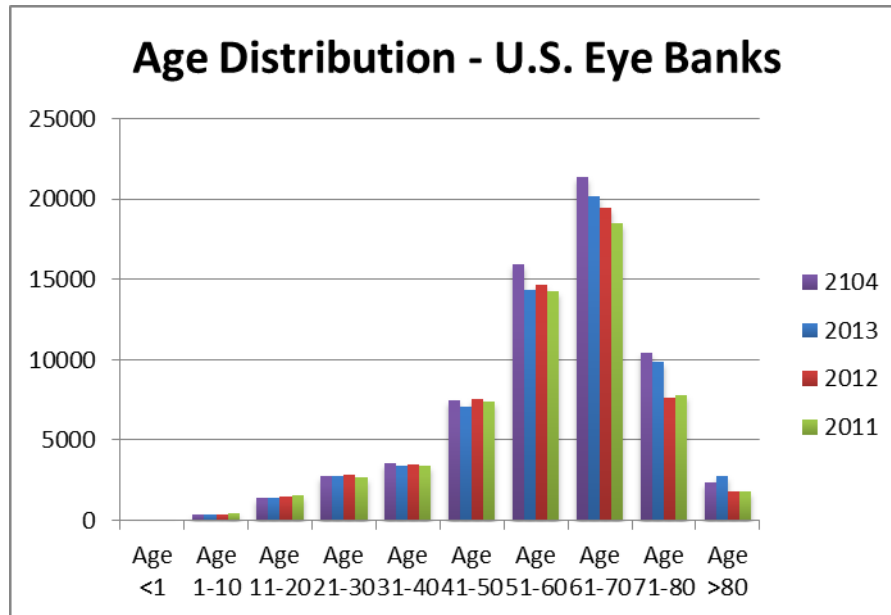
The average conversion rate by the reporting international eye banks in 2014 was 56.1%, compared with 35.4% in the U.S. Conversion rate is a difficult value to compare from bank to bank, given the variety of different referral models and internal donor eligibility criteria policies, making it difficult to compare U.S. versus international banks. The transplant rate in 2014 for international eye banks was 66.9%, a value comparable to U.S. eye banks at 65.8%. Transplant rate is a more comparable value, as it indicates the efficiency of eye banks in meeting the mission of restoring sight from tissue recovered with intent for transplant use.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Donors by Age Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

U.S. Eye Banks - Age Profile										
Month	Age <1	Age 1-10	Age 11-20	Age 21-30	Age 31-40	Age 41-50	Age 51-60	Age 61-70	Age 71-80	Age >80
Jan. 2014	1	22	115	223	328	647	1,514	1,951	887	176
Feb. 2014	1	28	81	216	256	569	1,261	1,741	784	169
Mar. 2014	1	36	132	236	264	669	1,384	1,897	860	202
Apr. 2014	1	31	112	204	292	607	1,217	1,689	833	279
May 2014	3	32	95	231	280	605	1,250	1,759	936	253
Jun. 2014	0	32	109	230	271	606	1,281	1,642	932	261
Jul. 2014	2	43	142	250	292	678	1,322	1,808	860	180
Aug. 2014	0	36	136	245	307	613	1,327	1,781	869	158
Sep. 2014	0	29	128	241	298	636	1,309	1,711	884	168
Oct. 2014	2	39	99	234	324	650	1,491	1,848	909	167
Nov. 2014	1	22	135	252	315	630	1,315	1,870	906	171
Dec. 2014	3	30	108	218	304	564	1,236	1,641	753	144
2011 Total	12	405	1,541	2,700	3,395	7,370	14,245	18,521	7,830	1,816
2012 Total	21	367	1,468	2,843	3,451	7,542	14,679	19,431	7,603	1,816
2013 Total	21	346	1,436	2,732	3,431	7,099	14,307	20,213	9,907	2,782
2014 Total	15	380	1,392	2,780	3,531	7,474	15,907	21,338	10,413	2,328
Monthly Avg.	1	32	116	232	294	623	1,326	1,778	868	194
Std. Dev.	1.1	6.3	18.9	14.5	23.1	35.7	94.6	99.9	55.7	44.9

Age	2014		2013	
Under One Year	15	0.02%	21	0.03%
Age 1–10	380	0.6%	346	0.6%
Age 11–20	1,392	2.1%	1,436	2.3%
Age 21-30	2,780	4.2%	2,732	4.4%
Age 31-40	3,531	5.4%	3,431	5.5%
Age 41-50	7,474	11.4%	7,099	11.4%
Age 51-60	15,907	24.3%	14,307	23.0%
Age 61–70	21,338	32.5%	20,213	32.5%
Age 71-80	10,413	15.9%	9,907	15.9%
Over 80	2,328	3.6%	2,782	4.5%
Total Donors by Age	65,558		62,274	

2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Donors by Age Reported by U.S. Banks 76 U.S. Eye Banks Reporting



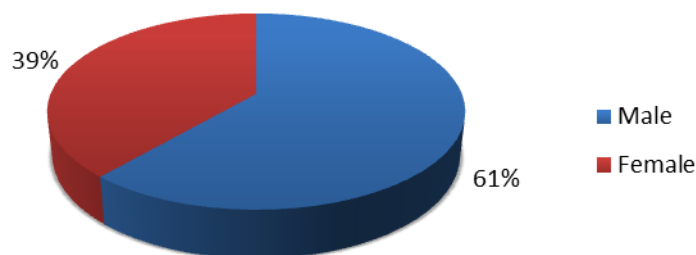
Male donors outnumber female donors, comprising 61% of the donor volume, the same as in 2011, 2012, and 2013. Heart disease remains as the leading cause of death for the American ocular donor with 33% of donors dying of cardiac or vascular problems. Heart disease was also disproportionately the cause of death category behind the growth in donors in 2014. With respect to age, the greatest rates of growth were in the 51-60 and 61-70 ranges, while growth slowed in the 71-80 age group and donors over 80 declined.

Comparing international eye banks to U.S. eye banks, the bell curve suggests that recovery of tissue from young donors continues to be less frequent. Additionally, international banks have a heavier reliance on donors from the 71-80 age range than U.S. banks. Considering donor gender, international banks have a similar dynamic to US eye banks with male donors more significant than female donors. The cause of death profile reported by international banks is dramatically different from the U.S. banks. Internationally, ocular donors are nearly twice as likely to die from cancer, half as likely to die of trauma, and a third less likely to die of heart or vascular disease. These values may reflect both the nature of public health and the relationships with referral sources (e.g. hospital vs. hospice vs. medical examiner offices). As in the U.S., international banks report that the most likely age range to be an ocular donor is 61-70, however, the next most significant age group is 71-80 for international banks, compared to 51-60 for U.S. banks. This difference is attributable to U.S. banks' selectivity of donors based on age in an attempt to optimize donor tissue quality. Additionally, the U.S. banks' age demographic is shifted to lower age than at international banks reflecting the increased inclusion of traumatic death donors.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Donors by Gender Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

U.S. Eye Banks - Sex Profile		
Month	Male	Female
Jan. 2014	3,543	2,321
Feb. 2014	3,108	1,998
Mar. 2014	3,519	2,162
Apr. 2014	3,248	2,017
May 2014	3,379	2,065
Jun. 2014	3,257	2,107
Jul. 2014	3,417	2,160
Aug. 2014	3,299	2,173
Sep. 2014	3,257	2,147
Oct. 2014	3,478	2,285
Nov. 2014	3,408	2,209
Dec. 2014	3,062	1,939
2011 Total	35,491	22,344
2012 Total	36,104	23,117
2013 Total	38,221	24,053
2014 Total	39,975	25,583
Monthly Avg.	3,331	2,132
Std. Dev.	153.3	113.7

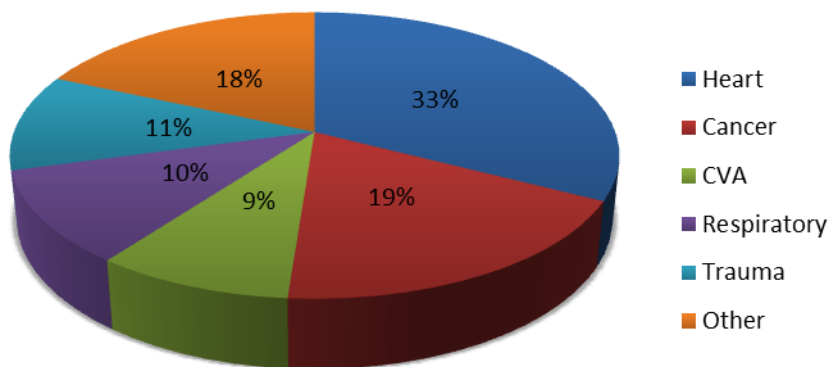
**2014 Donor Sex Profile - U.S.
Eye Banks**



**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Cause of Death Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

U.S. Eye Banks - Cause of Death Profile						
Month	Heart	Cancer	CVA	Respiratory	Trauma	Other
Jan. 2014	2,005	1,015	545	761	502	1,036
Feb. 2014	1,797	909	447	637	447	869
Mar. 2014	1,940	1,010	530	648	556	997
Apr. 2014	1,862	871	472	574	537	949
May 2014	1,805	1,010	475	604	623	927
Jun. 2014	1,753	1,018	447	532	579	1,035
Jul. 2014	1,776	1,044	494	574	686	1,003
Aug. 2014	1,802	1,004	489	542	647	988
Sep. 2014	1,729	1,065	469	538	651	952
Oct. 2014	1,914	1,056	514	590	591	1,098
Nov. 2014	1,918	965	565	588	572	1,009
Dec. 2014	1,668	864	437	546	502	984
2011 Total	19,578	10,680	5,224	5,785	6,327	10,241
2012 Total	19,889	11,117	5,342	5,874	6,730	10,269
2013 Total	20,302	11,581	5,618	6,557	6,806	11,410
2014 Total	21,969	11,831	5,884	7,134	6,893	11,847
Monthly Avg.	1,831	986	490	595	574	987
Std. Dev.	98.3	69.0	40.8	64.4	70.5	58.8

**2014 Donor Cause of Death Profile
- U.S. Eye Banks**



2014 Eye Banking Statistics Reported by U.S. Banks: Reasons Tissue Intended for Surgery Was Not Released 76 U.S. Eye Banks Reporting

There are several reasons why tissue intended for surgery may not ultimately be used for surgery. These include positive serology results, defects noted at the time of evaluation (scars, infiltrates, low cell counts, etc.) and/or medical or social history information, all of which occur subsequent to initial screening and procurement.

Contraindications for Transplant ¹	2014		2013	
Positive or Reactive Test for Communicable Disease Agent or Disease	10,161	30.8%	9,656	29.8%
Anti-HIV-1/2	185	0.6%	169	0.5%
HIV-1 Nucleic Acid Test Positive	70	0.2%	84	0.3%
Anti-HCV	1,889	5.7%	2,029	6.3%
Hepatitis C Nucleic Acid Test Positive	709	2.2%	762	2.3%
Hepatitis B Surface Antigen (HBsAg) Positive	1,130	3.4%	786	2.4%
Hepatitis B Core (HBcAb) Positive	4,889	14.8%	4,639	14.3%
Hepatitis B Nucleic Acid Test Positive	379	1.1%	-	-
Syphilis Positive	390	1.2%	397	1.2%
HTLV Antibody (HTLV I/II Ab)	206	0.6%	237	0.7%
West Nile Virus Nucleic Acid Test Positive	4	0.01%	-	-
Other Positive Serology	342	1.0%	553	1.7%
Other Communicable Disease Testing Issue	423	1.3%	375	1.2%
Medical Record or Autopsy Findings	7,313	22.2%	7,138	22.0%
Dementia	733	2.2%	660	2.0%
Sepsis	3,510	10.6%	3,586	11.0%
Sepsis - (determined by positive blood cultures)	1,067	3.2%	958	3.0%
Sepsis - (determined by other indicators)	2,443	7.4%	2,628	8.1%
Plasma Dilution	445	1.4%	447	1.4%
Unknown Cause of Death	388	1.2%	485	1.5%
Medical Record or Autopsy Findings: Other	2,237	6.8%	1,960	6.0%
Medical/Social Interview	2,331	7.1%	2,200	6.8%
Travel Questions	379	1.1%	338	1.0%
Dementia / Neurological Issues	139	0.4%	198	0.6%
Medical/Social Interview: Other	1,813	5.5%	1,664	5.1%
Body Exam	235	0.7%	189	0.6%
Total eyes/corneas intended for transplant but not released for transplant	32,958		32,456	

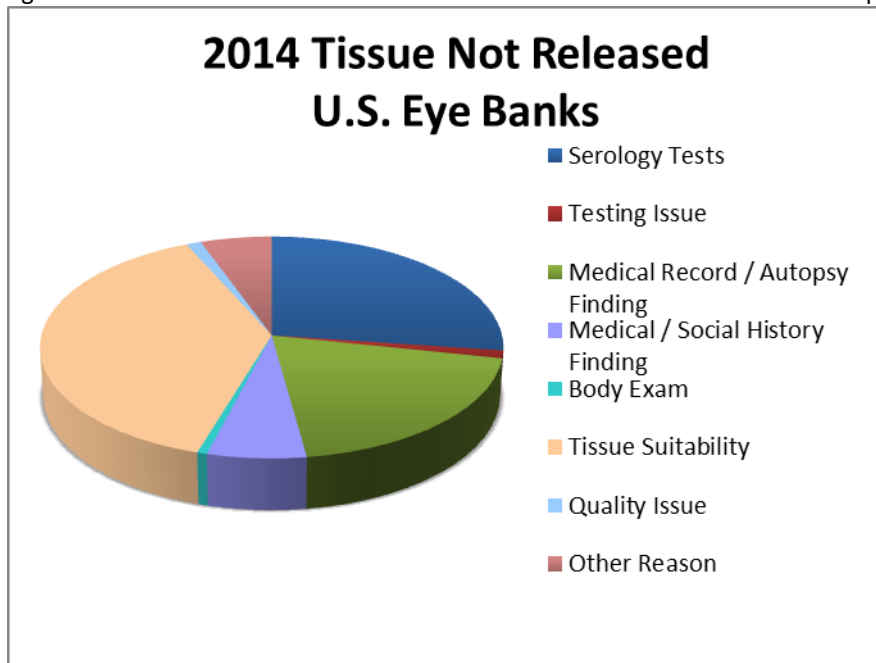
*Percentages read from this table should be read as "of the tissue not released for transplant"

¹ Some tissues had multiple contraindications.

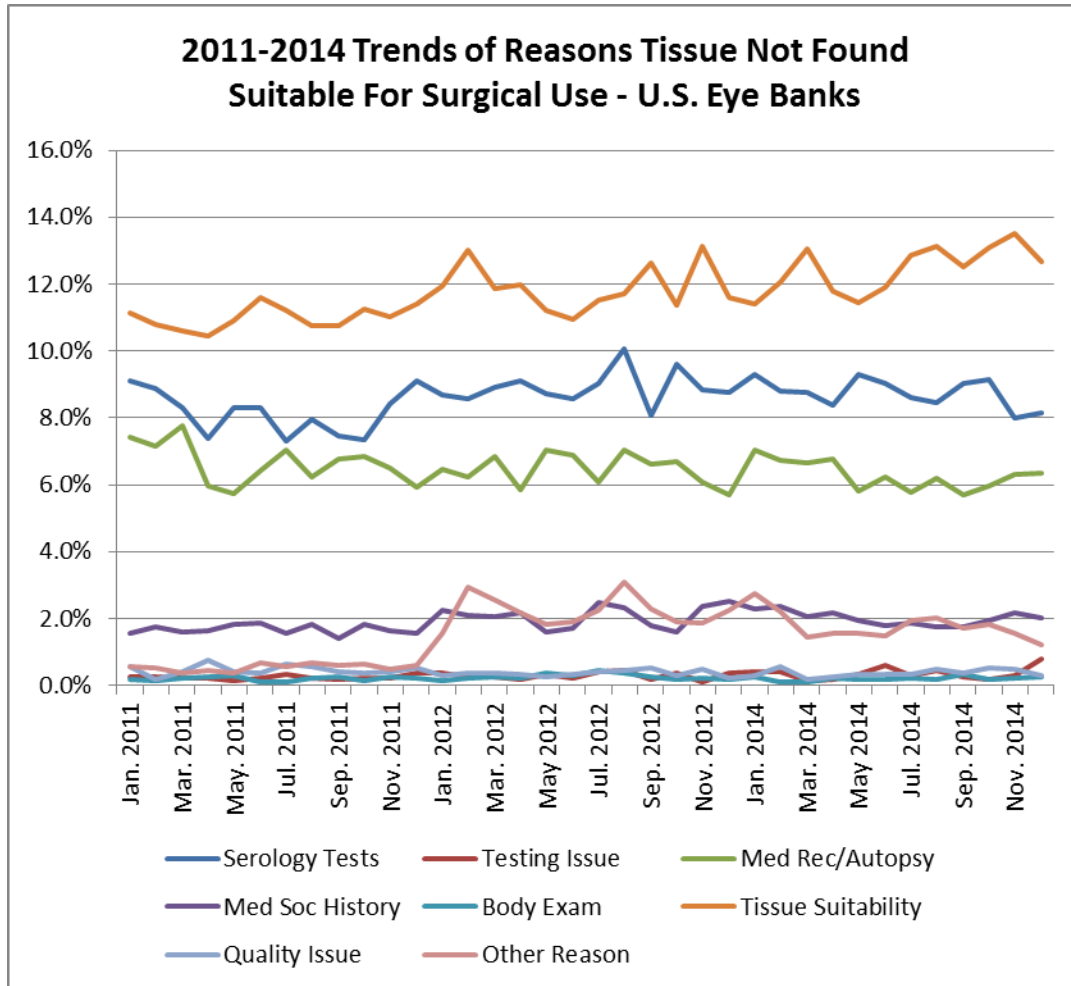
2014 Eye Banking Statistics Reported by U.S. Banks: Reasons Tissue Intended for Surgery Was Not Released 76 U.S. Eye Banks Reporting

Contraindications for Transplant (continued)	2014		2013	
Tissue Suitability (e.g. slit lamp/spec eval)	14,463	43.9%	12,384	38.2%
Epithelium	403	1.2%	279	0.9%
Stroma	6,111	18.5%	5,802	17.9%
Prior reactive surgery	473	1.4%	390	1.2%
Scar	1,628	4.9%	1,329	4.1%
Infiltrate	2,755	8.4%	2,800	8.6%
Foreign Body	187	0.6%	188	0.6%
Other	1,068	3.2%	1,095	3.4%
Descemet's membrane	455	1.4%	346	1.1%
Endothelium	7,494	22.7%	5,957	18.4%
Quality Issue	434	1.3%	416	1.3%
Storage	136	0.4%	101	0.3%
Labeling	11	0.0%	14	0.0%
Processing	232	0.7%	225	0.7%
Supply or Reagent	24	0.1%	47	0.1%
Environmental Control	31	0.1%	29	0.1%
Other Reason prior to Tissue Release	2,065	6.3%	2,294	7.1%
Total eyes/corneas intended for transplant but not released for transplant	32,958		32,456	

*Percentages read from this table should be read as "of the tissue not released for transplant"



2014 Eye Banking Statistics Reported by U.S. Banks: Reasons Tissue Intended for Surgery Was Not Released 76 U.S. Eye Banks Reporting



Analysis of the Reasons Tissue Intended for Surgery Was Not Suitable for Transplant 76 U.S. Eye Banks Reporting

U.S. Eye Banks: Not Released for Transplant (Overview)									
Month	All Reasons Not Released	Serology Tests	Testing Issue	Medical Record/ Autopsy Finding	Medical / Social History Finding	Body Exam	Tissue Suitability	Quality Issue	Other Reason
Jan. 2014	29.9%	9.3%	0.4%	7.1%	2.3%	0.3%	11.4%	0.3%	2.7%
Feb. 2014	29.0%	8.8%	0.4%	6.7%	2.4%	0.1%	12.1%	0.6%	2.2%
Mar. 2014	28.7%	8.8%	0.2%	6.6%	2.1%	0.1%	13.1%	0.2%	1.4%
Apr. 2014	27.9%	8.4%	0.2%	6.8%	2.2%	0.2%	11.8%	0.3%	1.6%
May 2014	26.4%	9.3%	0.3%	5.8%	1.9%	0.2%	11.5%	0.3%	1.6%
Jun. 2014	28.0%	9.0%	0.6%	6.2%	1.8%	0.2%	11.9%	0.3%	1.5%
Jul. 2014	28.6%	8.6%	0.3%	5.8%	1.9%	0.2%	12.9%	0.3%	1.9%
Aug. 2014	28.4%	8.5%	0.5%	6.2%	1.7%	0.2%	13.1%	0.5%	2.0%
Sep. 2014	28.4%	9.0%	0.3%	5.7%	1.8%	0.3%	12.5%	0.4%	1.7%
Oct. 2014	29.1%	9.2%	0.2%	6.0%	1.9%	0.2%	13.1%	0.5%	1.8%
Nov. 2014	29.1%	8.0%	0.3%	6.3%	2.2%	0.2%	13.5%	0.5%	1.6%
Dec. 2014	27.1%	8.1%	0.8%	6.3%	2.0%	0.3%	12.7%	0.3%	1.2%
2011 Avg.	29.0%	8.2%	0.2%	6.7%	1.7%	0.2%	11.0%	0.5%	0.5%
2012 Avg.	29.1%	8.9%	0.3%	6.5%	2.1%	0.3%	11.9%	0.4%	2.2%
2013 Avg.	29.4%	8.7%	0.3%	6.5%	2.0%	0.2%	11.2%	0.4%	2.1%
2014 Avg.	28.4%	8.8%	0.4%	6.3%	2.0%	0.2%	12.5%	0.4%	1.8%
Std. Dev.	1.0%	0.4%	0.2%	0.4%	0.2%	0.1%	0.7%	0.1%	0.4%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

When analyzing the reasons tissue was not released for transplant, percentages must be used to identify trends, since raw numbers vary too much with recovery rates. Percentages are calculated by dividing the number of corneas not released for each reason by the number of corneas recovered for transplant use. In the U.S., tissue not released due to serologic testing increased 0.1%. In 2014, tissue suitability, as a reason for not releasing tissue, increased significantly (1.3%). Other categories did not change significantly.

Comparing U.S. and international banks, a few notable differences are apparent. The U.S. does not release tissue for transplant due to serologic testing in 2014 at a rate of 8.8%. International banks report the same occurrence at 5.4%. Other comparisons include medical record or autopsy findings (6.3% in the U.S., 2.7% internationally), medical/social history findings (2.0% in the U.S., 2.7% internationally), tissue suitability (12.5% in the U.S., 13.0% internationally), quality reasons (0.4% in the U.S., 1.0% internationally), and "other reasons" (1.8% in the U.S., 9.3% internationally). Notably, as U.S. eye banks increase the rate of donor recovery using donor designation, the rate of finding tissue ineligible due to medical/social interview findings has not increased.

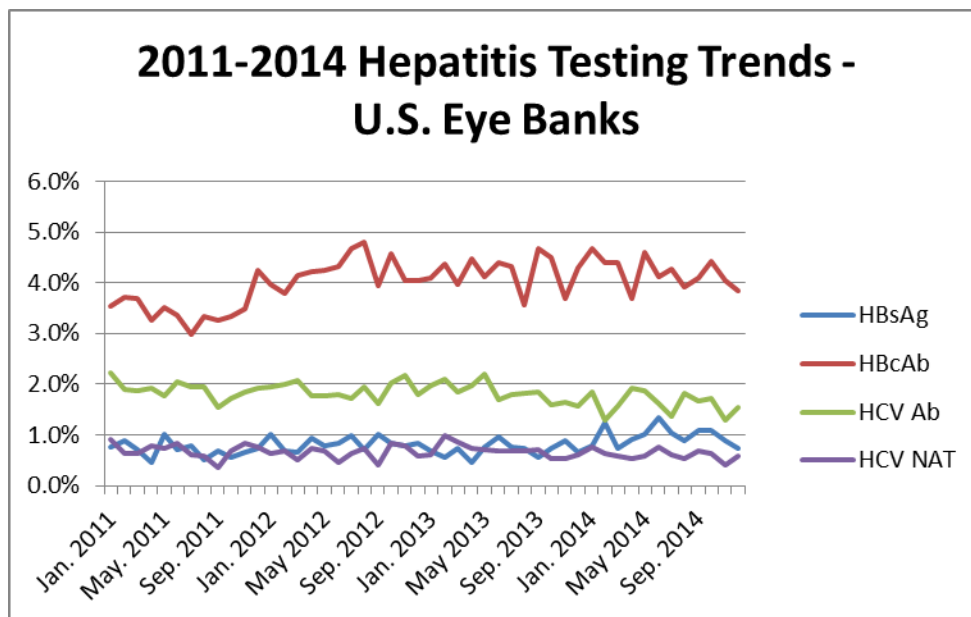
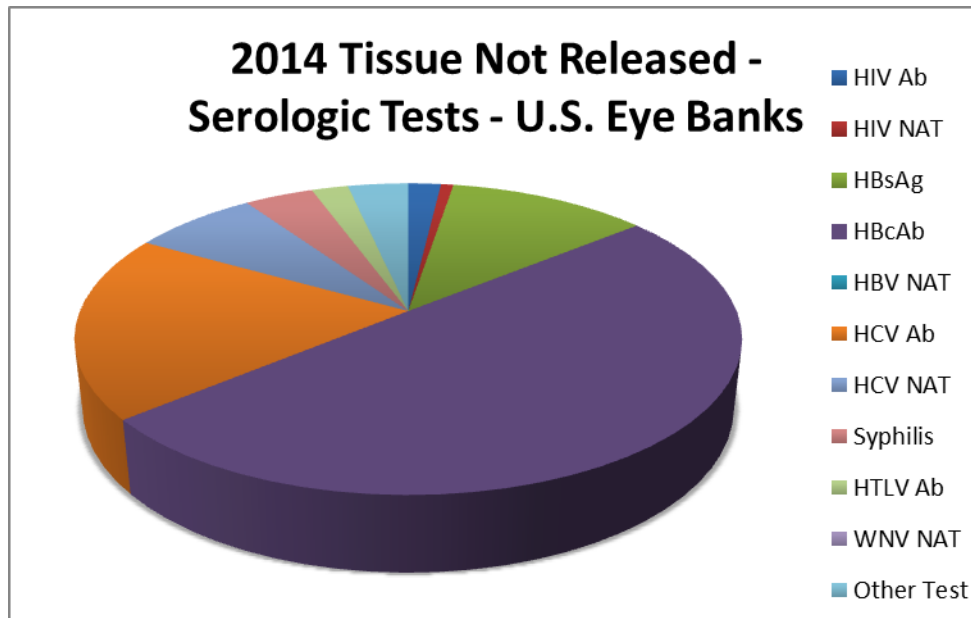
Analysis of the Reasons Tissue Intended for Surgery Was Not Suitable for Transplant 76 U.S. Eye Banks Reporting

Reasons Tissue Recovered for Transplant was Not Used for Transplant U.S. Eye Bank Data Subset: Serologic Testing												
Month	All Serology Tests	HIV Ab	HIV NAT	HBsAg	HBcAb	HBV NAT	HCV Ab	HCV NAT	Syphilis	HTLV Ab	WNV NAT	Other Test
Jan. 2014	9.3%	0.2%	0.1%	0.8%	4.7%	0.0%	1.9%	0.8%	0.3%	0.2%	0.0%	0.2%
Feb. 2014	8.8%	0.1%	0.1%	1.2%	4.4%	0.0%	1.3%	0.6%	0.4%	0.1%	0.0%	0.1%
Mar. 2014	8.8%	0.1%	0.1%	0.7%	4.4%	0.0%	1.6%	0.6%	0.4%	0.2%	0.0%	0.4%
Apr. 2014	8.4%	0.3%	0.0%	0.9%	3.7%	0.0%	1.9%	0.5%	0.3%	0.1%	0.0%	0.3%
May 2014	9.3%	0.2%	0.0%	1.0%	4.6%	0.0%	1.9%	0.6%	0.3%	0.1%	0.0%	0.2%
Jun. 2014	9.0%	0.2%	0.0%	1.3%	4.1%	0.0%	1.6%	0.8%	0.3%	0.1%	0.0%	0.1%
Jul. 2014	8.6%	0.2%	0.1%	1.0%	4.3%	0.0%	1.4%	0.6%	0.4%	0.1%	0.0%	0.5%
Aug. 2014	8.5%	0.1%	0.0%	0.9%	3.9%	0.0%	1.8%	0.5%	0.3%	0.2%	0.0%	0.5%
Sep. 2014	9.0%	0.1%	0.1%	1.1%	4.1%	0.0%	1.7%	0.7%	0.5%	0.3%	0.0%	0.2%
Oct. 2014	9.2%	0.2%	0.0%	1.1%	4.4%	0.0%	1.7%	0.6%	0.3%	0.2%	0.0%	0.4%
Nov. 2014	8.0%	0.2%	0.0%	0.9%	4.0%	0.0%	1.3%	0.4%	0.2%	0.3%	0.0%	0.3%
Dec. 2014	8.1%	0.2%	0.1%	0.7%	3.8%	0.0%	1.5%	0.6%	0.3%	0.2%	0.0%	0.3%
2011 Avg.	8.2%	0.2%	0.2%	0.7%	3.5%	N/A	1.9%	0.7%	0.3%	0.3%	N/A	0.3%
2012 Avg.	8.9%	0.2%	0.1%	0.8%	4.2%	N/A	1.9%	0.6%	0.3%	0.2%	N/A	0.5%
2013 Avg.	8.7%	0.2%	0.1%	0.7%	4.2%	N/A	1.8%	0.7%	0.4%	0.2%	N/A	0.5%
2014 Avg.	8.8%	0.2%	0.1%	1.0%	4.2%	0.0%	1.6%	0.6%	0.3%	0.2%	0.0%	0.3%
Std. Dev.	0.4%	0.0%	0.0%	0.2%	0.3%	0.0%	0.2%	0.1%	0.1%	0.1%	0.0%	0.1%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

In 2014, the EBAA Statistical Committee approved measuring HBV NAT and WNV NAT occurrences. So far, HBV NAT was responsible for 347 U.S. corneas (1 international) not released and WNV NAT was responsible for only 4 U.S. corneas (4 international). In the U.S., positive serologic testing for hepatitis B increased slightly between 2014 (5.2%) and 2013 (4.9%). Internationally, the rate of hepatitis B positive donors decreased between 2014 (3.6%) and 2013 (3.7%). Hepatitis C testing as a reason for tissue not released for transplant decreased in 2014 (2.2%) compared with 2013 (2.5%), possibly influenced by increasing use of pre-recovery donor testing. U.S. banks reported a continuing trend in increasing "other tests" as a reason for not releasing tissue for transplant. Internationally, positive HCV results also decreased in 2014 (0.7%) compared to 2013 (1.1%).

2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Reasons Tissues Were Not Released 76 U.S. Eye Banks Reporting

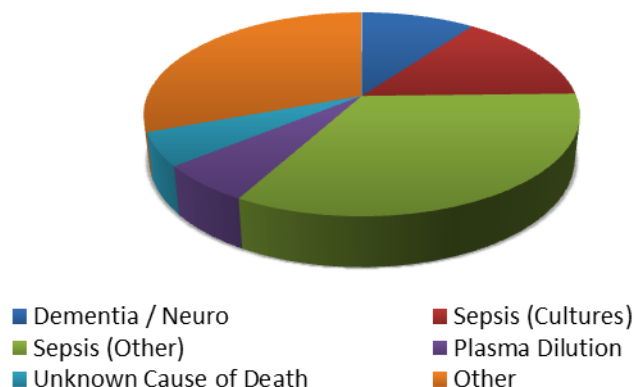


2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Reasons Tissues Were Not Released 76 U.S. Eye Banks Reporting

Reasons Tissue Recovered for Transplant Not Used for Transplant U.S. Eye Bank Data Subset: Medical Record and Autopsy							
Month	All Medical Record	Dementia / Neuro	Sepsis (Cultures)	Sepsis (Other)	Plasma Dilution	Unknown Cause of Death	Other
Jan. 2014	7.1%	0.6%	1.2%	2.2%	0.4%	0.5%	2.2%
Feb. 2014	6.7%	0.7%	1.0%	2.6%	0.2%	0.4%	1.8%
Mar. 2014	6.6%	0.8%	0.9%	2.3%	0.4%	0.4%	1.8%
Apr. 2014	6.8%	0.7%	1.0%	1.9%	0.7%	0.3%	2.2%
May 2014	5.8%	0.6%	0.9%	2.0%	0.3%	0.3%	1.8%
Jun. 2014	6.2%	0.8%	0.9%	2.3%	0.4%	0.3%	1.6%
Jul. 2014	5.8%	0.5%	0.6%	2.1%	0.4%	0.3%	1.9%
Aug. 2014	6.2%	0.6%	0.8%	2.0%	0.4%	0.3%	2.1%
Sep. 2014	5.7%	0.5%	0.8%	1.8%	0.3%	0.3%	2.0%
Oct. 2014	6.0%	0.5%	0.8%	2.2%	0.5%	0.3%	1.6%
Nov. 2014	6.3%	0.6%	0.9%	2.0%	0.3%	0.3%	2.1%
Dec. 2014	6.3%	0.7%	1.1%	1.8%	0.4%	0.4%	2.0%
2011 Avg.	6.7%	0.5%	0.9%	2.3%	0.4%	0.5%	2.0%
2012 Avg.	6.5%	0.5%	0.8%	2.4%	0.3%	0.4%	1.9%
2013 Avg.	6.5%	0.6%	0.9%	2.4%	0.4%	0.4%	1.8%
2014 Avg.	6.3%	0.6%	0.9%	2.1%	0.4%	0.3%	1.9%
Std. Dev.	0.4%	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

2014 Tissue Not Released - Medical Record & Autopsy - U.S. Eye Banks



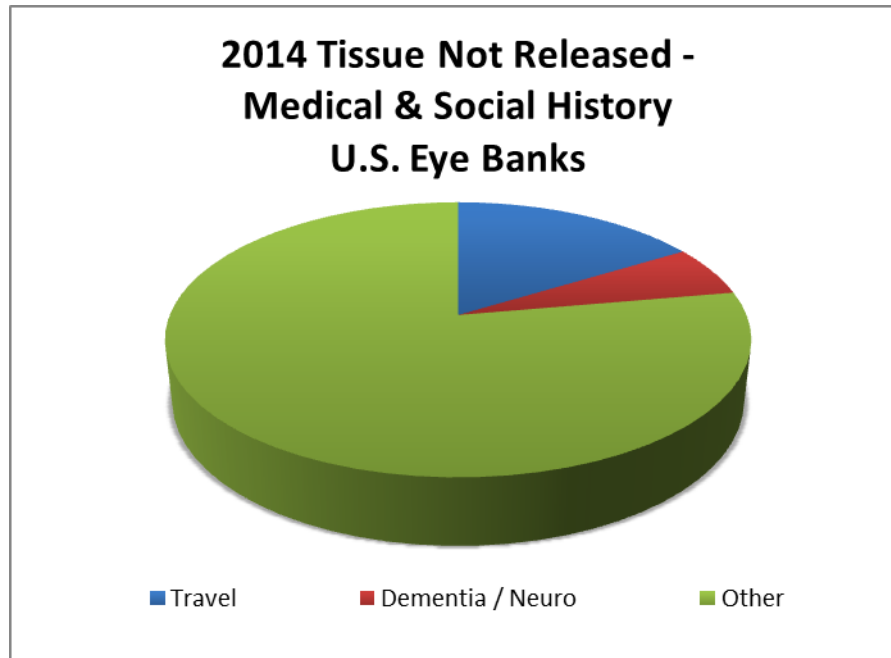
2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Reasons Tissues Were Not Released 76 U.S. Eye Banks Reporting

Trends for medical record or autopsy findings as a reason for not releasing tissue for transplant remained relatively unchanged in the U.S., but at international banks decreased significantly (5.1% in 2012, 4.0% in 2013, and 2.7% in 2014 respectively). Improving processes (e.g. use of electronic medical records) and relationships (e.g. relationships with medical examiners and/or coroners) may further aid in decreasing these instances.

Reasons Tissue Recovered for Transplant Not Used for Transplant U.S. Eye Bank Data Subset: Medical & Social History				
Month	All Medical / Social History	Travel	Dementia / Neuro	Other
Jan. 2014	2.3%	0.3%	0.2%	1.8%
Feb. 2014	2.4%	0.4%	0.1%	1.9%
Mar. 2014	2.1%	0.5%	0.1%	1.5%
Apr. 2014	2.2%	0.3%	0.2%	1.7%
May 2014	1.9%	0.5%	0.1%	1.4%
Jun. 2014	1.8%	0.2%	0.1%	1.5%
Jul. 2014	1.9%	0.3%	0.0%	1.5%
Aug. 2014	1.7%	0.4%	0.2%	1.2%
Sep. 2014	1.8%	0.3%	0.1%	1.4%
Oct. 2014	1.9%	0.2%	0.2%	1.5%
Nov. 2014	2.2%	0.3%	0.0%	1.8%
Dec. 2014	2.0%	0.2%	0.1%	1.7%
2011 Avg.	1.7%	0.3%	0.1%	1.3%
2012 Avg.	2.1%	0.3%	0.2%	1.6%
2013 Avg.	2.0%	0.3%	0.2%	1.5%
2014 Avg.	2.0%	0.3%	0.1%	1.6%
Std. Dev.	0.2%	0.1%	0.1%	0.2%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Reasons Tissues Were Not Released 76 U.S. Eye Banks Reporting



The data related to tissue not released due to medical/social history findings was limited by the fact that when a Donor Risk Assessment Interview (DRAI), formerly known as "medical/social history interview," was performed prior to recovery and reveals information that determines a donor ineligible, the tissue was most often not recovered for transplant. Reporting is limited only to recovered tissue. Increased use of donor registry as consent for donation has not demonstrated an appreciable increase in donor tissue found ineligible after recovery.

The data reported by U.S. and international banks differed greatly. In the U.S., despite recovery using donor registry, there was a lower occurrence of this reason compared to international banks (2.0% in the U.S., 2.7% at international locations). International banks reported travel exclusionary reasons at a rate twice that reported by the U.S. (0.3% in the U.S., 0.5% internationally). Dementia and neurological reasons were reported by U.S. banks at a rate lower than international banks (0.1% in the U.S., 0.5% internationally). This suggests rigorous dementia screening in the U.S. prior to recovery.

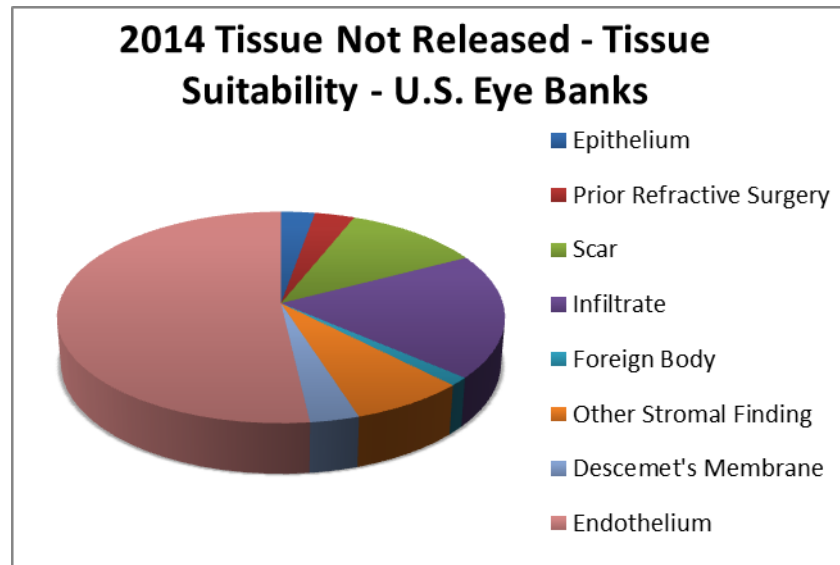
Adoption of the Donor Risk Assessment Interview tool, developed in collaboration between AOPO, AATB, and the EBAA, with feedback from HRSA, FDA, CDC, and WHO, has gained steam in the last year in the U.S. Other factors influencing the difference in the U.S. and international bank data were social, cultural, economic, and demographic.

2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Reasons Tissues Were Not Released 76 U.S. Eye Banks Reporting

Reasons Tissue Recovered for Transplant Not Used for Transplant U.S. Eye Bank Data Subset: Tissue Suitability									
Month	All Tissue Suitability Reasons	Epithelium	Prior Refractive Surgery	Scar	Infiltrate	Foreign Body	Other Stromal Finding	Descemet's Membrane	Endothelium
Jan. 2014	11.4%	0.3%	0.3%	1.7%	2.4%	0.1%	0.7%	0.3%	5.6%
Feb. 2014	12.1%	0.2%	0.5%	1.5%	2.4%	0.1%	0.8%	0.4%	6.2%
Mar. 2014	13.1%	0.3%	0.3%	1.8%	2.3%	0.3%	1.1%	0.3%	6.6%
Apr. 2014	11.8%	0.4%	0.4%	1.3%	2.2%	0.3%	1.0%	0.2%	6.0%
May 2014	11.5%	0.4%	0.9%	1.5%	2.4%	0.2%	1.0%	0.4%	4.8%
Jun. 2014	11.9%	0.3%	0.3%	1.6%	2.4%	0.2%	1.1%	0.5%	5.6%
Jul. 2014	12.9%	0.4%	0.4%	1.2%	2.3%	0.1%	1.0%	0.4%	7.1%
Aug. 2014	13.1%	0.6%	0.5%	1.2%	2.4%	0.1%	1.0%	0.6%	6.8%
Sep. 2014	12.5%	0.2%	0.4%	1.3%	2.4%	0.2%	0.9%	0.4%	6.6%
Oct. 2014	13.1%	0.3%	0.3%	1.2%	2.4%	0.1%	0.9%	0.3%	7.6%
Nov. 2014	13.5%	0.4%	0.5%	1.1%	2.5%	0.1%	0.9%	0.6%	7.3%
Dec. 2014	12.7%	0.3%	0.3%	1.4%	2.2%	0.2%	0.8%	0.4%	7.2%
2011 Avg.	11.0%	0.4%	0.3%	1.0%	2.2%	0.2%	1.0%	0.4%	5.5%
2012 Avg.	11.9%	0.3%	0.3%	1.0%	2.4%	0.2%	1.4%	0.4%	6.0%
2013 Avg.	11.2%	0.3%	0.4%	1.2%	2.5%	0.2%	1.0%	0.3%	5.4%
2014 Avg.	12.5%	0.3%	0.4%	1.4%	2.4%	0.2%	0.9%	0.4%	6.5%
Std. Dev.	0.7%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.8%

*Percentages read from this table should be read as "of the tissue not released for transplant"

2014 Eye Banking Statistics: Analysis of Tissue Suitability Reasons for Non Release 76 U.S. and 10 International Eye Banks Reporting



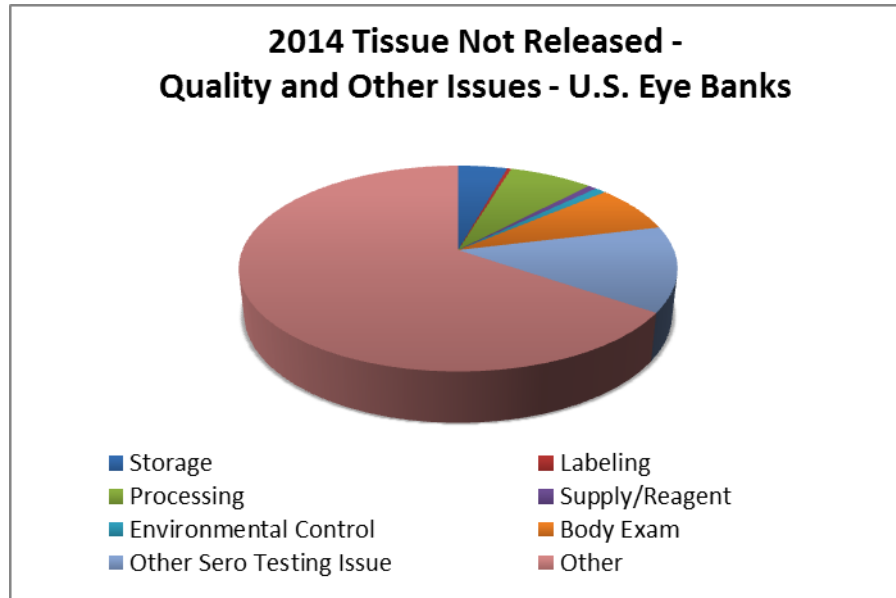
Both in the U.S. and internationally, there was an increase in tissue not released for transplant due to tissue suitability. Internationally, scars, infiltrates, and foreign bodies were responsible for the increase, while in the U.S., endothelium was the responsible factor. Epithelium is more likely to be a reason tissue is not found suitable for transplant internationally than in the U.S., while infiltrates were more frequently encountered on recovered tissue in the U.S. In the U.S., where refractive surgery is common, the incidence of this as a reason for not finding tissue suitable for transplant was increased. The magnitude of the general category of tissue suitability is such that there is great opportunity for innovation and collaboration to better evaluate potential donors in the field prior to recovery.

2014 Eye Banking Statistics Reported by U.S. Banks: Quality Issues 76 U.S. Eye Banks Reporting

Reasons Tissue Recovered for Transplant Not Used for Transplant U.S. Eye Bank Data Subset: Quality Issues and Other Reasons									
Month	All Quality and Other Issues	Storage Issue	Labeling Issue	Processing Issue (before release)	Supply or Reagent Issue	Environmental Control Issue	Body Exam	Other Serologic Testing Issue	Other Issue
Jan. 2014	3.7%	0.2%	0.0%	0.1%	0.0%	0.0%	0.3%	0.4%	2.7%
Feb. 2014	3.3%	0.3%	0.0%	0.2%	0.0%	0.0%	0.1%	0.4%	2.2%
Mar. 2014	1.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	1.4%
Apr. 2014	2.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.2%	1.6%
May 2014	2.4%	0.0%	0.0%	0.2%	0.0%	0.1%	0.2%	0.3%	1.6%
Jun. 2014	2.6%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	0.6%	1.5%
Jul. 2014	2.8%	0.1%	0.0%	0.1%	0.0%	0.1%	0.2%	0.3%	1.9%
Aug. 2014	3.2%	0.2%	0.0%	0.3%	0.0%	0.0%	0.2%	0.5%	2.0%
Sep. 2014	2.7%	0.1%	0.0%	0.2%	0.0%	0.1%	0.3%	0.3%	1.7%
Oct. 2014	2.7%	0.1%	0.0%	0.3%	0.0%	0.0%	0.2%	0.2%	1.8%
Nov. 2014	2.6%	0.2%	0.0%	0.3%	0.0%	0.0%	0.2%	0.3%	1.6%
Dec. 2014	2.6%	0.1%	0.0%	0.2%	0.0%	0.0%	0.3%	0.8%	1.2%
2011 Avg.	1.4%	0.2%	0.0%	0.1%	0.1%	0.0%	0.2%	0.2%	0.5%
2012 Avg.	3.1%	0.1%	0.0%	0.2%	0.0%	0.0%	0.3%	0.3%	2.2%
2013 Avg.	3.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.2%	0.3%	2.1%
2014 Avg.	2.7%	0.1%	0.0%	0.2%	0.0%	0.0%	0.2%	0.4%	1.8%
Std. Dev.	0.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.4%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

2014 Eye Banking Statistics Reported by U.S. Banks: Quality Issues 76 U.S. Eye Banks Reporting



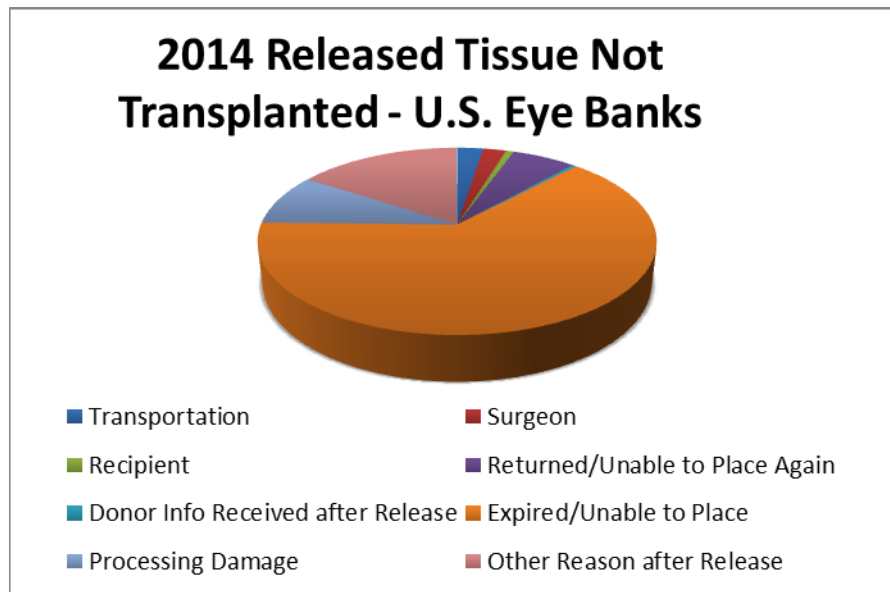
Regarding the overall rate of not releasing tissue that was recovered for transplant use, quality reasons were not a large portion of the reasons in 2014 (0.3% in the U.S., 0.9% internationally). This was a testament to the quality assurance and quality control processes employed both in the U.S. and internationally. However, quality reasons, by nature, are often avoidable and may continue to be an area of improvement for eye banks in the U.S. and abroad.

"Other issue" jumped significantly at international eye banks, mostly because of events in December 2014. The value of this reason for not releasing tissue rose to 9.3% (531 corneas) in 2014, compared to 6.6% (360 corneas) in 2013. In the U.S. this reason dropped to 1.8% in 2014 (2065 corneas) from 2.1% in 2013 (2295 corneas), after an initial change in magnitude between 2011 and 2012. The interpretation of how to categorize events as "other" appeared to have settled by those performing data collection both in the U.S. and at international banks.

2014 Eye Banking Statistics Reported by U.S. Banks: Reasons Tissue Intended for Surgery Was Not Suitable for Transplant 76 U.S. Eye Banks Reporting

Reasons Released Tissues Were Not Transplanted	2014		2013	
Transportation Issue	169	2.5%	109	2.1%
Surgeon Issue	150	2.2%	162	3.1%
Recipient Issue	51	0.8%	38	0.7%
Returned and Unable to Place Again	414	6.2%	267	5.2%
Donor Information Not Available at the Time of Tissue Release	26	0.4%	54	1.0%
Expired or Unable to Place Tissue	4,265	63.8%	3,428	66.2%
Tissue Damaged During Processing	596	8.9%	501	9.7%
Other Reason After Release of Tissue	1,063	15.9%	714	13.8%
Total eyes/corneas released for transplant but not used for transplant	6,681		5,182	

*Percentages read from this table should be read as "of the tissue not released for transplant"



2014 Eye Banking Statistics Reported by U.S. Banks: Reasons Released Tissues Were Not Transplanted 76 U.S. Eye Banks Reporting

Reasons Tissue Recovered for Transplant Not Used for Transplant U.S. Eye Bank Data Subset: Released but Not Transplanted									
Month	Tissues Released Not Transplanted	Transport Issue	Surgeon Issue	Recipient Issue	Returned Tissue Unable to Place Again	Donor Info Received after Release	Expired Tissue / Unable to Place	Processing Damage after Release	Other Reason after Release
Jan. 2014	6.5%	0.4%	0.1%	0.1%	0.3%	0.0%	4.7%	0.5%	0.5%
Feb. 2014	6.1%	0.2%	0.1%	0.0%	0.1%	0.0%	4.2%	0.5%	0.9%
Mar. 2014	5.9%	0.0%	0.1%	0.1%	0.4%	0.0%	3.8%	0.6%	1.1%
Apr. 2014	7.3%	0.1%	0.1%	0.1%	0.2%	0.0%	5.1%	0.4%	1.1%
May 2014	4.7%	0.1%	0.1%	0.0%	0.2%	0.0%	2.8%	0.5%	1.1%
Jun. 2014	4.7%	0.1%	0.3%	0.0%	0.3%	0.0%	2.8%	0.6%	0.9%
Jul. 2014	5.2%	0.0%	0.1%	0.0%	0.2%	0.1%	3.6%	0.6%	0.8%
Aug. 2014	5.4%	0.1%	0.1%	0.0%	0.3%	0.1%	3.2%	0.6%	0.9%
Sep. 2014	5.8%	0.0%	0.1%	0.0%	0.6%	0.0%	4.0%	0.6%	0.5%
Oct. 2014	4.8%	0.1%	0.1%	0.0%	0.6%	0.0%	2.9%	0.3%	0.9%
Nov. 2014	6.1%	0.1%	0.1%	0.1%	0.5%	0.0%	3.7%	0.5%	1.2%
Dec. 2014	6.6%	0.4%	0.1%	0.1%	0.5%	0.0%	3.3%	0.5%	1.3%
2011 Avg.	4.5%	0.1%	0.2%	0.1%	0.3%	0.0%	3.1%	0.3%	0.4%
2012 Avg.	4.7%	0.1%	0.1%	0.0%	0.3%	0.0%	3.7%	0.4%	0.3%
2013 Avg.	4.7%	0.1%	0.1%	0.0%	0.2%	0.0%	3.1%	0.5%	0.6%
2014 Avg.	5.8%	0.1%	0.1%	0.0%	0.4%	0.0%	3.7%	0.5%	0.9%
Std. Dev.	0.8%	0.1%	0.1%	0.0%	0.2%	0.0%	0.7%	0.1%	0.3%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

2014 Eye Banking Statistics

Analysis of Reasons Released Tissues Were Not Transplanted

76 U.S. and 10 International Eye Banks Reporting

The reasons tissues were released but not transplanted in U.S. eye banks remained unchanged in 2012 and 2013 (4.7%), but this value jumped significantly in 2014 to 5.8%, with increases in expired/unable to place tissue and "other" reasons. International banks reported 8.0% of tissue released that did not get transplanted in 2014 (up from 6.0% in 2013). As in the U.S., expired/unable to place tissue was the most significant reason for released tissue not being transplanted.

In 2014, the U.S. reported 24,347 processing events with a total of 828 corneas not transplanted due to processing damage, before and after release, for a rate of 3.4% processing damage (up from 3.0% in 2013 and 2.1% in 2012). During this same period, international banks reported 664 processing events with a total of 64 corneas not transplanted due to processing damage, before and after release, for a rate of 9.6% processing damage (12.2% in 2013 and 6.1% in 2012).

4,265 corneas reported by U.S. banks and 316 corneas reported by international banks were not transplanted due to expiration in 2014 (up from 3,322 and 198, respectively, in 2013). Additionally in 2014, 414 corneas reported by U.S. banks and 56 corneas reported by international banks were returned and unable to place again (up from 267 and 53, respectively, in 2013). Disproportionate to the overall pool of corneas recovered for transplant, the corneas that suffer expiration were of lower tissue quality (though still of transplant suitability). Returned tissue, however, due to the time period to retrieve, test, evaluate, distribute, return, and reevaluate tissue were often of "normal" or high quality, but were not used for transplant due to aging of the tissue (not to be confused with expiration, returned corneas were still viable). A large percentage of these corneas could have transplanted with improved pipelines to locations in the world needing tissue of all tissue qualities and may represent an opportunity for either the eye banks or a third party to better aid in seeing tissue to these locations.

2014 Eye Banking Statistics Reported by U.S. Banks: Outcomes of Tissue Recovered for Transplant 76 U.S. Eye Banks Reporting

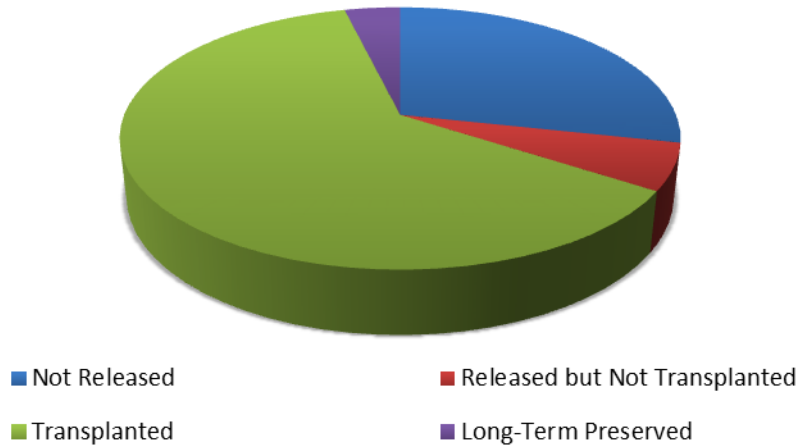
Donations	2014	2013	% Change
Eye Banks Reported	76	76	0.0%
Total Whole Globes and Corneas Donated	128,675	123,079	4.5%
Total Number of Donors	65,558	62,274	5.3%
Distribution	2014	2013	% Change
Intermediate-Term Preserved Corneas	72,013	68,526	5.1%
Sclera	3,345	3,693	(-9.4%)
Long-Term Preserved Corneas	7,223	4,840	49.2%
Research	17,670	17,384	1.6%
Training	9,295	7,451	24.7%

Outcomes of Tissue Recovered for Transplant - U.S. Eye Banks											
Month	Corneas Recovered for Transplant	Corneas Segmented	Corneal Segments Produced	Not Released		Released but Not Transplanted		Whole Corneas and Segments Transplanted		Preserved Long-Term	
Jan. 2014	10,379	0	0	3,101	29.9%	670	6.5%	6,200	59.7%	408	3.9%
Feb. 2014	8,963	0	0	2,602	29.0%	550	6.1%	5,464	61.0%	347	3.9%
Mar. 2014	10,065	1	2	2,891	28.7%	595	5.9%	6,172	61.3%	408	4.1%
Apr. 2014	9,357	1	2	2,609	27.9%	685	7.3%	5,693	60.8%	371	4.0%
May 2014	9,729	0	0	2,565	26.4%	457	4.7%	6,251	64.3%	455	4.7%
Jun. 2014	9,393	0	0	2,628	28.0%	445	4.7%	5,896	62.8%	424	4.5%
Jul. 2014	9,811	0	0	2,803	28.6%	514	5.2%	5,978	60.9%	516	5.3%
Aug. 2014	9,720	0	0	2,757	28.4%	524	5.4%	6,141	63.2%	298	3.1%
Sep. 2014	9,493	0	0	2,693	28.4%	552	5.8%	5,977	63.0%	271	2.9%
Oct. 2014	10,221	0	0	2,975	29.1%	486	4.8%	6,481	63.4%	279	2.7%
Nov. 2014	10,034	0	0	2,920	29.1%	611	6.1%	6,199	61.8%	304	3.0%
Dec. 2014	8,906	0	0	2,414	27.1%	592	6.6%	5,561	62.4%	339	3.8%
2011 Total	101,533	7	13	29,407	29.0%	4,536	4.5%	67,520	66.5%	3017	3.0%
2012 Total	103,774	4	7	30,185	29.1%	4,908	4.7%	68,684	66.2%	2,454	2.4%
2013 Total	110,365	90	6	32,456	29.4%	5,182	4.7%	68,442	62.1%	4,294	3.9%
2014 Total	116,071	2	4	32,958	28.4%	6,681	5.8%	72,013	62.0%	4,420	3.8%
2014 Avg.	9,673	0	0	2,747	N/A	557	N/A	6,001	N/A	368	N/A
Std. Dev.	468	0.39	0.8	198	1.0%	77	0.8%	303	1.3%	76	0.8%

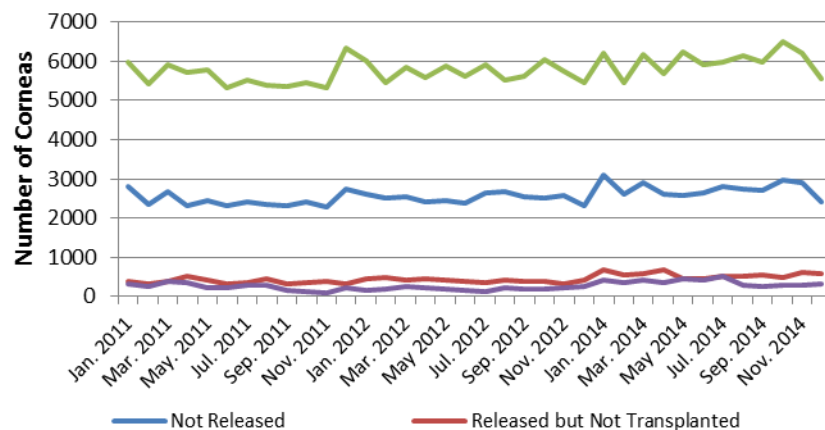
*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

2014 Eye Banking Statistics Reported by U.S. Banks: Outcomes of Tissue Recovered for Transplant 76 U.S. Eye Banks Reporting

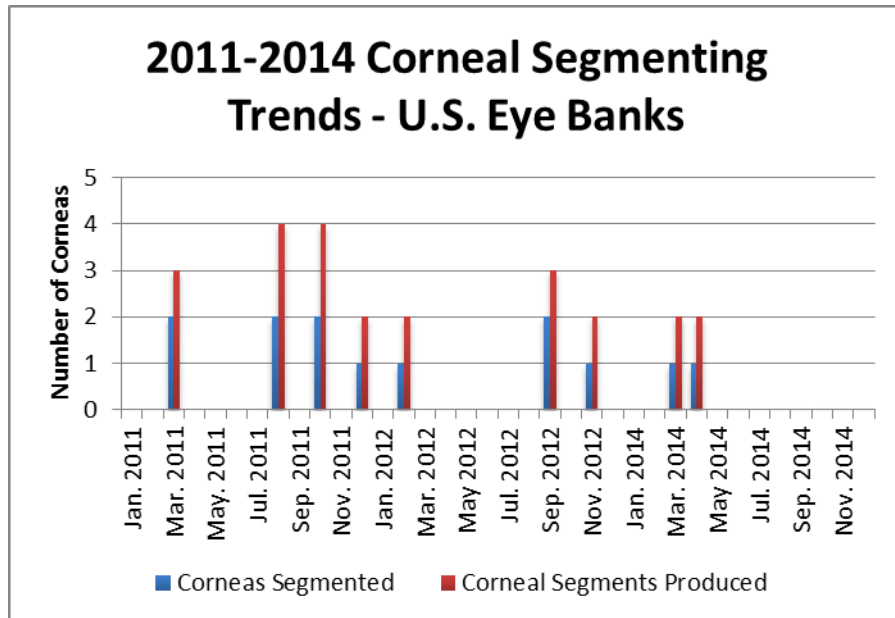
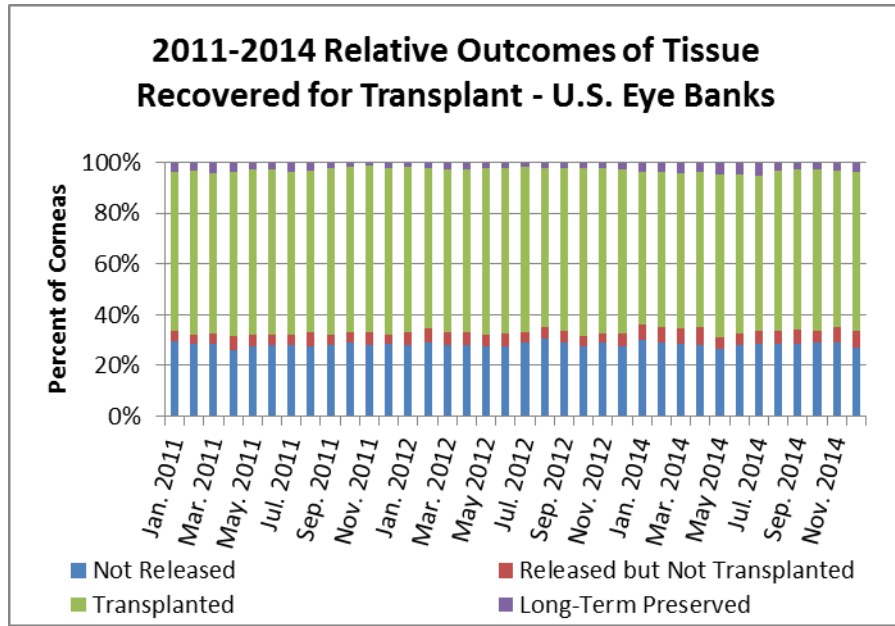
**2014 Outcomes of Tissue Recovered for
Transplant - U.S. Eye Banks**



**2011-2014 Trends of Outcomes of Tissue
Recovered for Transplant - U.S. Eye Banks**



2014 Eye Banking Statistics Reported by U.S. Banks: Outcomes of Tissue Recovered for Transplant 76 U.S. Eye Banks Reporting



2014 Eye Banking Statistics: Analysis of Outcomes of Tissue Recovered for Transplant 76 U.S. and 10 International Eye Banks Reporting

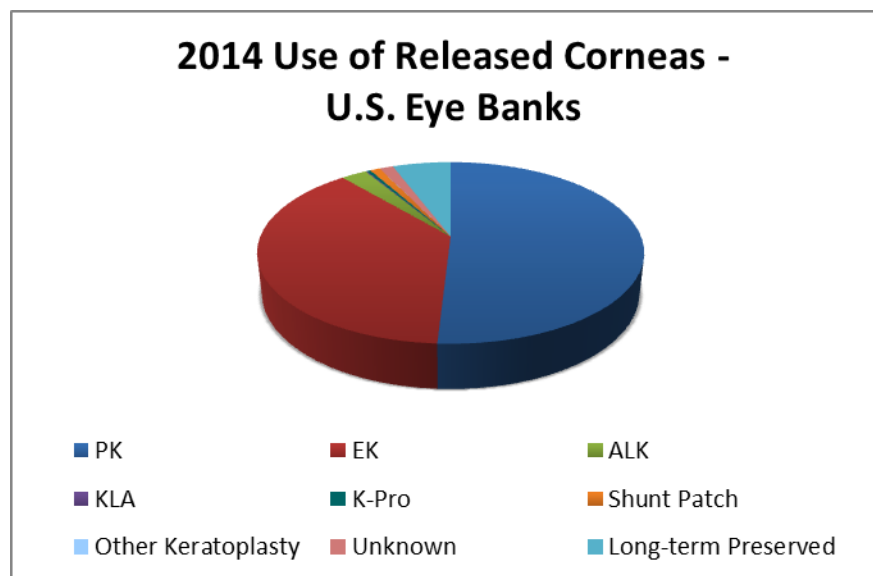
In eye banks that preserve tissue in intermediate-term storage solution at the time of recovery or shortly afterward, tissue recovered with intent for transplant will meet one of four potential outcomes within two weeks. Either tissue will not be released for transplant, be released for transplant but not transplanted, be transplanted, or be preserved in long-term preservation media. Only one eye bank in the country sections corneas into two parts for two different patients. These transplant corneas each have two outcomes and are accounted for in the EBAA data system easily. However, sectioned corneas account for a very small segment of the overall potential outcomes.

In 2014, transplant use of tissue and tissue not released both cycled up and down with little explanation until December, when both values plunged due to the holidays. Corresponding to an increase in death referrals in January, the increased recovery of corneas for transplant was complemented with a spike in tissue transplant, tissue not released, and expired tissue. At international banks, similar patterns emerged, with a reduction in transplanted tissue in December.

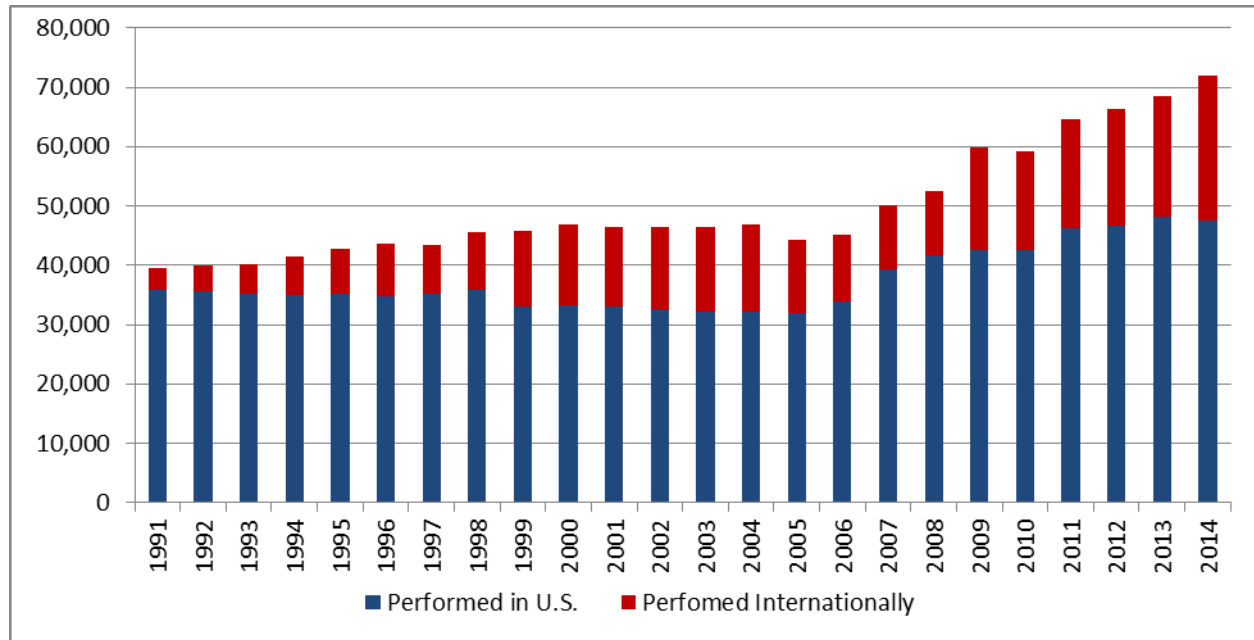
As transplant rate is relatively steady, the trends of data reported by the U.S. banks show that the surgical use of tissue was predictably steady as well. Surgical use of tissue was influenced mainly by holidays and ophthalmological society meetings. Due to the smaller sample size, activity at the international banks was more difficult to analyze and showed a greater correlation to transplant rate. At the international banks, preservation of tissue long-term more than doubled per month in September through December compared to the earlier part of the year.

**2014 Eye Banking Statistics Reported by U.S. Banks:
Use of Donated Tissues
76 U.S. Eye Banks Reporting**

Distribution	2014	2013	2012	2011
Corneal Grafts Total	76,431	72,736	68,681	67,590
Penetrating Keratoplasty	38,919	36,998	36,716	36,144
Anterior Lamellar Keratoplasty	1,953	2,009	1,855	1,778
Endothelial Keratoplasty	28,961	27,298	24,277	23,287
Keratolimbal Allograft	88	110	97	95
Keratoprosthesis (K-Pro)	294	255	263	358
Glaucoma Shunt Patch or other non-keratoplasty use	755	687	676	604
Other keratoplasty (experimental surgery)	17	17	44	14
Unknown or Unspecified	1,026	1,068	1,554	2,223
Sclera	3,345	3,693	3,497	5,507
Long-Term Preserved Corneas	7,223	4,840	5,095	4,409
Keratoplasty	938	499	305	276
Glaucoma Shunt Patching	6,212	4,040	4,435	3,802
Other Surgical Uses	73	301	335	331
Research	17,670	17,384	19,320	19,230
Training	9,295	7,451	6,850	6,940



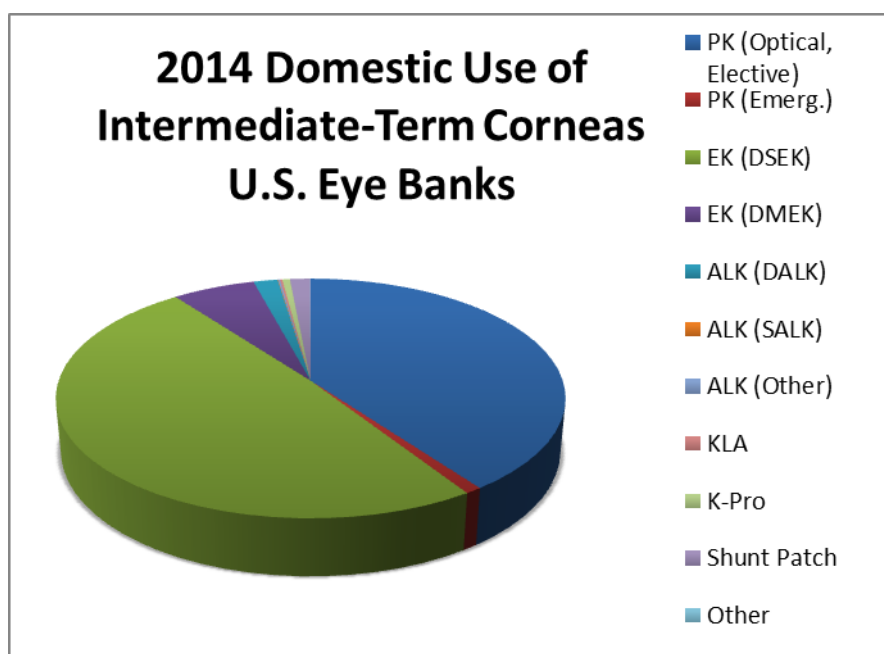
2013 U.S. Eye Banking Statistics Reported by U.S. Banks: Annual Number of Corneal Transplants Supplied by U.S. Banks 76 U.S. Eye Banks Reporting



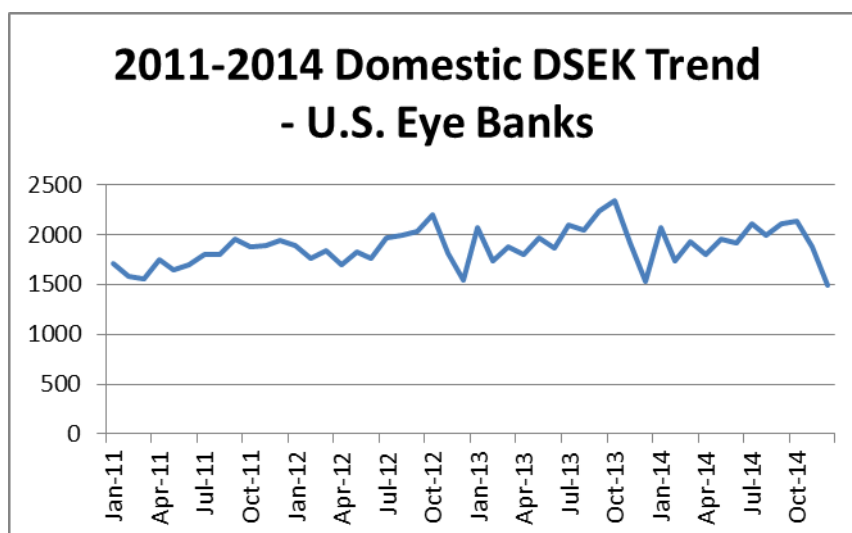
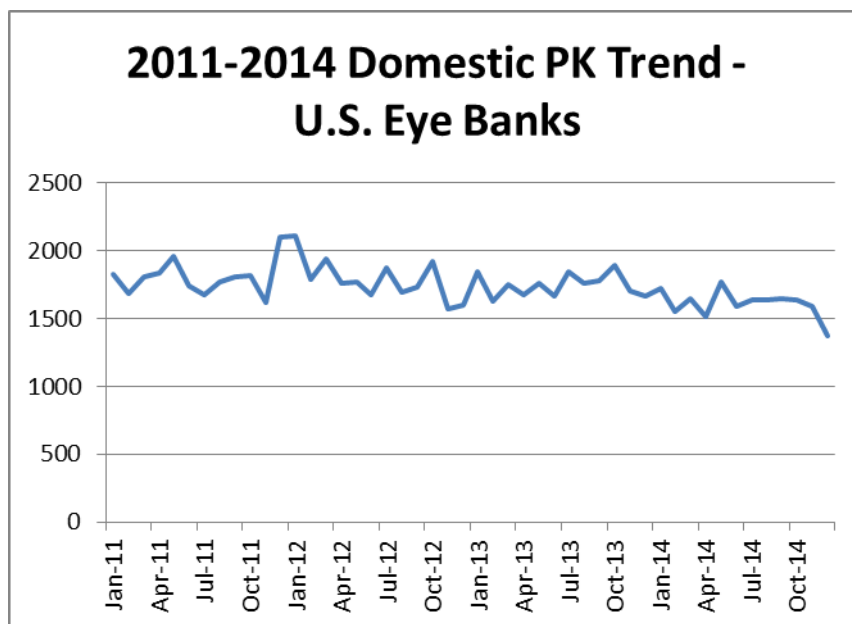
Year	Total Provided by U.S.	Performed in U.S.
1991	39,515	35,831
1992	39,973	35,525
1993	40,215	35,173
1994	41,539	35,022
1995	42,740	35,300
1996	43,711	34,668
1997	43,492	35,209
1998	45,579	35,861
1999	45,765	33,020
2000	46,949	33,260
2001	46,532	33,035
2002	46,440	32,559
2003	46,436	32,240
2004	46,841	32,106
2005	44,329	31,952
2006	45,035	33,962
2007	50,122	39,391
2008	52,487	41,652
2009	59,784	42,606
2010	59,271	42,642
2011	67,590	46,196
2012	68,681	46,684
2013	72,736	48,229
2014	76,431	47,530

2014 Eye Banking Statistics Reported by U.S. Banks: Domestic Surgery Use of Intermediate-Term Preserved Tissue 76 U.S. Eye Banks Reporting

Intermediate-Term Tissue Domestic Distribution of Source Eye Bank Corneas		
	2014	2013
Intermediate-term preserved corneas processed into corneal segments	2	2
Number of intermediate-term preserved corneas segments produced	4	4
Intermediate-term preserved corneas, corneal segments or whole eyes transplanted in the U.S for:	47,530	48,229
PK	19,294	20,954
Optical or Elective PK	18,860	20,651
Emergency of Full Thickness	434	303
EK	25,965	24,987
DSEK, DSAEK, DLEK	23,100	23,465
DMEK or DMAEK	2,865	1,522
ALK	914	951
DALK (Deep Anterior Lamellar Keratoplasty)	832	861
SALK (Superficial Anterior Lamellar Keratoplasty)	20	29
Other ALK (e.g. peripheral, eccentric, etc.)	62	61
KLA	80	91
Keratoprosthesis (K-Pro)	260	223
Glaucoma shunt patch or other non-keratoplasty use	704	666
Other Keratoplasty (e.g. experimental surgery type)	13	4
Unknown or Unspecified	300	353

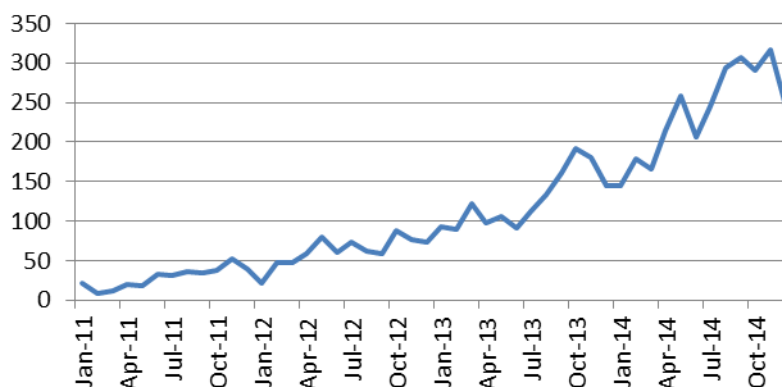


**2014 Eye Banking Statistics Reported by U.S. Banks:
Domestic Surgery Use of Intermediate-Term Preserved Tissue
76 U.S. Eye Banks Reporting**

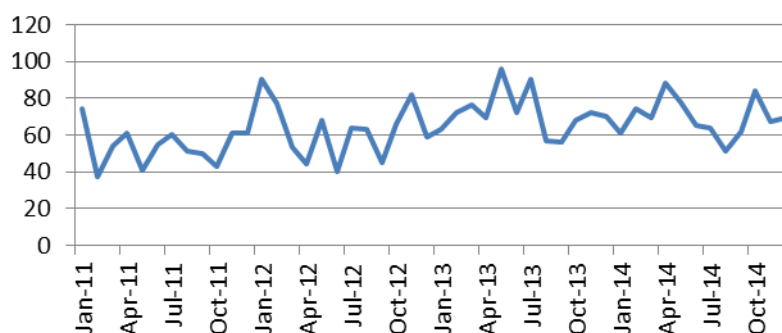


2014 Eye Banking Statistics Reported by U.S. Banks: Domestic Surgery Use of Intermediate-Term Preserved Tissue

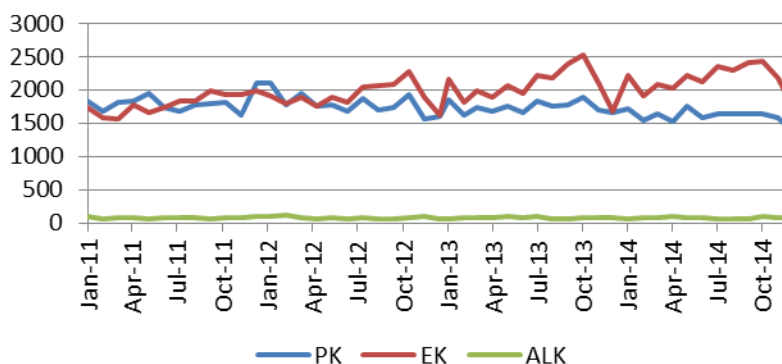
**2011-2014 Domestic DMEK
Trend - U.S. Eye Banks**



**2011-2014 Domestic DALK Trend
- U.S. Eye Banks**

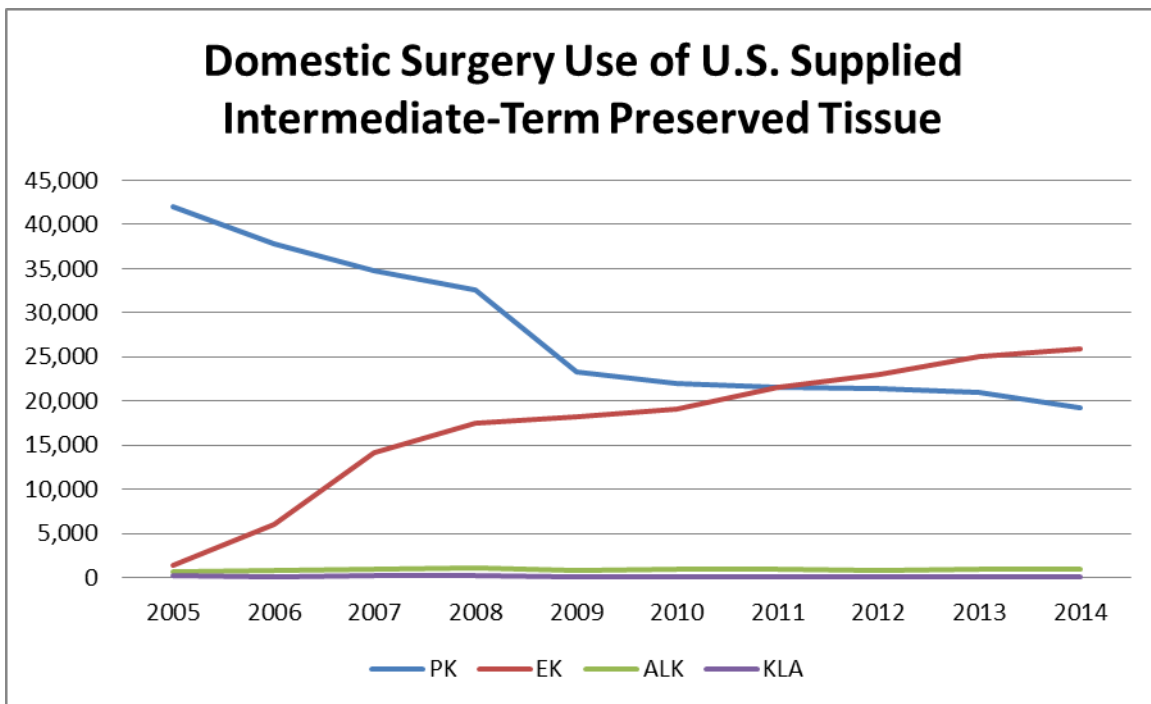


**2011-2014 Domestic PK vs. EK
vs. ALK - U.S. Eye Banks**



**Eye Banking Statistics Reported by U.S. Banks:
Domestic Use of Intermediate-Term Preserved Tissues
Annual Comparison 2005 - 2014**

Domestic Surgery Use	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Penetrating Keratoplasty	19,294	20,954	21,422	21,620	21,970	23,269	32,524	34,806	37,776	42,063
Endothelial Keratoplasty	25,965	24,987	23,049	21,555	19,159	18,221	17,468	14,159	6,027	1,398
Anterior Lamellar Keratoplasty	914	951	883	932	1,041	774	1,072	950	806	641
Keratolimbal Allograft	80	91	80	69	130	120	173	207	138	175



2014 Eye Banking Statistics Reported by U.S. Banks: Domestic Surgery Use of Intermediate-Term Preserved Tissue 76 U.S. Eye Banks Reporting

Month	PK (Optical, Elective)	PK (Emerg.)	EK (DSEK)	EK (DMEK)	ALK (DALK)	ALK (SALK)	ALK (Other)	KLA	K- Pro	Shunt Patch	Other	Unknown
Jan. 2014	40.9%	1.0%	50.2%	3.5%	1.5%	0.0%	0.1%	0.3%	0.4%	1.6%	0.0%	0.5%
Feb. 2014	41.5%	1.0%	47.8%	4.9%	2.0%	0.1%	0.2%	0.1%	0.4%	1.4%	0.0%	0.5%
Mar. 2014	40.5%	1.0%	48.5%	4.2%	1.7%	0.1%	0.1%	0.3%	0.6%	1.8%	0.0%	1.1%
Apr. 2014	38.8%	0.8%	47.1%	5.6%	2.3%	0.0%	0.2%	0.2%	0.8%	2.1%	0.0%	2.0%
May 2014	41.1%	1.1%	46.8%	6.2%	1.9%	0.0%	0.1%	0.3%	0.5%	1.9%	0.0%	0.2%
Jun. 2014	39.9%	1.1%	49.3%	5.3%	1.7%	0.1%	0.2%	0.2%	0.4%	1.5%	0.3%	0.2%
Jul. 2014	38.1%	0.9%	50.1%	5.8%	1.5%	0.0%	0.0%	0.1%	0.7%	1.6%	0.0%	1.1%
Aug. 2014	39.3%	0.9%	49.0%	7.2%	1.3%	0.0%	0.0%	0.1%	0.7%	1.4%	0.0%	0.2%
Sep. 2014	38.1%	0.8%	49.8%	7.3%	1.5%	0.0%	0.1%	0.1%	0.5%	1.5%	0.0%	0.4%
Oct. 2014	37.8%	0.8%	50.5%	6.9%	2.0%	0.0%	0.1%	0.2%	0.5%	0.9%	0.0%	0.3%
Nov. 2014	39.5%	0.8%	47.3%	8.0%	1.7%	0.1%	0.4%	0.1%	0.6%	0.8%	0.0%	0.8%
Dec. 2014	41.1%	1.0%	45.9%	7.6%	2.1%	0.0%	0.1%	0.2%	0.5%	1.1%	0.0%	0.3%
2011 Avg.	45.7%	1.1%	45.9%	0.7%	1.4%	0.1%	0.5%	0.1%	0.7%	1.2%	0.0%	2.4%
2012 Avg.	45.1%	0.7%	47.8%	1.6%	1.6%	0.1%	0.2%	0.2%	0.5%	1.4%	0.1%	0.7%
2013 Avg.	42.8%	0.6%	48.7%	3.2%	1.8%	0.1%	0.1%	0.2%	0.5%	1.4%	0.0%	0.7%
2014 Avg.	39.7%	0.9%	48.6%	6.0%	1.8%	0.0%	0.1%	0.2%	0.5%	1.5%	0.0%	0.6%
Std. Dev.	1.3%	0.1%	1.5%	1.4%	0.3%	0.0%	0.1%	0.1%	0.1%	0.4%	0.1%	0.5%

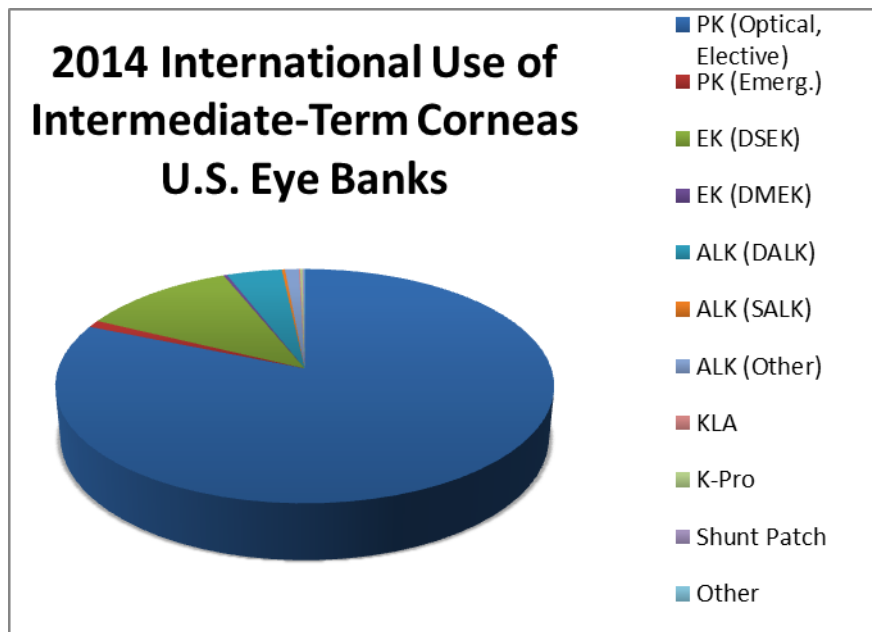
*Percentages read from this table should be read as "of the tissue distributed for transplant use domestically"

In 2014, 68% of U.S. tissue was used domestically, down from 72.2% in 2013. Of the 47,530 corneas distributed to U.S. patients in 2014, information on surgical type was typically known prior to surgery. This number of intermediate-term preserved corneas used for surgery in the U.S. was down from 48,229 in 2013 (and up from 46,684 in 2012). Looking at trends of each surgery type one by one, U.S. PK surgeries dropped 7.9% between 2014 and 2013 (the drop was 2.2% between 2013 and 2012). For the first time since DSAEK was performed, the rate of U.S. DSAEK surgeries dropped 1.6% between 2014 and 2013. In 2013, the trend appeared to slowly climb, up 5.2% from 2012. The trend for DMEK shows a linear increase, a continuation of the trend in 2012 and 2013. DALK surgical use of tissue is inconsistent, but was down 3.4% in 2014 over 2013 (it was up 14.6% in 2013 over 2012).

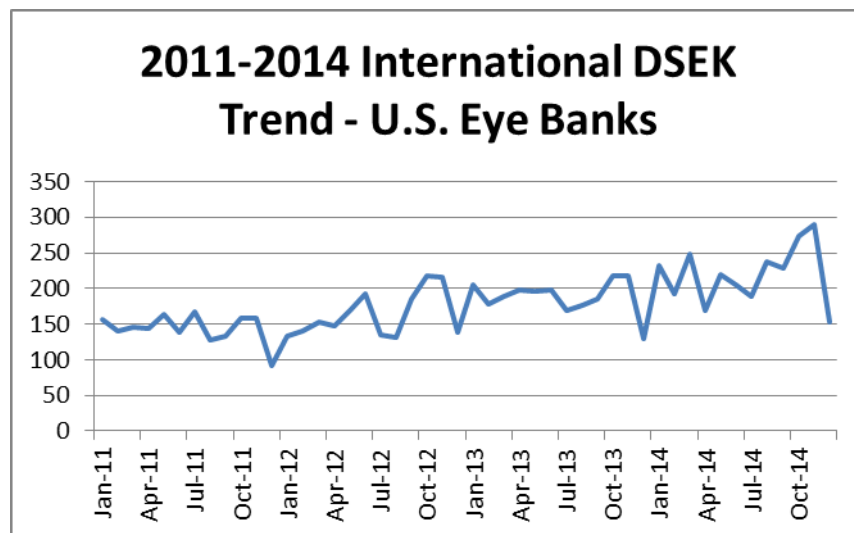
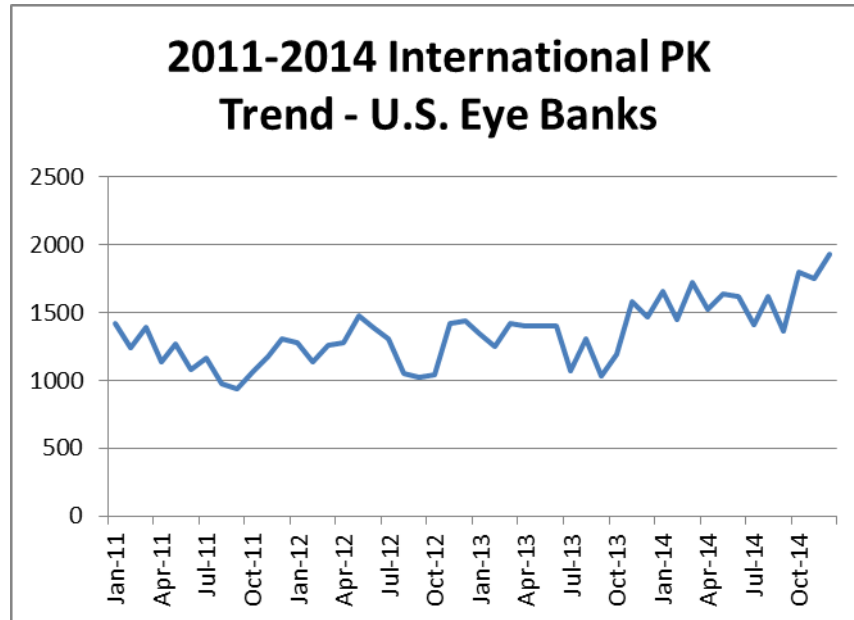
From the international bank's perspective, "domestic use of tissue" refers to the use of tissue within the country of origin, a system analogous to U.S. banks. Due to the lower volume of surgeries reported by international banks, the trends are more susceptible to variation. Comparing 2014 to 2013, international banks reported a 7.5% increase in PK use and a 8.7% decrease in DSAEK use of tissue within the country of origin. DMEK began to appear in November 2012, but in 2014, the rate was 163% greater than in 2013. As in the U.S., DALK use of tissue appeared inconsistent. 85.2% of the tissue recovered by international banks was transplanted in the country of origin. International banks reported 1.1% of intermediate-term corneas transplanted as "unknown or unreported" surgical type, down from 4.7% in 2013 (8.8% in 2012) and compared to 0.6% with U.S. tissue distributed in the U.S. This demonstrated improvement in recipient data collection.

2014 Eye Banking Statistics Reported by U.S. Banks: International Surgery Use of Intermediate-Term Preserved Tissue 76 U.S. Eye Banks Reporting

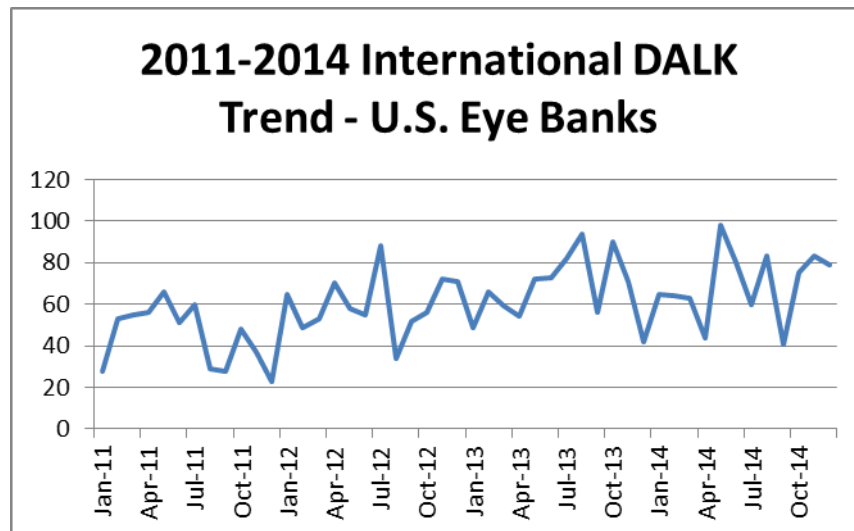
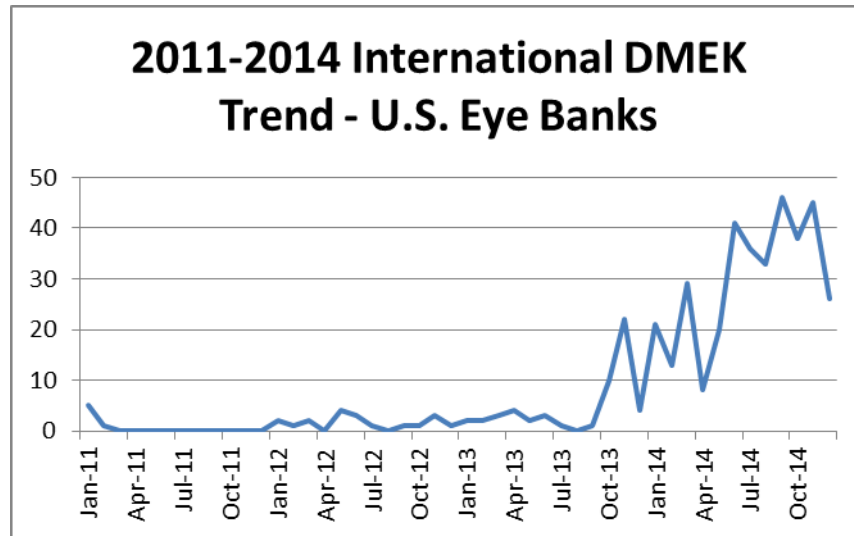
Intermediate-Term Tissue International Distribution of Source Eye Bank Corneas		
	2014	2013
Intermediate-term preserved corneas, corneal segments or whole eyes transplanted internationally for:	24,483	20,213
PK	19,625	16,044
Optical or Elective PK	19,445	15,849
Emergency of Full Thickness	180	195
EK	2,996	2,311
DSEK, DSAEK, DLEK	2,640	2,257
DMEK or DMAEK	356	54
ALK	1,039	1,058
DALK (Deep Anterior Lamellar Keratoplasty)	835	808
SALK (Superficial Anterior Lamellar Keratoplasty)	8	47
Other ALK (e.g. peripheral, eccentric, etc.)	196	203
KLA	8	19
Keratoprosthesis (K-Pro)	34	32
Glaucoma shunt patch or other non-keratoplasty use	51	21
Other Keratoplasty (e.g. experimental surgery type)	4	13
Unknown or Unspecified	726	715
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for KERATOPLASY	71,258	67,755
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for TRANSPLANT	72,011	68,526



**2014 Eye Banking Statistics Reported by U.S. Banks:
International Surgery Use of Intermediate-Term Preserved Tissue
76 U.S. Eye Banks Reporting**



**2014 Eye Banking Statistics Reported by U.S. Banks:
International Surgery Use of Intermediate-Term Preserved Tissue
76 U.S. Eye Banks Reporting**



2014 Eye Banking Statistics Reported by U.S. Banks: International Surgery Use of Intermediate-Term Preserved Tissue 76 U.S. Eye Banks Reporting

Month	PK (Optical, Elective)	PK (Emerg.)	EK (DSEK)	EK (DMEK)	ALK (DALK)	ALK (SALK)	ALK (Other)	KLA	K- Pro	Shunt Patch	Other	Unknown
Jan. 2014	79.3%	0.9%	11.1%	1.0%	3.1%	0.0%	0.7%	0.0%	0.1%	0.1%	0.1%	3.5%
Feb. 2014	79.3%	0.6%	10.5%	0.7%	3.5%	0.1%	1.1%	0.1%	0.7%	0.1%	0.0%	3.3%
Mar. 2014	77.7%	1.0%	11.3%	1.3%	2.9%	0.0%	0.6%	0.0%	0.1%	0.1%	0.0%	5.0%
Apr. 2014	81.2%	1.1%	9.0%	0.4%	2.4%	0.2%	1.1%	0.1%	0.1%	0.4%	0.0%	4.0%
May 2014	79.0%	0.5%	10.6%	1.0%	4.7%	0.0%	0.6%	0.0%	0.1%	0.1%	0.0%	3.3%
Jun. 2014	80.0%	0.6%	10.2%	2.0%	4.0%	0.0%	0.7%	0.0%	0.0%	0.3%	0.0%	2.2%
Jul. 2014	78.9%	0.4%	10.6%	2.0%	3.4%	0.0%	0.5%	0.1%	0.1%	0.2%	0.1%	3.8%
Aug. 2014	78.1%	1.0%	11.5%	1.6%	4.0%	0.0%	0.9%	0.0%	0.0%	0.0%	0.0%	2.9%
Sep. 2014	77.9%	0.9%	13.1%	2.6%	2.3%	0.0%	0.9%	0.0%	0.0%	0.5%	0.0%	1.8%
Oct. 2014	79.9%	0.5%	12.2%	1.7%	3.3%	0.1%	0.6%	0.1%	0.1%	0.1%	0.0%	1.3%
Nov. 2014	77.9%	0.9%	12.9%	2.0%	3.7%	0.0%	0.6%	0.1%	0.2%	0.4%	0.0%	1.4%
Dec. 2014	83.5%	0.4%	6.6%	1.1%	3.4%	0.0%	1.3%	0.0%	0.2%	0.3%	0.0%	3.2%
2011 Avg.	77.3%	2.0%	9.4%	0.0%	2.9%	0.5%	1.3%	0.1%	0.1%	0.2%	0.0%	6.1%
2012 Avg.	77.1%	1.1%	10.0%	0.1%	3.7%	0.1%	1.2%	0.1%	0.1%	0.1%	0.0%	6.4%
2013 Avg.	78.4%	1.0%	11.2%	0.3%	4.0%	0.2%	1.0%	0.1%	0.2%	0.1%	0.1%	3.5%
2014 Avg.	79.4%	0.7%	10.8%	1.5%	3.4%	0.0%	0.8%	0.0%	0.1%	0.2%	0.0%	3.0%
Std. Dev.	1.6%	0.2%	1.8%	0.6%	0.7%	0.1%	0.2%	0.0%	0.2%	0.1%	0.0%	1.1%

*Percentages read from this table should be read as "of the tissue distributed for transplant use internationally"

In 2014, 32.0% of U.S. intermediate-term preserved corneas were sent to international locations and used for surgery. Of the 24,483 U.S. intermediate-term preserved corneas used internationally, 3.0% were reported as "unknown or unreported" surgical type, compared with 0.6% when tissue is used in the U.S. This was attributable to the nature of the scheduled surgery system in the U.S., in which banks usually have the surgery information prior to the surgery. By contrast, when tissue is distributed for international use, banks were not informed of the surgical type in all scenarios. The number of intermediate-term preserved corneas sent to international locations was up from 20,213 in 2013, 19,546 in 2012, and 18,307 in 2011. This trend is expected to continue as eye banks continue to recover more tissue for transplant.

In 2014, U.S. intermediate-term preserved corneas distributed internationally and used for PK rose by 22.3%, while those used for ALK decreased by 1.8%, and those used for EK rose by 29.6%. The trend in international use of U.S. corneas for DMEK showed a similar pattern to the domestic use of U.S. corneas for DMEK, suggesting strong growth of DMEK. DALK use of tissue was similar in volume to DALK in the U.S. and showed a similar pattern of inconsistency.

International banks distributed intermediate-term preserved tissue outside of the country of origin far less frequently than U.S. banks, at only 14.8% or 551 reported surgeries (an increase over 2013 when 331 corneas were sent out of country). From the international bank data, intermediate-term preserved corneas sent outside of the country of origin showed 8 corneas used for ALK, 216 for EK, and 325 used for PK. There was no reported use for DMEK of corneas internationally distributed by international eye banks.

2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Long-Term Preserved Tissue Distribution 76 U.S. Eye Banks Reporting

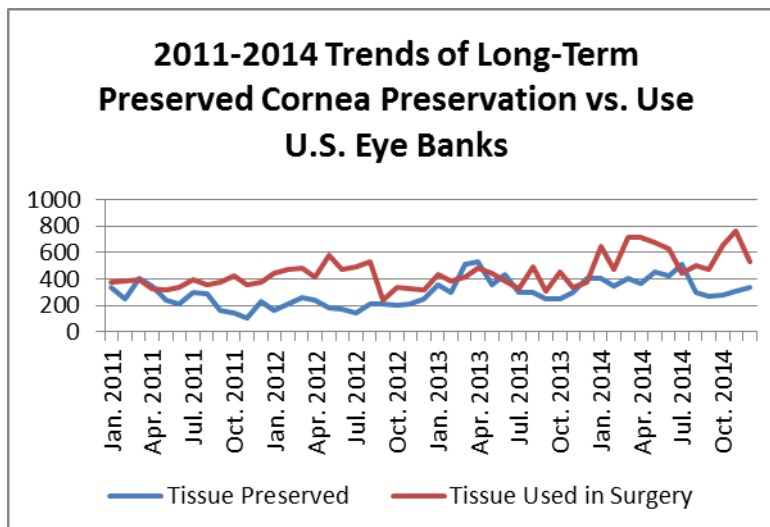
Long-Term Preserved Tissue Preservation and Distribution		
	2014	2013
Long-term preserved corneas or whole globes PRESERVED for transplant	4,420	4,294
Long-term preserved corneas, corneal segments, or whole globes DISTRIBUTED for:	7,223	4,840
Keratoplasty	938	499
Glaucoma Shunt patching	6,212	4,040
Other Surgical Uses	73	301
Long-term preserved corneas, corneal segments, or whole globes FORWARDED to another entity for final distribution	1,841	986
Sclera or sclera segments PRESERVED for transplantation	4,810	8,452
Sclera or sclera segments DISTRIBUTED for:	3,345	3,693
Prosthesis following enucleation	939	978
Glaucoma shunt patching	2,199	2,293
Other surgical uses	207	422
Sclera or sclera segments FORWARDED to another entity for final distribution	845	3,935

To ensure that corneal outcomes may be accurately counted, the data system has been designed to collect information of the number of corneas preserved long term. However, these corneas may be preserved whole or bisected. By contrast, in the data system eye banks were asked to report the number of "sclera or sclera segments" preserved, giving a more accurate count of supply. Neither long-term preserved corneas nor sclera segments counted as preserved were corrected for the number that were discarded or found not suitable. This was important to consider during analysis of the trends.

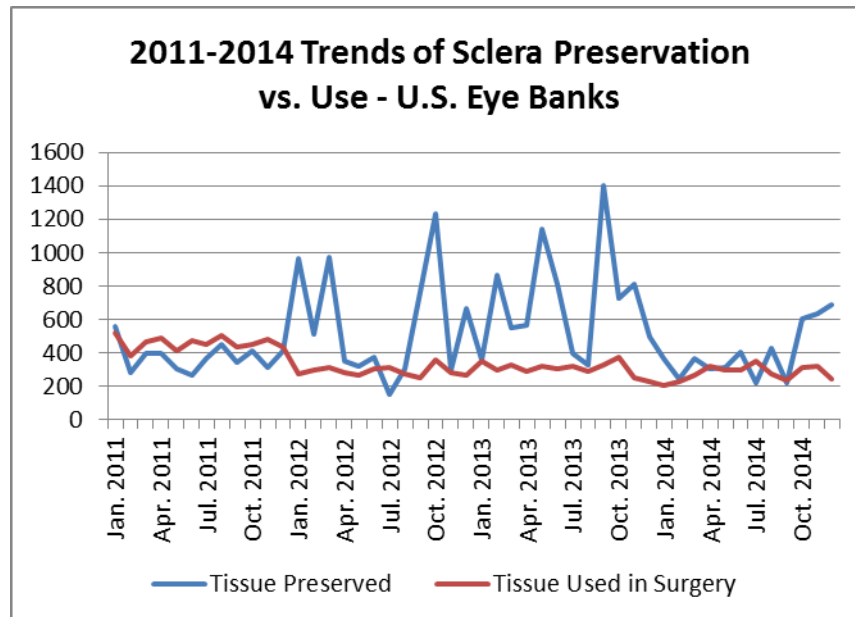
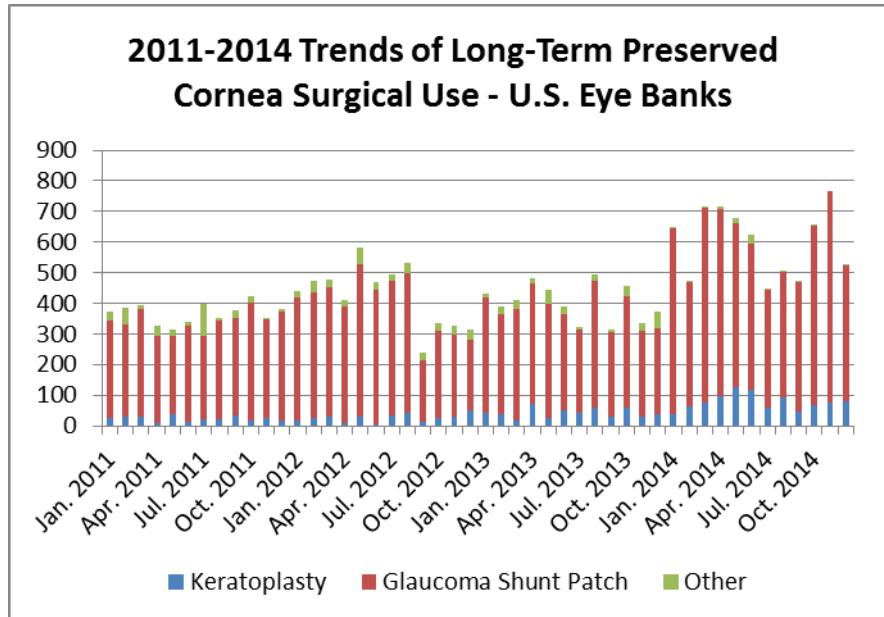
Preservation of corneas in long-term storage media increased by 75% in 2013 over 2012, but plateaued in 2014. Surgical use of long-term preserved corneas increased in 2014 over 2013 by 49.2%. International eye banks had a flat rate of corneas preserved long-term and distributed in 2014 compared to 2013. Eye banks in the U.S. reported a significant increase in long-term preserved corneas used for glaucoma shunt patching in 2014. Internationally, sclera continues to dominate the material of choice for glaucoma shunt patching when compared to long-term preserved corneas.

2013 Eye Banking Statistics Reported by U.S. Banks: Long-Term Preserved Tissue Distribution 76 U.S. Eye Banks Reporting

2011-2014 Long Term Tissue Trends Reported by U.S. Eye Banks								
Month	Long-Term Preserved Corneas	Long-Term Cornea Use - Keratoplasty	Long-Term Cornea Use - Glaucoma	Long-Term Cornea Use - Other	Scleral Segments Preserved	Sclera Use - Prosthesis	Sclera Use - Glaucoma	Sclera Use - Other
Jan. 2014	408	38	605	5	369	70	109	24
Feb. 2014	347	63	408	1	242	70	149	10
Mar. 2014	408	77	637	2	370	55	174	36
Apr. 2014	371	98	609	11	306	70	239	11
May 2014	455	126	537	17	316	72	217	12
Jun. 2014	424	117	479	28	405	83	200	11
Jul. 2014	516	58	385	2	223	124	207	20
Aug. 2014	298	93	408	2	429	73	186	15
Sep. 2014	271	48	420	2	220	72	150	12
Oct. 2014	279	68	586	1	608	95	196	22
Nov. 2014	304	74	691	0	637	90	215	14
Dec. 2014	339	78	447	2	685	65	157	20
2011 Total	3,017	276	3,802	331	4,489	714	4,285	508
2012 Total	2,454	305	4,435	355	6,913	777	2,260	460
2013 Total	4,294	499	4,040	301	8,452	978	2,293	422
2014 Total	4,420	938	6,212	73	4,810	939	2,199	207
2014 Avg.	368	78	518	6	401	78	183	17
Std. Dev.	76	26	106	9	162	18	37	8

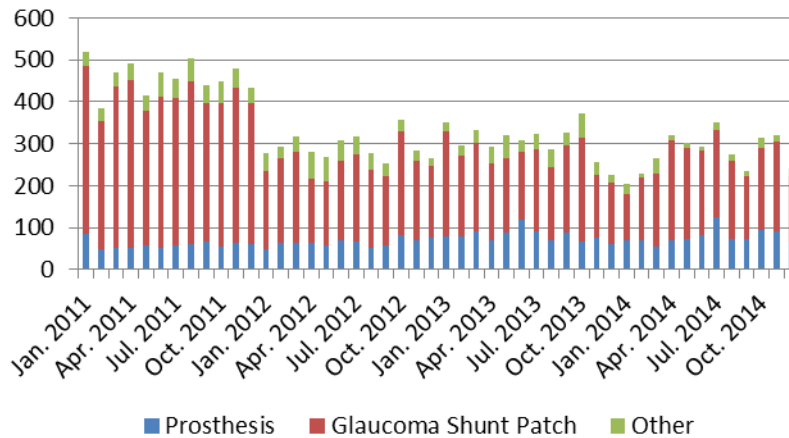


2014 Eye Banking Statistics Reported by U.S. Banks: Long-Term Preserved Tissue Distribution 76 U.S. Eye Banks Reporting



2014 Eye Banking Statistics Reported by U.S. Banks: Long-Term Preserved Tissue Distribution 76 U.S. Eye Banks Reporting

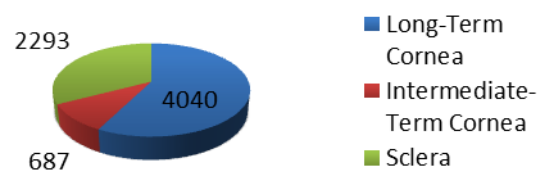
2011-2014 Trends of Sclera Surgical Use - U.S. Eye Banks



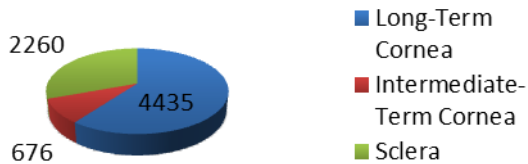
2014 Sclera vs. Cornea in Glaucoma Shunt Patch Use - U.S. Eye Banks



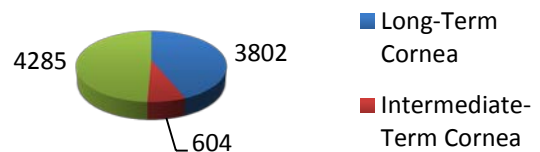
2013 Sclera vs. Cornea in Glaucoma Shunt Patch Use - U.S. Eye Banks



2012 Sclera vs. Cornea in Glaucoma Shunt Patch Use - U.S. Eye Banks

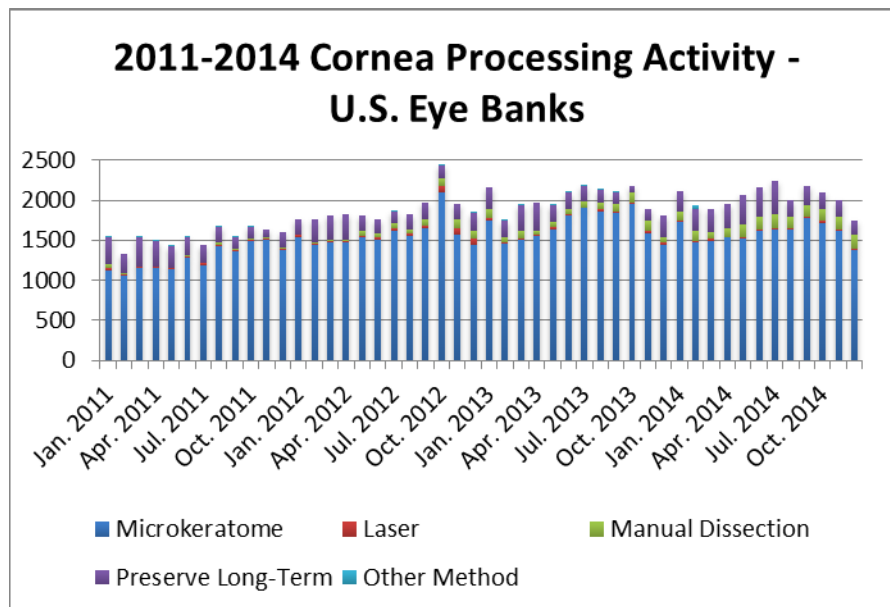


2011 Sclera vs. Cornea in Glaucoma Shunt Patch Use - U.S. Eye Banks



2014 Eye Banking Statistics Reported by U.S. Banks: Tissue Processing for Transplant 76 U.S. Eye Banks Reporting

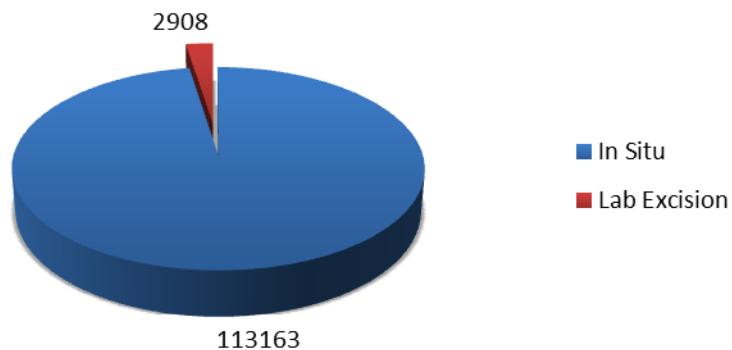
Tissue Processing for Transplant		
	2014	2013
Eye Processing (does not include in situ excision)	2,908	3,655
Processed for corneal preservation only	502	901
Processed for sclera preservation	1,731	2,190
Processed for other ocular materials	675	564
Cornea Processing	24,347	24,168
Processed by microkeratome	19,124	20,267
Processed by laser	232	247
Processed by hand dissection	1,649	1,037
Processed by transfer into long-term preservation	3,304	2,582
Processed by other methods	38	35



2014 Eye Banking Statistics Reported by U.S. Banks: Tissue Processing for Transplant 76 U.S. Eye Banks Reporting

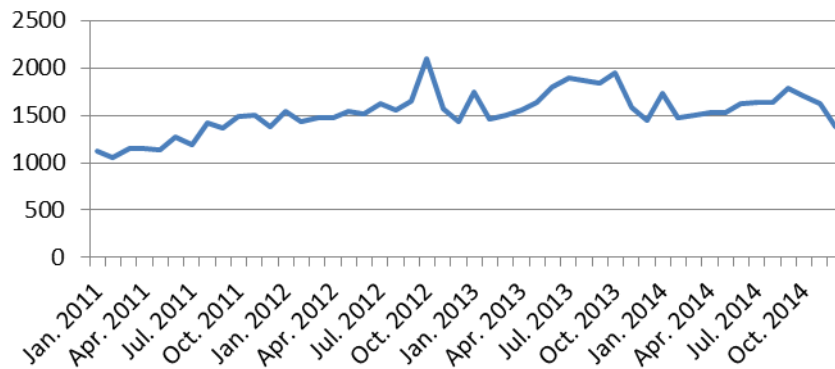
Month	Processing - Microkeratome	Processing - Laser	Processing - Manual	Processing - Long-Term Preservation	Processing - Other
Jan. 2014	1,730	21	101	261	0
Feb. 2014	1,471	21	121	282	38
Mar. 2014	1,495	23	88	281	0
Apr. 2014	1,529	12	107	301	0
May 2014	1,527	17	156	357	0
Jun. 2014	1,617	19	154	363	0
Jul. 2014	1,640	16	164	419	0
Aug. 2014	1,634	18	133	220	0
Sep. 2014	1,781	9	141	248	0
Oct. 2014	1,706	45	142	200	0
Nov. 2014	1,618	13	162	209	0
Dec. 2014	1,376	18	180	163	0
2011 Total	15,227	259	164	2,790	15
2012 Total	18,900	447	658	2,583	11
2013 Total	20,267	247	1,037	2,582	35
2014 Total	19,124	232	1,649	3,304	38
2014 Avg.	1,594	19	137	275	3
Std. Dev.	118	9	28	75	11

2014 Cornea Recovery Type U.S. Eye Banks

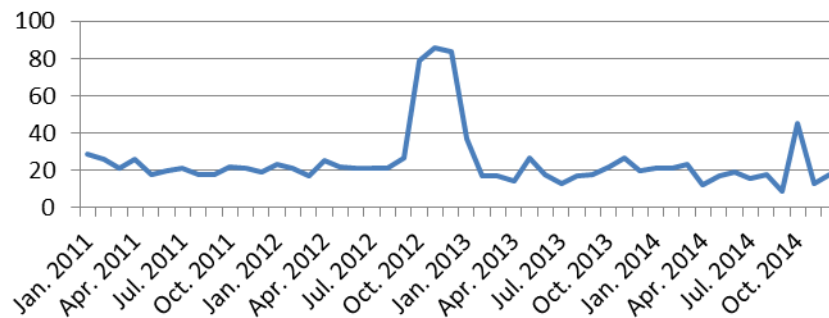


2014 Eye Banking Statistics Reported by U.S. Banks: Tissue Processing for Transplant 76 U.S. Eye Banks Reporting

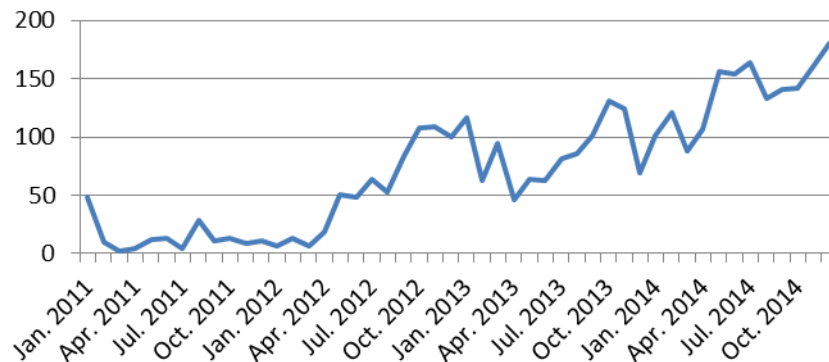
**2011-2014 Microkeratome Processing
Trend - U.S. Eye Banks**



**2011-2014 Laser Processing Trend -
U.S. Eye Banks**



**2011-2014 Manual Dissection
Processing Trend - U.S. Eye Banks**



2014 Eye Banking Statistics Reported by U.S. Banks: Tissue Processing Analysis 76 U.S. and 10 International Eye Banks Reporting

As is consistent with the surgical types reported by U.S. banks, in 2014 DMEK processing by U.S. eye banks (manual dissection) rose at a significant rate, ten times greater than the rate performed in 2011. DSAEK surgical use in the U.S. dropped by 0.1% in 2014 compared to 2013, while the corresponding microkeratome processing dropped by 5.6%. This suggests that the transition from DSAEK to DMEK is happening disproportionately by surgeons who use eye banks to process tissue, instead of those who have invested in equipment to prepare tissue by microkeratome themselves. The laser processing trend spiked suddenly in the U.S. eye banks in the last quarter of 2012, then settled to the same rate as has been in place since 2011. A smaller spike in laser processing activity during October 2014 is not part of any notable trend.

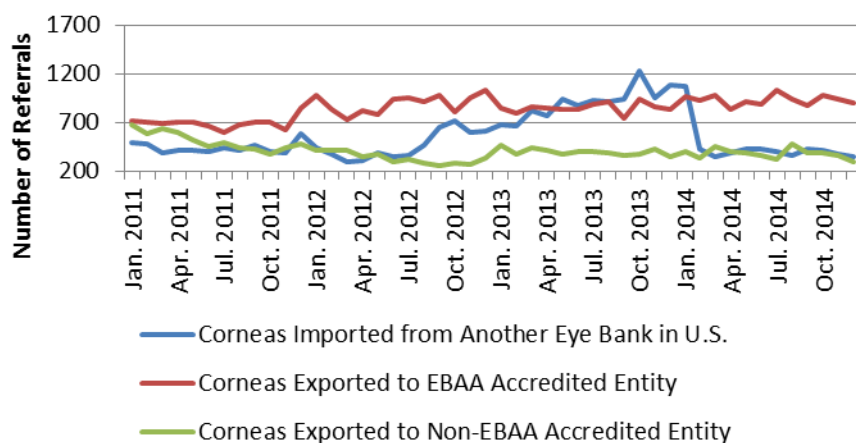
International eye banks reported no laser processing activity in 2014. This was consistent with the low volume of this activity in the U.S., suggesting little potential for growth in this area of processing. Microkeratome processing at international banks was disproportionately smaller than at U.S. banks. Comparing the number of microkeratome processing events to the number of domestic DSAEK surgeries performed implied that in 2014 roughly 47.6% of DSAEK surgeries performed in domestic locations served by international eye banks were eye bank processed (versus 82.8% in the U.S.).

U.S. banks have historically trended away from the practice of recovering tissue by enucleation in favor of recovering tissue by in situ excision. International banks continue, by and large, to recover tissue by enucleation nearly three times more often than by in situ excision. Interestingly, at international eye banks, there was growth in enucleation followed by laboratory excision, compared to in situ excision. This is the reverse of the historical trend within the U.S.

2014 Eye Banking Statistics Reported by U.S. Banks: Forwarded Tissue 76 U.S. Eye Banks Reporting

Month	Imported Tissue	Exported Tissue (to EBAA Accred.)	Exported Tissue (to non-EBAA Accred.)
Jan. 2014	1,075	961	393
Feb. 2014	426	931	331
Mar. 2014	340	975	457
Apr. 2014	380	837	402
May 2014	424	909	382
Jun. 2014	425	891	358
Jul. 2014	398	1,034	315
Aug. 2014	359	937	475
Sep. 2014	419	873	389
Oct. 2014	412	973	384
Nov. 2014	377	938	362
Dec. 2014	351	899	295
2011 Total	5,265	8,330	6,092
2012 Total	5,523	10,715	4,003
2013 Total	10,777	10,189	4,764
2014 Total	5,386	11,158	4,543
2014 Avg.	449	930	379
Std. Dev.	200	53	53

2011-2014 Importing and Exporting Trends - U.S. Eye Banks



2014 Eye Banking Statistics Reported by U.S. Banks: Analysis of Tissue Forwarding Trends 76 U.S. and 10 International Eye Banks Reporting

The difference between the number of corneas reported by U.S. banks as imported from another eye bank in the U.S. and those exported to an EBAA accredited entity suggested that a large volume of corneas were distributed from U.S. banks to EBAA accredited entities outside of the U.S. The manner of phrasing of the data system did not create a balance in the data reported by the international banks, since the phrasing suggested the counting of corneas imported from other banks inside the country of each international bank.

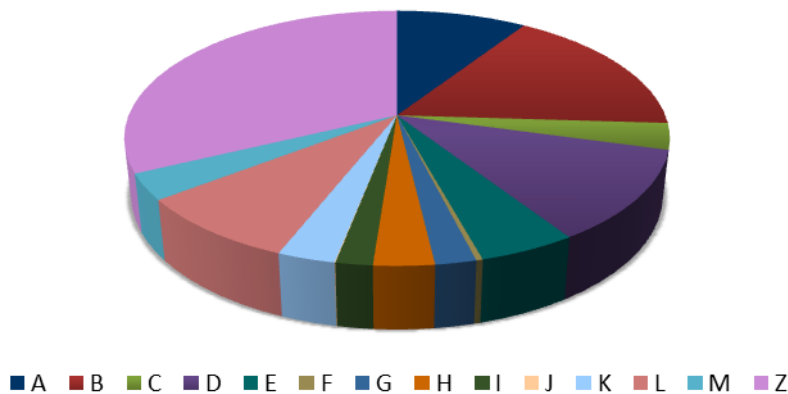
The U.S. banks reported a trend of decreasing distribution to non-EBAA accredited entities and a simultaneous increase of distribution to EBAA accredited entities. As a sum, exportation to other eye banks (whether accredited or not) was 15,702 in 2014, 14,953 in 2013, 14,718 in 2012, and 14,442 in 2011, as reported by U.S. banks. This demonstrated a significant increase in 2014 compared to previous years. No such trend was notable at the international banks (450 in 2014, 300 in 2013, and 486 in 2012). U.S. banks reported an increase in importing activity by 95% in 2013 over 2012, which dropped by 50% in 2014. International banks reported a 50% increase in 2014 over 2013 - the exact opposite trend.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Indications for Corneal Transplant Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

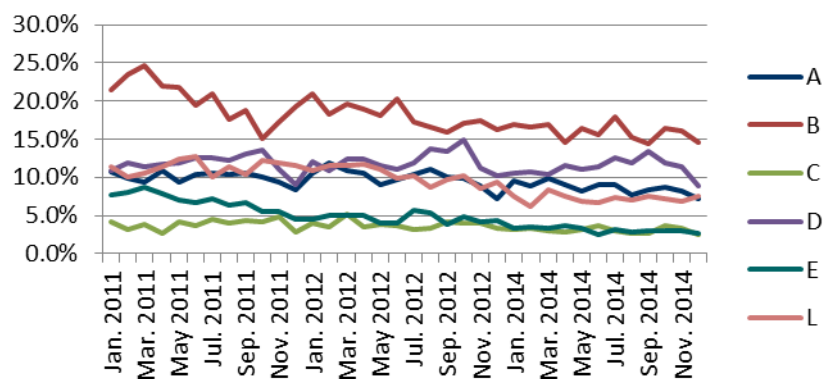
Indications for Penetrating Keratoplasty	2014		2013	
A. Post-cataract surgery edema	3,378	8.7%	3,398	9.2%
B. Keratoconus	6,224	16.0%	6,215	16.8%
C. Fuchs' Dystrophy	1,196	3.1%	1,229	3.3%
D. Repeat Corneal Transplant	4,399	11.3%	4,261	11.5%
E. Other degenerations or dystrophies	1,209	3.1%	1,822	4.9%
F. Post-refractive surgery	74	0.2%	121	0.3%
G. Microbial changes	800	2.1%	762	2.1%
H. Mechanical or chemical trauma	1,139	2.9%	1,127	3.0%
I. Congenital opacities	816	2.1%	685	1.9%
J. Pterygium	12	0.0%	14	0.0%
K. Non-infectious ulcerative keratitis or perforation	1,197	3.1%	1,080	2.9%
L. Other causes of corneal dysfunction or distortion (non-endothelial)	2,814	7.2%	3,162	8.5%
M. Other causes of endothelial dysfunction	1,423	3.7%	1,220	3.3%
Z. Unknown, unreported, or unspecified	14,238	36.6%	11,902	32.2%
Total Indications for Penetrating Keratoplasty	38,919		36,998	
Indications for Anterior Lamellar Keratoplasty	2014		2013	
B. Keratoconus	757	38.8%	679	33.8%
D. Repeat Corneal Transplant	27	1.4%	39	1.9%
E. Other degenerations or dystrophies	107	5.5%	89	4.4%
F. Post-refractive surgery	8	0.4%	12	0.6%
G. Microbial changes	32	1.6%	50	2.5%
H. Mechanical or chemical trauma	47	2.4%	70	3.5%
I. Congenital opacities	27	1.4%	37	1.8%
J. Pterygium	6	0.3%	5	0.2%
K. Non-infectious ulcerative keratitis or perforation	51	2.6%	57	2.8%
L. Other causes of corneal dysfunction or distortion	140	7.2%	139	6.9%
Z. Unknown, unreported, or unspecified	751	38.5%	832	41.4%
Total for Anterior Keratoplasty	1,953		2,009	
Indications for Endothelial Keratoplasty	2014		2013	
A. Post-Cataract Surgery Edema	5,151	17.8%	4,846	17.8%
C. Fuchs' Dystrophy	13,817	47.7%	12,924	47.3%
D. Repeat Corneal Transplant	2,385	8.2%	2,285	8.3%
M. Other Causes of Endothelial Dysfunction	3,099	10.7%	2,892	10.6%
Z. Unknown, unreported, or unspecified	4,509	15.6%	4,351	15.9%
Total for Endothelial Keratoplasty	28,961		27,298	

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Indications for Corneal Transplant Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

**2014 Indications for Penetrating
Keratoplasty - U.S. Eye Banks**



**2011-2014 Trends in Common
PK Surgical Indications
U.S. Eye Banks**



2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Indications for Corneal Transplant Reported by U.S. Banks 76 U.S. Eye Banks Reporting

Indications for Penetrating Keratoplasty - U.S. Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014	9.6%	16.9%	3.2%	10.6%	3.4%	0.2%	2.2%	2.9%	2.0%	0.1%	2.9%	7.5%	3.4%	35.2%
Feb. 2014	8.8%	16.5%	3.4%	10.8%	3.4%	0.2%	2.1%	2.9%	1.9%	0.0%	3.4%	6.1%	5.3%	35.2%
Mar. 2014	10.0%	16.9%	3.0%	10.4%	3.3%	0.0%	2.5%	3.1%	1.6%	0.0%	2.9%	8.4%	3.2%	34.8%
Apr. 2014	9.0%	14.5%	2.8%	11.5%	3.6%	0.2%	2.7%	2.7%	2.2%	0.1%	3.4%	7.5%	5.5%	34.3%
May 2014	8.2%	16.4%	3.1%	11.1%	3.3%	0.4%	1.6%	3.2%	2.1%	0.0%	3.1%	6.8%	4.3%	36.3%
Jun. 2014	9.0%	15.7%	3.6%	11.4%	2.5%	0.2%	2.4%	3.2%	2.4%	0.0%	2.2%	6.7%	4.7%	35.9%
Jul. 2014	9.0%	17.9%	2.9%	12.6%	3.1%	0.1%	2.5%	2.3%	2.1%	0.1%	3.3%	7.4%	4.3%	32.3%
Aug. 2014	7.8%	15.3%	2.7%	11.8%	2.8%	0.2%	1.5%	2.7%	1.8%	0.0%	3.3%	7.0%	3.4%	39.6%
Sep. 2014	8.4%	14.5%	2.7%	13.3%	3.0%	0.1%	2.0%	3.2%	1.6%	0.0%	3.3%	7.6%	2.5%	37.7%
Oct. 2014	8.8%	16.5%	3.6%	11.9%	3.0%	0.1%	2.4%	3.2%	2.9%	0.0%	3.7%	7.3%	2.8%	33.9%
Nov. 2014	8.3%	16.0%	3.4%	11.5%	3.1%	0.5%	1.5%	2.9%	2.2%	0.0%	3.2%	6.9%	3.0%	37.7%
Dec. 2014	7.2%	14.6%	2.5%	8.9%	2.7%	0.0%	1.4%	2.7%	2.4%	0.1%	2.4%	7.5%	1.8%	45.7%
2011 Avg.	10.3%	20.3%	3.9%	11.8%	6.8%	0.3%	2.3%	2.7%	1.6%	0.1%	2.9%	11.4%	2.9%	22.8%
2012 Avg.	10.0%	18.1%	3.8%	12.1%	4.7%	0.2%	2.5%	3.5%	1.8%	0.0%	3.3%	10.3%	3.1%	26.6%
2013 Avg.	9.2%	16.8%	3.3%	11.5%	4.9%	0.3%	2.1%	3.0%	1.9%	0.0%	2.9%	8.5%	3.3%	32.2%
2014 Avg.	8.7%	16.0%	3.1%	11.3%	3.1%	0.2%	2.1%	2.9%	2.1%	0.0%	3.1%	7.2%	3.7%	36.6%
Std. Dev.	0.8%	1.1%	0.4%	1.1%	0.3%	0.1%	0.5%	0.3%	0.4%	0.0%	0.4%	0.6%	1.1%	3.5%

*Percentages read from this table should be read as "of the tissue used for PK"

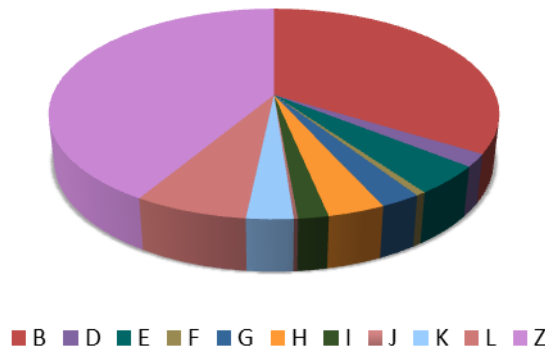
Analysis of the Surgical Indications for Penetrating Keratoplasty

Over the last three years, as reported by U.S. eye banks, ectasias/thinnings and other stromal degenerations or dystrophies have declined as a surgical indication for penetrating keratoplasty, with the rate of decrease established in 2013 continuing in 2014. International eye banks also reported a decrease in ectasias/thinnings as the indication for PK in 2014 over 2013. It is unclear if alternative treatments for ectasias/thinnings (e.g. crosslinking, improved therapeutic contact lenses) were having an impact on surgical treatment for these conditions in the U.S., though the data suggests that in the setting of increased surgical demand for tissue in the U.S., this may be a causal factor for this trend. As in 2013, the leading surgical indication in 2014 for PK surgery was ectasias/thinnings, followed by graft failure, post-cataract surgery edema, and "other causes of corneal opacification or distortion," respectively.

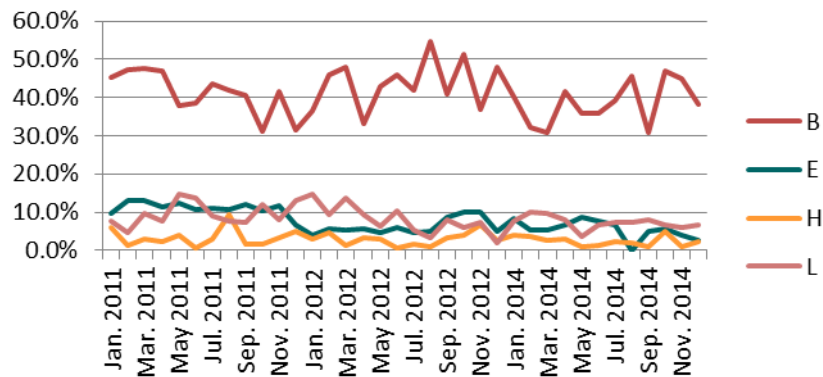
Corneas used in the country of origin by international eye banks showed a different pattern. Graft failure was far and away the leading cause of a PK surgery, followed by ectasias/thinnings, post-cataract surgery edema, microbial keratitis, and mechanical or chemical trauma.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Indications for Corneal Transplant Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

**2014 Indications for Anterior
Lamellar Keratoplasty - U.S. Eye
Banks**



**2011-2014 Trends in Common
ALK Surgical Indications - U.S. Eye
Banks**



2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Indications for Corneal Transplant Reported by U.S. Banks 76 U.S. Eye Banks Reporting

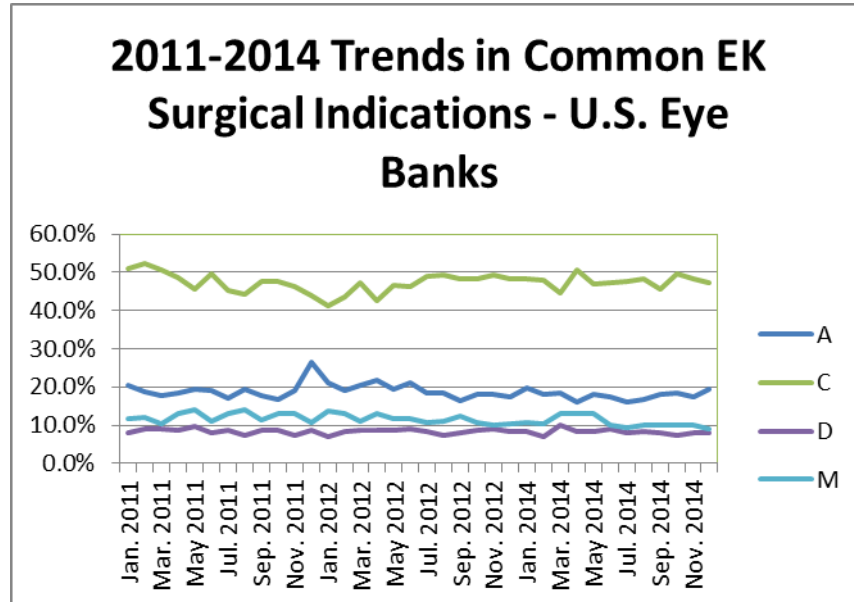
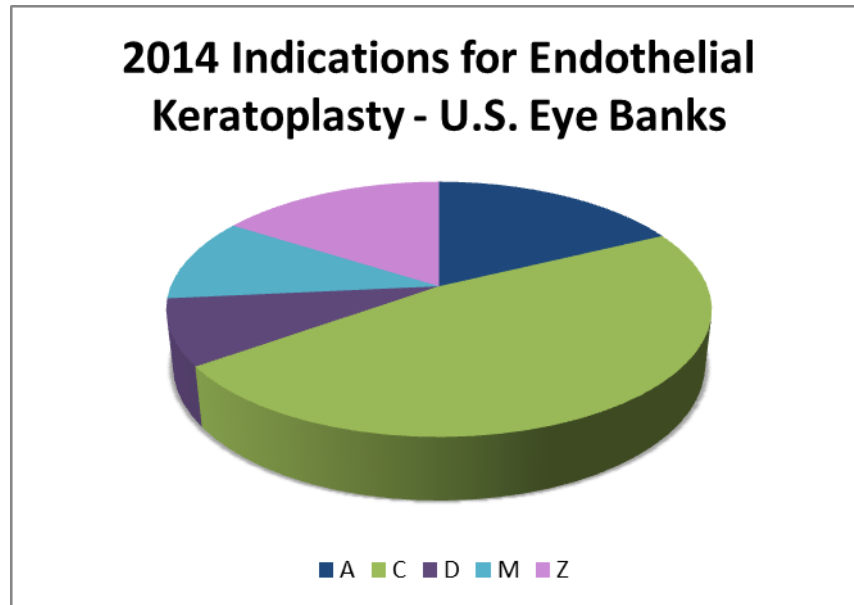
Indications for Anterior Lamellar Keratoplasty - U.S. Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014		40.4%		2.1%	8.2%	2.1%	1.4%	4.1%	1.4%	0.7%	2.1%	7.5%		30.1%
Feb. 2014		32.4%		1.2%	5.3%	0.0%	1.8%	3.5%	0.6%	0.6%	2.9%	10.0%		41.8%
Mar. 2014		31.0%		1.3%	5.2%	0.0%	1.3%	2.6%	1.9%	0.6%	5.2%	9.7%		41.3%
Apr. 2014		41.5%		2.4%	6.7%	0.0%	3.7%	3.0%	1.8%	0.0%	4.9%	7.9%		28.0%
May 2014		35.8%		0.5%	8.8%	0.0%	2.6%	1.0%	1.0%	0.0%	1.0%	3.6%		45.6%
Jun. 2014		35.9%		0.6%	7.8%	0.0%	0.6%	1.2%	1.2%	0.0%	2.4%	6.6%		43.7%
Jul. 2014		39.4%		1.5%	6.6%	1.5%	0.7%	2.2%	2.9%	0.7%	3.6%	7.3%		33.6%
Aug. 2014		45.8%		2.0%	0.0%	0.0%	1.3%	2.0%	1.3%	0.0%	0.7%	7.2%		39.9%
Sep. 2014		30.9%		0.8%	4.9%	0.8%	2.4%	0.8%	1.6%	0.8%	4.9%	8.1%		43.9%
Oct. 2014		47.0%		2.2%	5.5%	0.0%	1.7%	5.0%	0.0%	0.6%	1.7%	6.6%		29.8%
Nov. 2014		44.8%		1.6%	3.8%	0.5%	2.2%	1.1%	1.6%	0.0%	0.5%	6.0%		37.7%
Dec. 2014		38.1%		0.6%	2.8%	0.6%	0.0%	2.2%	1.7%	0.0%	2.8%	6.6%		44.8%
2011 Avg.		41.6%		2.6%	11.1%	0.7%	1.2%	3.3%	1.4%	0.3%	3.8%	9.6%		24.4%
2012 Avg.		43.4%		1.6%	6.2%	0.3%	1.9%	3.0%	1.5%	0.2%	4.2%	8.1%		29.6%
2013 Avg.		33.8%		1.9%	4.4%	0.6%	2.5%	3.5%	1.8%	0.2%	2.8%	6.9%		41.4%
2014 Avg.		38.8%		1.4%	5.5%	0.4%	1.6%	2.4%	1.4%	0.3%	2.6%	7.2%		38.5%
Std. Dev.		5.6%		0.7%	2.5%	0.7%	1.0%	1.3%	0.7%	0.4%	1.6%	1.7%		6.4%

*Percentages read from this table should be read as "of the tissue used for ALK"

Analysis of the Surgical Indications for Anterior Lamellar Keratoplasty

U.S. banks reported surgical indication data for anterior lamellar keratoplasty that suggested all surgical indications continued with relatively steady trends. Domestically and internationally in all reporting years, the leading surgical indication for ALK was ectasias/thinnings. The overall erratic pattern of ALK surgical use, both internationally and domestically, made interpretation of trends more difficult. However, it is useful to note that 1.9% of tissue used in the U.S. was used for ALK, while 4.2% of U.S. tissue sent internationally was used for ALK. Meanwhile, international banks reported 4.0% of tissue used for ALK, when combining tissue distributed domestically and outside of the country of origin.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Indications for Corneal Transplant Reported by U.S. Banks
76 U.S. Eye Banks Reporting**



2014 U.S. Eye Banking Statistics Reported by U.S. Banks: Indications for Corneal Transplant Reported by U.S. Banks 76 U.S. Eye Banks Reporting

Indications for Endothelial Keratoplasty - U.S. Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014	19.6%		48.3%	8.4%									10.6%	13.1%
Feb. 2014	18.0%		48.1%	7.1%									10.4%	16.4%
Mar. 2014	18.4%		44.6%	10.0%									12.9%	14.2%
Apr. 2014	16.2%		50.6%	8.3%									13.1%	11.8%
May 2014	18.0%		46.9%	8.3%									13.2%	13.6%
Jun. 2014	17.3%		47.3%	8.9%									10.0%	16.5%
Jul. 2014	16.1%		47.7%	8.1%									9.3%	18.8%
Aug. 2014	16.8%		48.3%	8.3%									9.9%	16.7%
Sep. 2014	18.1%		45.6%	8.1%									10.0%	18.2%
Oct. 2014	18.4%		49.8%	7.3%									10.1%	14.3%
Nov. 2014	17.4%		48.2%	8.0%									9.9%	16.5%
Dec. 2014	19.4%		47.2%	8.0%									9.1%	16.3%
2011 Avg.	19.2%		47.7%	8.5%									12.3%	12.4%
2012 Avg.	19.1%		46.8%	8.3%									11.6%	14.2%
2013 Avg.	17.8%		47.3%	8.4%									10.6%	15.9%
2014 Avg.	17.8%		47.7%	8.2%									10.7%	15.6%
Std. Dev.	1.1%		1.6%	0.7%									1.5%	2.1%

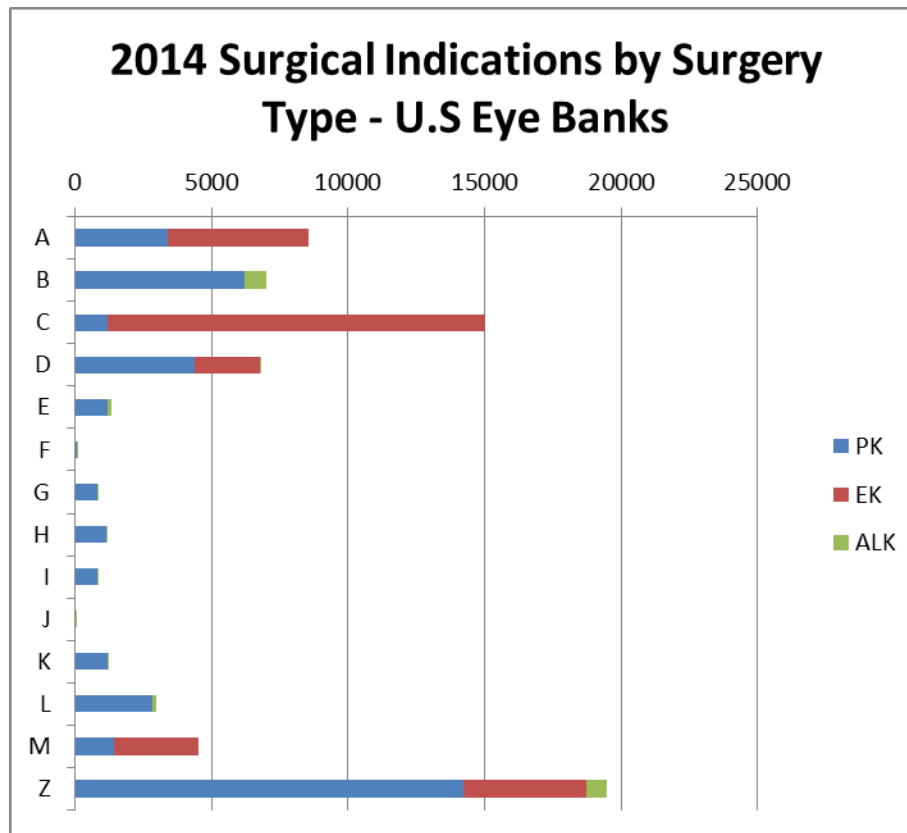
*Percentages read from this table should be read as "of the tissue used for EK"

Analysis of the Surgical Indications for Endothelial Keratoplasty

From 2011 to 2014, U.S. eye banks reported endothelial dystrophies (including Fuchs' dystrophy) as the leading surgical indication for endothelial keratoplasty. Post-cataract surgery edema was the second leading surgical indication for EK. International eye banks reported data that showed the same pattern as the U.S. banks. There was a notable drop in post-cataract surgery edema as a cause for EK surgery as reported by U.S. eye banks in 2013, however there was a corresponding increase in "unknown or unreported" indications as well. These values remained steady in 2014.

**2014 U.S. Eye Banking Statistics Reported by U.S. Banks:
Indications for Corneal Transplant Reported by U.S. Banks
76 U.S. Eye Banks Reporting**

Surgical Indications for Keratoplasty - U.S. Eye Banks														
	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
PK	3,378	6,224	1,196	4,399	1,209	74	800	1,139	816	12	1,197	2,814	1,423	14,238
EK	5,151		13,817	2,385									3,099	4,509
ALK		757		27	107	8	32	47	27	6	51	140		751



Eye Banking Statistics
From EBAA
International Members

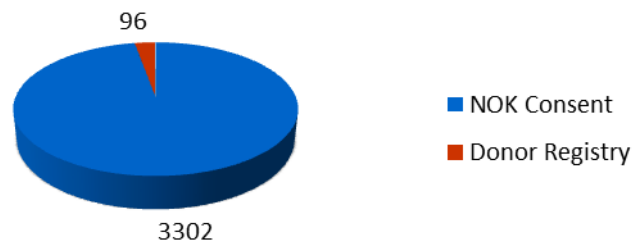
2014 International Eye Banking Statistics Donations and Tissue Recoveries 10 International Eye Banks Reporting

Donations	2014	2013	2012	2011	2010
Number of Eye Banks Reporting	10	10	8	9	9
Total Whole Eyes and Corneas Donated	6,769	6,482	6,330	12,851	9,726
Total Number of Donors	3,398	3,305	3,177	6,433	4,886

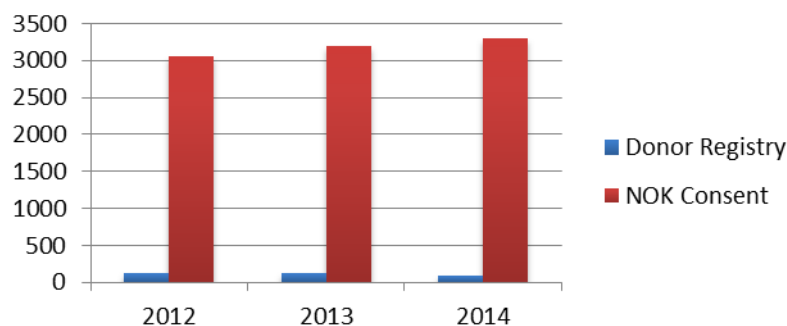
Death Referrals	2014	2013	2012
Total Death Referrals	24,284	21,516 ¹	28,391
Death referrals Determined Eligible	5,121	4,314 ¹	5,695
Tissue Recoveries			
Total Donors	3,398	3,305	3,177
Eyes or Corneas Recovered with Intent for Surgical Use	5,726	5,427	5,058
Eyes or Corneas Recovered for Other Uses	1,043	1,055	1,272

¹Excludes Death Referral data from the Eye Bank of Canada, Ontario Division

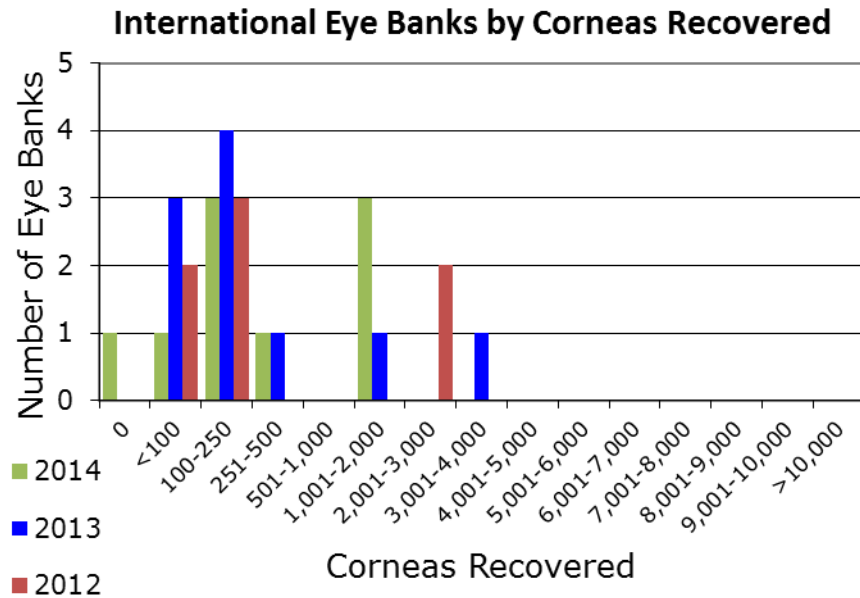
2014 Consent Type International Eye Banks



2014 Consent Type (International Banks)



2014 International Eye Banking Statistics Donations and Tissue Recoveries 10 International Eye Banks Reporting



International Eye Banks			
Recovered Corneas	2012	2013	2014
0	0	0	1
<100	2	3	1
100-250	3	4	3
251-500	0	1	1
501-1,000	0	0	0
1,001-2,000	0	1	3
2,001-3,000	2	0	0
3,001-4,000	0	1	0
4,001-5,000	0	0	0
5,001-6,000	0	0	0
6,001-7,000	0	0	0
7,001-8,000	0	0	0
8,001-9,000	0	0	0
9,001-10,000	0	0	0
>10,000	0	0	0
Avg. Corneas Recovered for Transplant	712	543	558

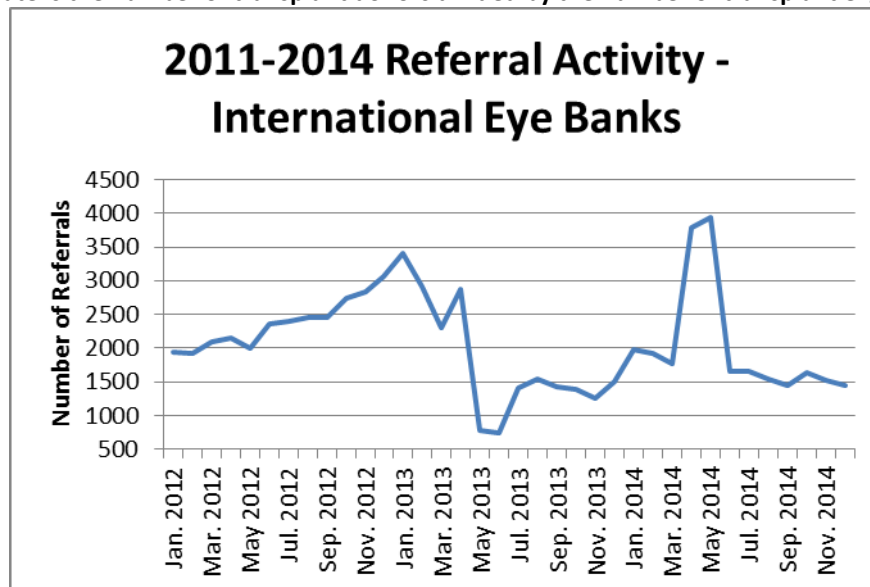
2014 International Eye Banking Statistics

Referral Trends, Transplant and Conversion Rates

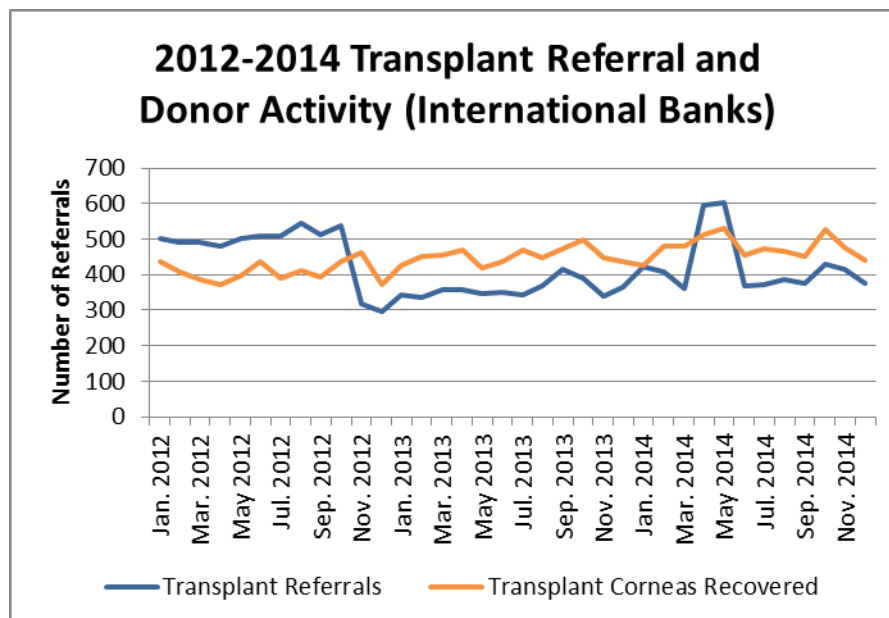
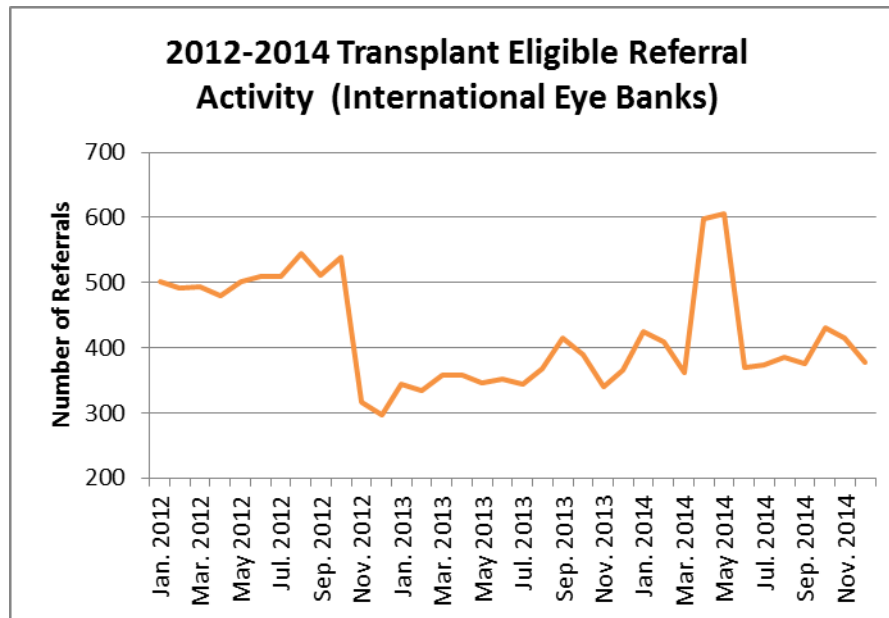
10 International Eye Banks Reporting

Month	Transplant Rate	Conversion Rate	Death Referrals	Transplant Eligible Referrals	Transplant Intended Corneas Recovered
Jan. 2014	71.8%	50.6%	1,984	424	426
Feb. 2014	70.1%	59.2%	1,916	408	481
Mar. 2014	69.9%	66.8%	1,763	362	482
Apr. 2014	65.4%	43.0%	3,792	597	512
May 2014	70.0%	43.8%	3,931	605	530
Jun. 2014	68.0%	61.8%	1,655	369	456
Jul. 2014	57.0%	63.8%	1,665	373	474
Aug. 2014	62.7%	60.8%	1,537	386	466
Sep. 2014	69.3%	60.4%	1,445	376	453
Oct. 2014	66.4%	61.8%	1,633	430	527
Nov. 2014	72.0%	58.1%	1,519	414	478
Dec. 2014	59.4%	58.6%	1,444	377	441
2012 Total	64.7%	43.3%	28,391	5,695	4,910
2013 Total	64.8%	64.1%	21,516	4,314	5,427
2014 Total	66.9%	56.1%	24,284	5,121	5,726
2014 Avg.	N/A	N/A	2,024	427	477
Std. Dev.	4.9%	7.6%	875	84	33

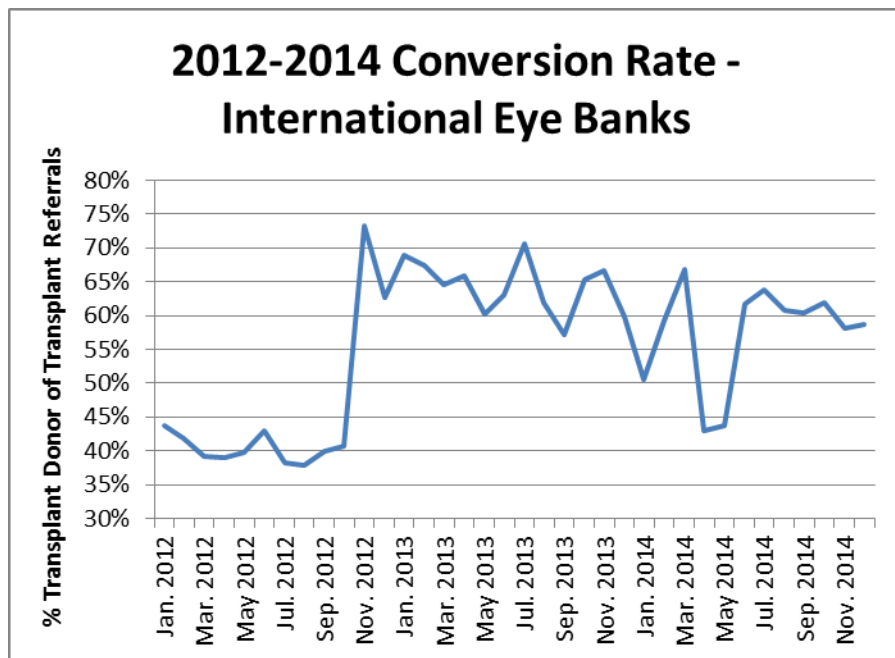
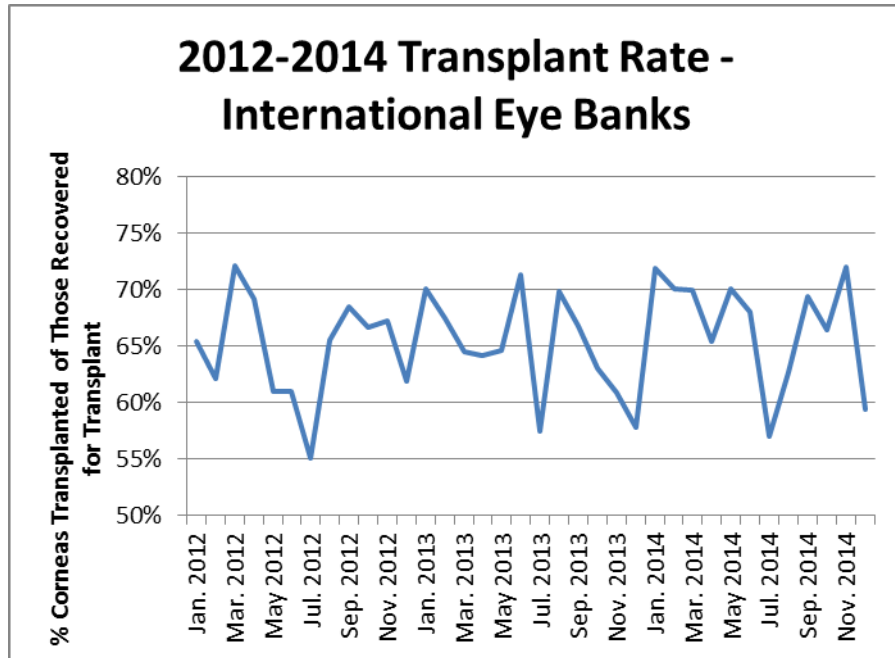
*Transplant rate is the number of corneas used for transplant divided by the number recovered for transplant.
Conversion rate is the number of transplant donors divided by the number of transplant eligible referrals.



2014 International Eye Banking Statistics Referral Trends, Transplant and Conversion Rates 10 International Eye Banks Reporting



2014 International Eye Banking Statistics Transplant and Conversion Rates 10 International Eye Banks Reporting

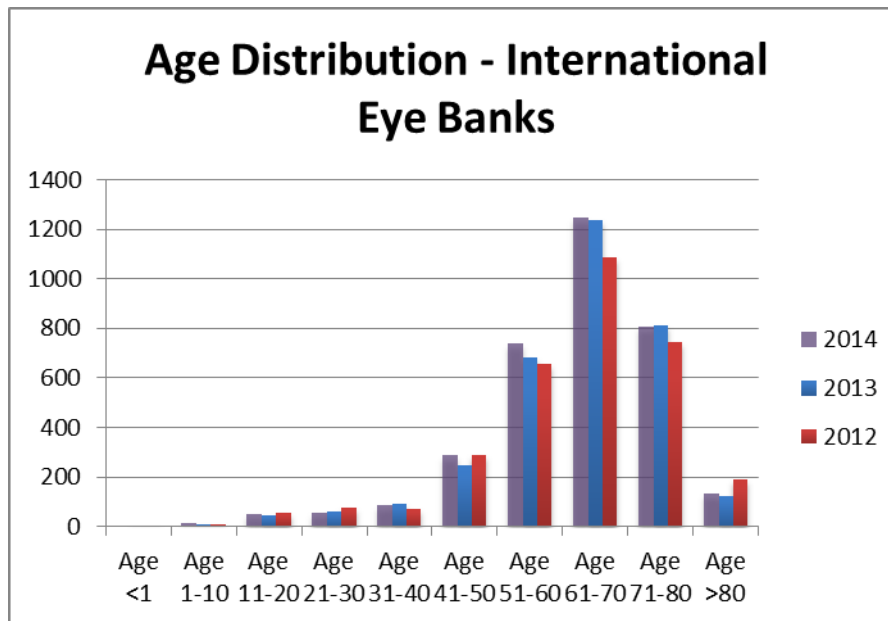


2014 International Eye Banking Statistics

Donor Profiles: Age

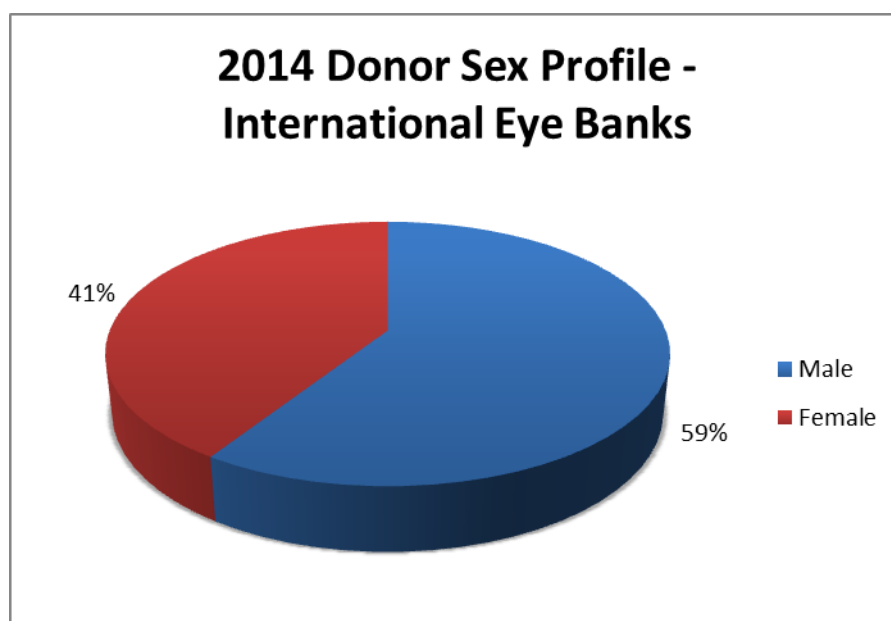
10 International Eye Banks Reporting

Age	2014		2013	
Under One Year	0	0.0%	0	0.0%
Age 1–10	11	0.3%	7	0.2%
Age 11–20	50	1.5%	46	1.4%
Age 21–30	55	1.6%	61	1.8%
Age 31–40	83	2.4%	92	2.8%
Age 41–50	284	8.4%	245	7.4%
Age 51–60	736	21.7%	680	20.6%
Age 61–70	1,242	36.6%	1,235	37.4%
Age 71–80	805	23.7%	814	24.6%
Over 80	132	3.9%	125	3.8%
Total Donors by Age	3,398		3,305	



2014 International Eye Banking Statistics Donor Profiles: Gender and Cause of Death 10 International Eye Banks Reporting

Donors by Gender	2014		2013	
Male	2,009	59.1%	1,924	58.2%
Female	1,389	40.9%	1,381	41.8%
Total Donors	3,398		3,305	



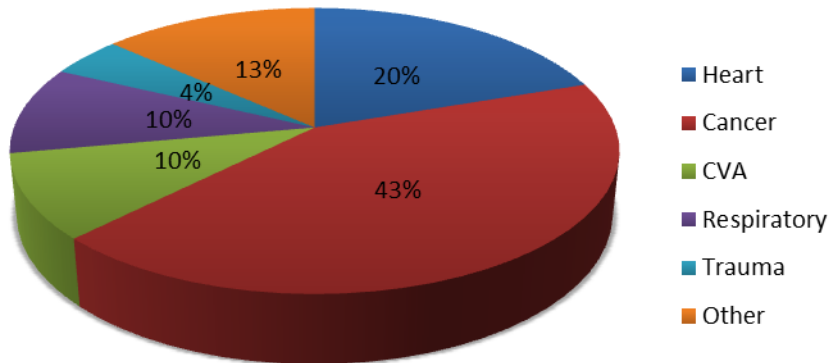
Cause of Death	2014		2013	
Heart Disease	671	19.7%	662	20.0%
Cancer	1,453	42.8%	1,339	40.5%
Trauma	327	9.6%	334	10.1%
Respiratory Disease	338	9.9%	332	10.0%
Cerebral Vascular Accident	154	4.5%	176	5.3%
Other Diseases	455	13.4%	462	14.0%
Total Donors by Cause of Death	3,398		3,305	

2014 International Eye Banking Statistics

Donor Profiles: Cause of Death

10 International Eye Banks Reporting

**2014 Donor Cause of Death Profile
- International Eye Banks**

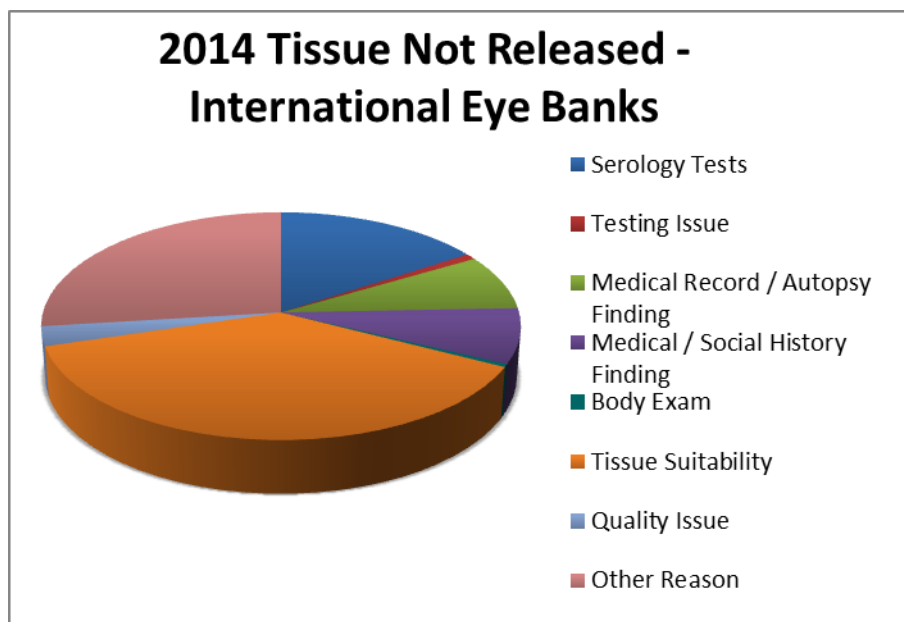


International Eye Banks - Cause of Death Profile						
Month	Heart	Cancer	CVA	Respiratory	Trauma	Other
Jan. 2014	62	103	30	38	4	42
Feb. 2014	66	125	29	21	12	42
Mar. 2014	59	114	26	35	10	47
Apr. 2014	57	120	38	45	8	50
May 2014	63	144	28	33	13	43
Jun. 2014	58	126	21	29	11	29
Jul. 2014	61	132	19	28	18	31
Aug. 2014	43	127	29	16	25	36
Sep. 2014	43	111	36	21	13	36
Oct. 2014	55	144	23	19	16	31
Nov. 2014	58	102	25	25	13	32
Dec. 2014	46	105	23	28	11	36
2012 Total	657	1,191	318	320	180	511
2013 Total	662	1,339	334	332	176	462
2014 Total	671	1,453	327	338	154	455
Monthly Avg.	56	121	27	28	13	38
Std. Dev.	7.8	14.6	5.7	8.5	5.2	6.8

2014 International Eye Banking Statistics Reasons Tissue Intended for Surgery Was Not Suitable For Transplant 10 International Eye Banks Reporting

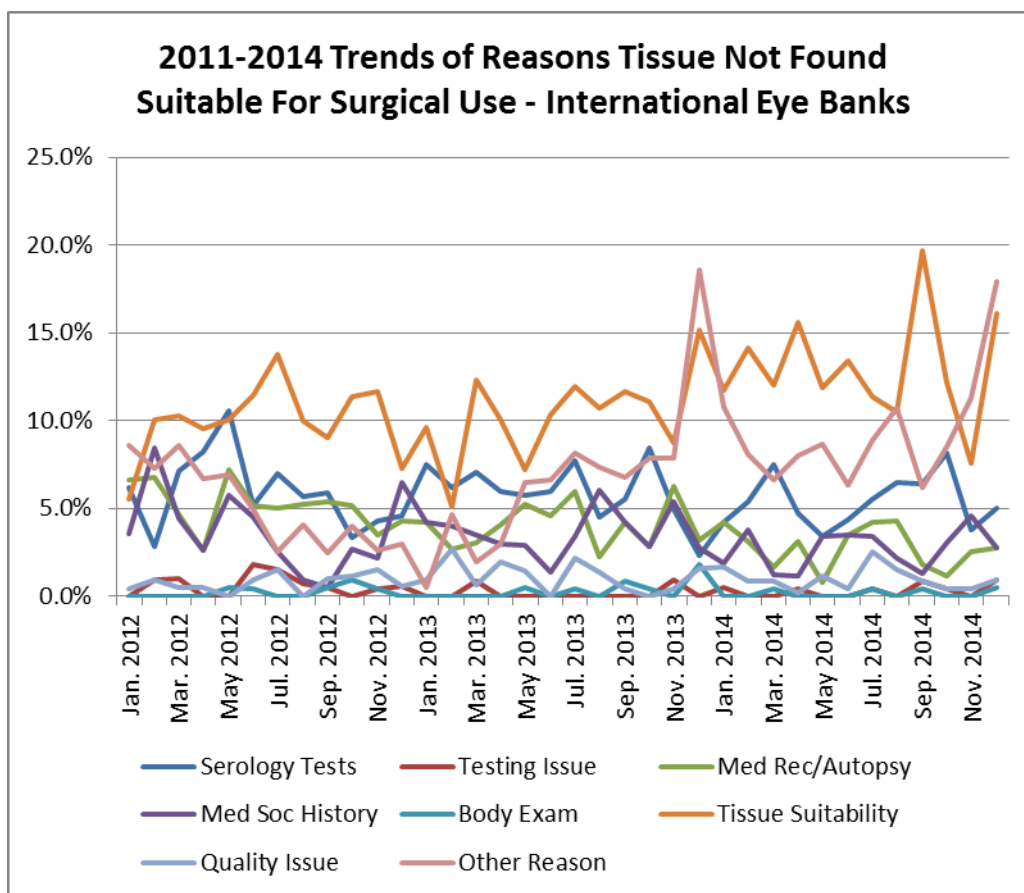
Contraindications for Transplant ²	2014		2013	
Donor Eligibility	643	44.6%	768	48.4%
Positive or reactive test for communicable disease agent or disease	310	21.5%	326	20.5%
Other communicable disease testing issue	16	1.1%	8	0.5%
Medical record or autopsy findings	155	10.7%	219	13.8%
Medical/social history interview	154	10.7%	197	12.4%
Body Exam	8	0.6%	18	1.1%
Tissue Suitability	743	51.5%	561	35.3%
Quality Issue	55	3.8%	61	3.8%
Other reason prior to tissue release	531	36.8%	360	22.7%
Total eyes/corneas intended for transplant but not released for transplant	1,443		1,588	

*Percentages read from this table should be read as "of the tissue not released for transplant"



² Some tissues had multiple contraindications.

2014 International Eye Banking Statistics Reasons Tissue Intended for Surgery Was Not Suitable For Transplant 10 International Eye Banks Reporting



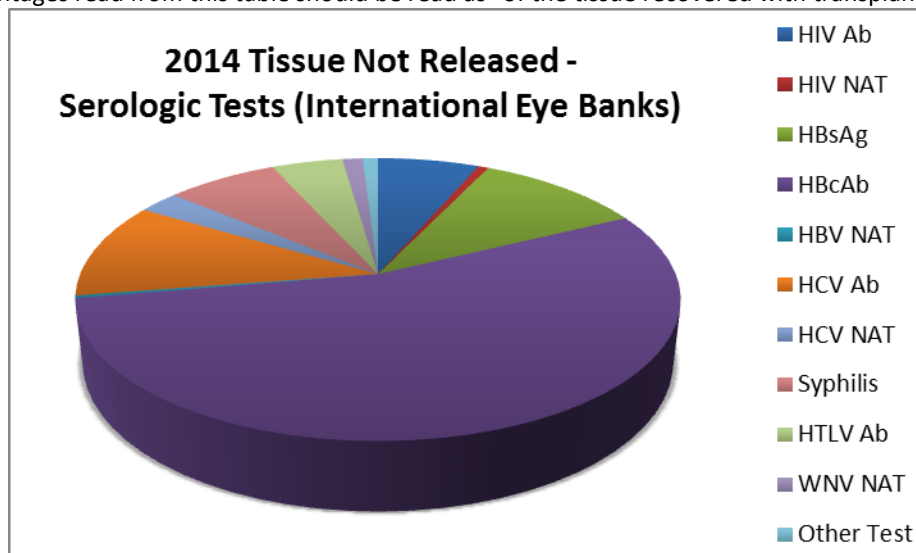
2014 International Eye Banking Statistics

Reasons Tissue Intended for Surgery Was Not Suitable For Transplant

10 International Eye Banks Reporting

Reasons Tissue Recovered for Transplant Not Used for Transplant: Overview, International Eye Banks									
Month	All Reasons Not Released	Serology Tests	Testing Issue	Medical Record / Autopsy Finding	Medical / Social History Finding	Body Exam	Tissue Suitability	Quality Issue	Other Reason
Jan. 2014	23.0%	4.2%	0.5%	4.2%	1.9%	0.0%	11.7%	1.6%	10.8%
Feb. 2014	23.3%	5.4%	0.0%	3.1%	3.7%	0.0%	14.1%	0.8%	8.1%
Mar. 2014	22.0%	7.5%	0.0%	1.7%	1.2%	0.4%	12.0%	0.8%	6.6%
Apr. 2014	26.8%	4.7%	0.4%	3.1%	1.2%	0.0%	15.6%	0.2%	8.0%
May 2014	21.1%	3.4%	0.0%	0.8%	3.4%	0.0%	11.9%	1.1%	8.7%
Jun. 2014	25.7%	4.4%	0.0%	3.5%	3.5%	0.0%	13.4%	0.4%	6.4%
Jul. 2014	29.1%	5.5%	0.4%	4.2%	3.4%	0.4%	11.4%	2.5%	8.9%
Aug. 2014	26.0%	6.4%	0.0%	4.3%	2.1%	0.0%	10.5%	1.5%	10.7%
Sep. 2014	23.0%	6.4%	0.9%	1.8%	1.3%	0.4%	19.6%	0.9%	6.2%
Oct. 2014	25.6%	8.2%	0.4%	1.1%	3.0%	0.0%	12.1%	0.4%	8.5%
Nov. 2014	23.2%	3.8%	0.0%	2.5%	4.6%	0.0%	7.5%	0.4%	11.3%
Dec. 2014	34.5%	5.0%	0.9%	2.7%	2.7%	0.5%	16.1%	0.9%	17.9%
2012 Avg.	27.6%	5.9%	0.6%	5.1%	3.7%	0.2%	10.0%	0.8%	5.1%
2013 Avg.	29.3%	6.0%	0.1%	4.0%	3.6%	0.3%	10.3%	1.1%	6.6%
2014 Avg.	25.2%	5.4%	0.3%	2.7%	2.7%	0.1%	13.0%	1.0%	9.3%
Std. Dev.	3.7%	1.5%	0.3%	1.2%	1.1%	0.2%	3.1%	0.7%	3.2%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

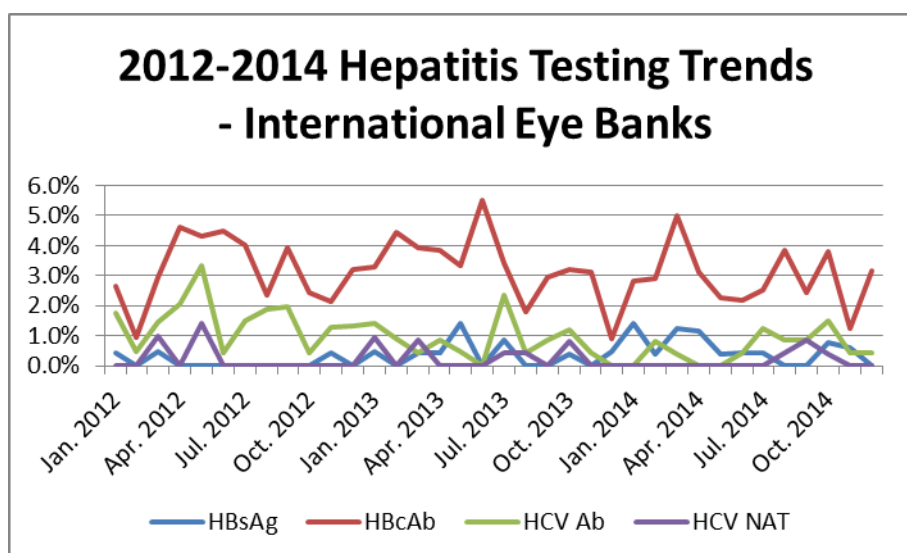


2014 International Eye Banking Statistics

Serologic Reasons Tissue Intended for Surgery Was Not Suitable For Transplant

Reasons Tissue Recovered for Transplant Not Used for Transplant International Eye Bank Data Subset: Serologic Testing												
Month	All Serology Tests	HIV Ab	HIV NAT	HBsAg	HBcAb	HBV NAT	HCV Ab	HCV NAT	Syphilis	HTLV Ab	WNV NAT	Other Test
Jan. 2014	4.2%	0.0%	0.0%	1.4%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Feb. 2014	5.4%	0.0%	0.4%	0.4%	2.9%	0.0%	0.8%	0.0%	0.0%	0.8%	0.0%	0.0%
Mar. 2014	7.5%	0.0%	0.0%	1.2%	5.0%	0.0%	0.4%	0.0%	0.4%	0.4%	0.0%	0.0%
Apr. 2014	4.7%	0.4%	0.0%	1.2%	3.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
May 2014	3.4%	0.4%	0.0%	0.4%	2.3%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%
Jun. 2014	4.4%	0.4%	0.0%	0.4%	2.2%	0.0%	0.4%	0.0%	0.4%	0.4%	0.0%	0.0%
Jul. 2014	5.5%	0.4%	0.0%	0.4%	2.5%	0.0%	1.3%	0.0%	0.8%	0.0%	0.0%	0.0%
Aug. 2014	6.4%	0.4%	0.0%	0.0%	3.9%	0.0%	0.9%	0.4%	0.0%	0.0%	0.4%	0.4%
Sep. 2014	6.4%	0.9%	0.0%	0.0%	2.4%	0.0%	0.9%	0.9%	0.4%	0.4%	0.4%	0.0%
Oct. 2014	8.2%	0.8%	0.0%	0.8%	3.8%	0.2%	1.5%	0.4%	0.4%	0.4%	0.0%	0.0%
Nov. 2014	3.8%	0.0%	0.0%	0.6%	1.3%	0.0%	0.4%	0.0%	0.8%	0.4%	0.0%	0.2%
Dec. 2014	5.0%	0.5%	0.0%	0.0%	3.2%	0.0%	0.5%	0.0%	0.9%	0.0%	0.0%	0.0%
2012 Avg.	5.9%	0.2%	0.0%	0.1%	3.1%	N/A	1.5%	0.2%	0.1%	0.2%	N/A	0.4%
2013 Avg.	6.0%	0.1%	0.2%	0.4%	3.3%	N/A	0.8%	0.3%	0.3%	0.2%	N/A	0.4%
2014 Avg.	5.4%	0.3%	0.0%	0.6%	3.0%	0.0%	0.6%	0.1%	0.4%	0.2%	0.1%	0.1%
Std. Dev.	1.5%	0.3%	0.1%	0.5%	1.0%	0.1%	0.5%	0.3%	0.3%	0.3%	0.2%	0.1%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



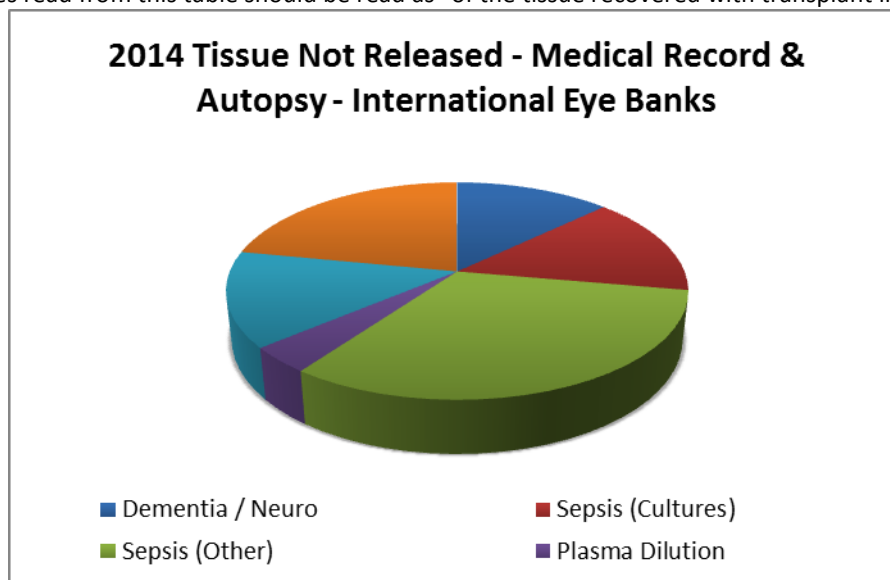
2014 International Eye Banking Statistics

Reasons Tissue Intended for Surgery Was Not Suitable

10 International Eye Banks Reporting

International Eye Bank Data Subset: Medical Record and Autopsy							
Month	All Medical Record	Dementia / Neuro	Sepsis (Cultures)	Sepsis (Other)	Plasma Dilution	Unknown Cause of Death	Other
Jan. 2014	4.2%	0.0%	0.5%	0.9%	0.9%	1.4%	0.5%
Feb. 2014	3.1%	0.0%	0.6%	1.2%	0.0%	1.2%	0.0%
Mar. 2014	1.7%	0.0%	0.4%	0.8%	0.0%	0.0%	0.4%
Apr. 2014	3.1%	0.8%	0.0%	1.2%	0.4%	0.0%	0.8%
May 2014	0.8%	0.4%	0.0%	0.4%	0.0%	0.0%	0.0%
Jun. 2014	3.5%	0.0%	0.4%	0.9%	0.0%	0.4%	1.8%
Jul. 2014	4.2%	1.3%	0.4%	1.3%	0.0%	0.4%	0.8%
Aug. 2014	4.3%	0.0%	1.3%	1.7%	0.0%	0.9%	0.4%
Sep. 2014	1.8%	0.4%	0.4%	0.4%	0.0%	0.0%	0.4%
Oct. 2014	1.1%	0.0%	0.4%	0.4%	0.0%	0.0%	0.4%
Nov. 2014	2.5%	0.8%	0.4%	0.8%	0.0%	0.0%	0.4%
Dec. 2014	2.7%	0.5%	0.0%	0.5%	0.0%	0.5%	1.4%
2012 Avg.	5.1%	0.3%	1.3%	1.6%	0.2%	0.7%	1.0%
2013 Avg.	4.0%	0.4%	0.7%	1.5%	0.1%	0.5%	0.9%
2014 Avg.	2.7%	0.3%	0.4%	0.9%	0.1%	0.4%	0.6%
Std. Dev.	1.2%	0.4%	0.3%	0.4%	0.3%	0.5%	0.5%

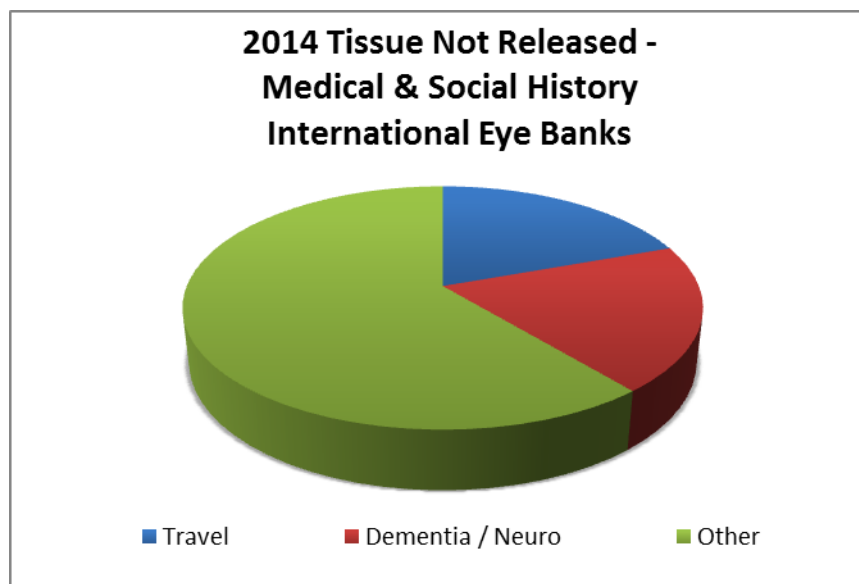
*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



2014 International Eye Banking Statistics Reasons Tissue Intended for Surgery Was Not Suitable 10 International Eye Banks Reporting

International Eye Bank Data Subset: Medical & Social History				
Month	All Medical / Social History	Travel	Dementia / Neuro	Other
Jan. 2014	1.9%	0.0%	0.5%	1.4%
Feb. 2014	3.7%	0.8%	0.4%	2.5%
Mar. 2014	1.2%	0.0%	1.2%	0.0%
Apr. 2014	1.2%	0.0%	0.4%	0.8%
May 2014	3.4%	1.5%	0.0%	1.9%
Jun. 2014	3.5%	0.4%	0.4%	2.6%
Jul. 2014	3.4%	0.4%	1.7%	1.3%
Aug. 2014	2.1%	0.0%	0.0%	2.1%
Sep. 2014	1.3%	0.4%	0.0%	0.9%
Oct. 2014	3.0%	1.1%	0.4%	1.5%
Nov. 2014	4.6%	0.8%	0.0%	3.8%
Dec. 2014	2.7%	0.5%	1.4%	0.9%
2012 Avg.	3.7%	0.7%	0.0%	2.7%
2013 Avg.	3.6%	0.7%	0.4%	2.5%
2014 Avg.	2.7%	0.5%	0.5%	1.6%
Std. Dev.	1.1%	0.5%	0.6%	1.0%

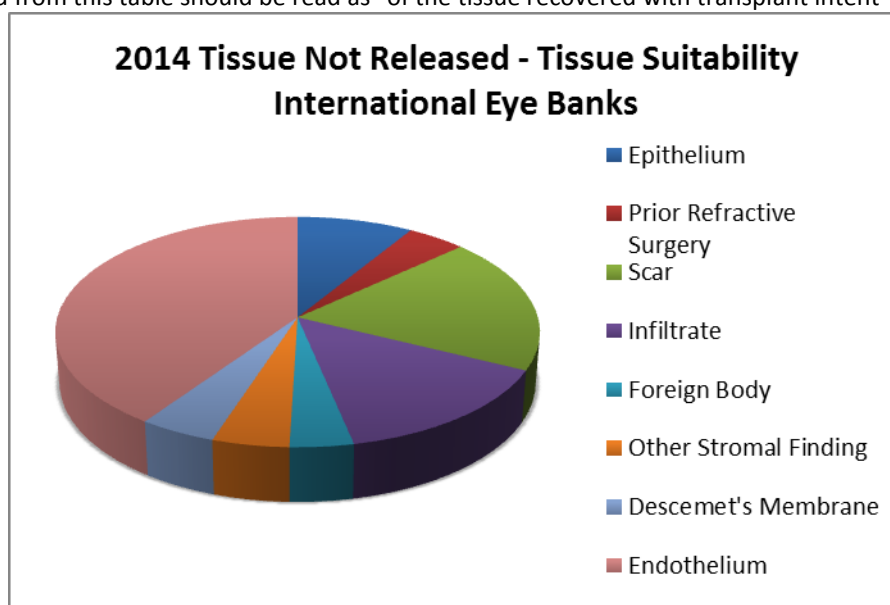
*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



2014 International Eye Banking Statistics Tissue Suitability Reasons Tissue Was Not Released 10 International Eye Banks Reporting

International Eye Bank Data Subset: Tissue Suitability									
Month	All Tissue Suitability Reasons	Epithelium	Prior Refractive Surgery	Scar	Infiltrate	Foreign Body	Other Stromal Finding	Descemet's Membrane	Endothelium
Jan. 2014	11.7%	1.2%	0.5%	0.9%	1.4%	0.5%	0.9%	0.5%	5.9%
Feb. 2014	14.1%	0.6%	0.2%	2.9%	2.7%	0.2%	0.6%	0.4%	6.4%
Mar 2014	12.0%	1.0%	0.4%	2.1%	1.5%	0.2%	0.2%	0.6%	6.0%
Apr. 2014	15.6%	1.4%	0.8%	3.3%	2.3%	0.2%	0.2%	0.6%	6.8%
May 2014	11.9%	1.7%	0.4%	2.5%	1.9%	0.8%	0.4%	0.4%	4.0%
Jun. 2014	13.4%	1.3%	0.9%	3.1%	1.3%	0.7%	0.7%	0.9%	4.6%
Jul. 2014	11.4%	1.7%	0.6%	1.7%	0.6%	0.2%	0.2%	0.2%	6.1%
Aug. 2014	10.5%	0.4%	0.2%	2.1%	1.5%	0.2%	0.6%	0.2%	5.2%
Sep. 2014	19.6%	2.4%	1.3%	2.4%	3.1%	1.3%	1.3%	1.8%	6.0%
Oct. 2014	12.1%	1.3%	0.6%	2.7%	1.1%	0.6%	0.6%	0.6%	4.7%
Nov. 2014	7.5%	0.4%	0.0%	1.5%	1.7%	0.0%	0.4%	0.0%	3.6%
Dec. 2014	16.1%	0.0%	1.1%	4.5%	3.4%	1.1%	1.1%	1.1%	3.6%
2012 Avg.	10.0%	0.6%	0.1%	1.3%	1.5%	0.1%	1.2%	0.1%	5.1%
2013 Avg.	10.3%	1.0%	0.2%	1.7%	1.5%	0.1%	0.7%	0.1%	5.1%
2014 Avg.	13.0%	1.1%	0.6%	2.5%	1.9%	0.5%	0.6%	0.6%	5.2%
Std. Dev.	3.1%	0.7%	0.4%	0.9%	0.8%	0.4%	0.4%	0.5%	1.1%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



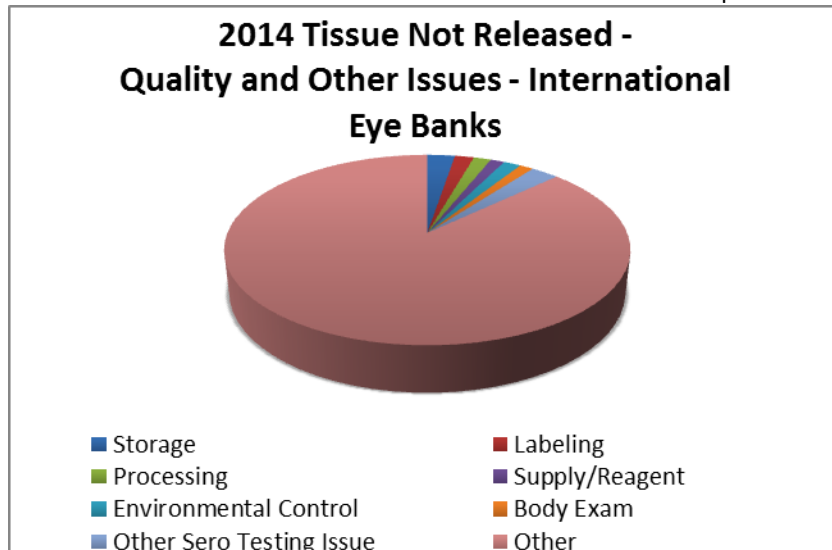
2014 International Eye Banking Statistics

Quality Reasons Tissue Intended for Surgery Was Not Released

10 International Eye Banks Reporting

International Eye Banks Data Subset: Quality Issues and Other Reasons									
Month	All Quality & Other Issues	Storage Issue	Labeling Issue	Processing Issue (before release)	Supply or Reagent Issue	Environmental Control Issue	Body Exam	Other Serologic Testing Issue	Other Issue
Jan. 2014	12.9%	0.0%	0.9%	0.2%	0.0%	0.5%	0.0%	0.5%	10.8%
Feb. 2014	8.9%	0.4%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	8.1%
Mar 2014	7.9%	0.0%	0.4%	0.0%	0.0%	0.4%	0.4%	0.0%	6.6%
Apr. 2014	8.6%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.4%	8.0%
May 2014	9.8%	0.4%	0.0%	0.0%	0.4%	0.4%	0.0%	0.0%	8.7%
Jun. 2014	6.8%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	6.4%
Jul. 2014	12.2%	0.4%	0.0%	1.3%	0.4%	0.4%	0.4%	0.4%	8.9%
Aug. 2014	12.2%	0.9%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	10.7%
Sep. 2014	8.4%	0.4%	0.4%	0.0%	0.0%	0.0%	0.4%	0.9%	6.2%
Oct. 2014	9.3%	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%	8.5%
Nov. 2014	11.7%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	11.3%
Dec. 2014	20.2%	0.9%	0.0%	0.0%	0.0%	0.0%	0.5%	0.9%	17.9%
2012 Avg.	0.8%	0.3%	0.0%	0.4%	0.0%	0.0%	0.2%	0.6%	5.1%
2013 Avg.	8.2%	0.4%	0.1%	0.3%	0.3%	0.1%	0.3%	0.1%	6.6%
2014 Avg.	10.7%	0.3%	0.2%	0.2%	0.1%	0.2%	0.1%	0.3%	9.3%
Std. Dev.	3.6%	0.3%	0.3%	0.4%	0.2%	0.2%	0.2%	0.3%	3.2%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



2014 International Eye Banking Statistics

Reasons Released Tissues Were Not Transplanted

10 International Eye Banks Reporting

International Eye Bank Data Subset: Released but Not Transplanted									
Month	Tissues Released Not Transplanted	Transport Issue	Surgeon Issue	Recipient Issue	Returned Tissue Unable to Place Again	Donor Info Received after Release	Expired Tissue / Unable to Place	Processing Damage after Release	Other Reason after Release
Jan. 2014	5.2%	0.0%	0.2%	0.0%	0.7%	0.0%	1.4%	2.8%	0.0%
Feb. 2014	6.9%	0.0%	0.8%	0.0%	0.6%	0.0%	5.0%	0.4%	0.0%
Mar. 2014	8.1%	0.0%	0.6%	0.0%	2.3%	0.0%	4.8%	0.4%	0.0%
Apr. 2014	8.2%	0.2%	0.0%	0.4%	1.0%	0.0%	5.7%	1.0%	0.2%
May 2014	8.9%	0.0%	0.2%	0.0%	0.9%	0.0%	6.0%	0.6%	1.1%
Jun. 2014	6.4%	0.0%	0.4%	0.2%	0.7%	0.0%	4.8%	0.4%	0.0%
Jul. 2014	14.1%	0.0%	0.0%	0.0%	0.2%	0.0%	12.2%	1.1%	0.6%
Aug. 2014	11.4%	0.0%	0.0%	0.4%	1.3%	0.0%	8.6%	1.1%	0.0%
Sep. 2014	7.7%	4.4%	0.0%	0.0%	1.8%	0.0%	5.1%	0.9%	0.0%
Oct. 2014	8.0%	0.0%	0.6%	0.0%	1.5%	0.0%	5.1%	0.9%	0.0%
Nov. 2014	4.8%	0.6%	0.8%	0.0%	0.2%	0.0%	2.7%	1.0%	0.0%
Dec. 2014	6.1%	0.5%	0.5%	0.0%	0.5%	0.0%	4.3%	0.9%	0.0%
2012 Avg.	7.8%	0.2%	0.5%	0.1%	1.1%	0.0%	4.9%	0.6%	0.2%
2013 Avg.	6.0%	0.0%	0.2%	0.1%	1.0%	0.0%	3.6%	0.8%	0.2%
2014 Avg.	8.0%	0.5%	0.3%	0.1%	1.0%	0.0%	5.5%	0.9%	0.2%
Std. Dev.	2.6%	1.3%	0.3%	0.2%	0.6%	0.0%	2.7%	0.6%	0.4%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"

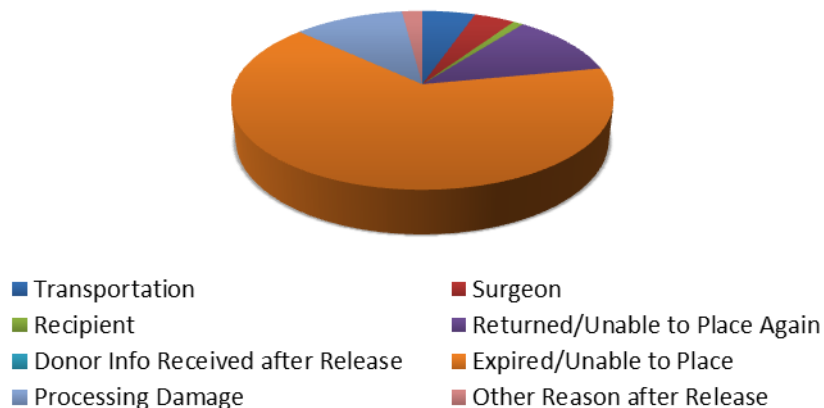
2014 International Eye Banking Statistics

Reasons Released Tissues Were Not Transplanted

10 International Eye Banks Reporting

Reasons Released Tissues Were Not Transplanted	2014		2013	
Transportation Issue	26	5.7%	0	0.0%
Surgeon Issue	20	4.4%	11	3.4%
Recipient Issue	5	1.0%	3	0.9%
Returned and Unable to Place Again	56	12.2%	53	16.4%
Donor Information Not Available at the Time of Tissue Release	0	0.0%	0	0.0%
Expired or Unable to Place Tissue	316	68.8%	198	61.1%
Tissue Damaged During Processing	54	11.8%	41	12.7%
Other Reason After Release of Tissue	10	2.2%	9	2.8%
Total eyes/corneas released for transplant but not used for transplant	459		324	

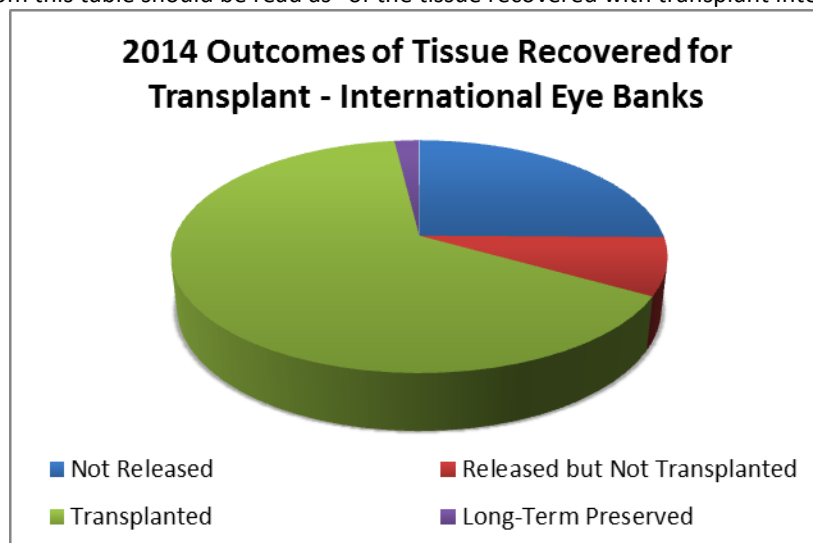
2014 Released Tissue Not Transplanted - International Eye Banks



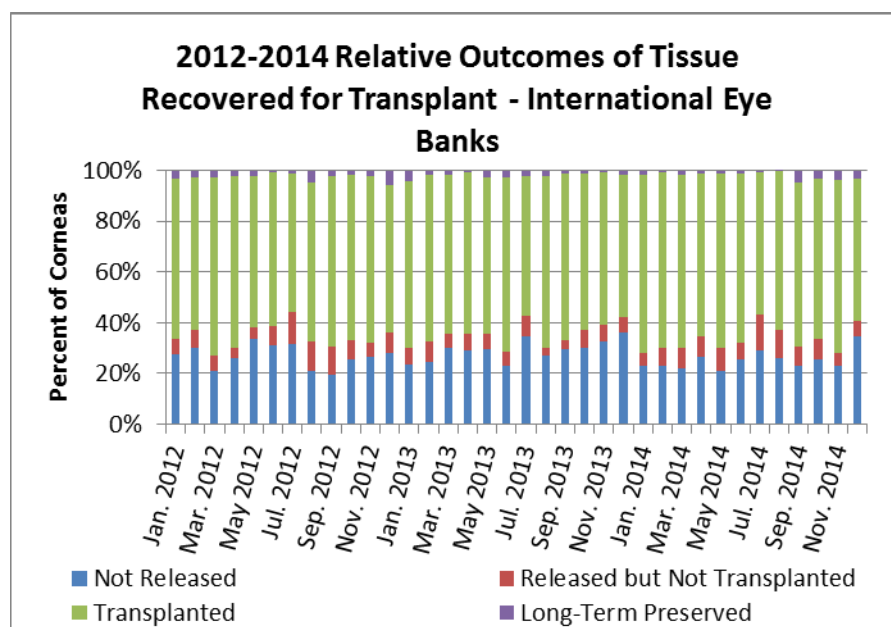
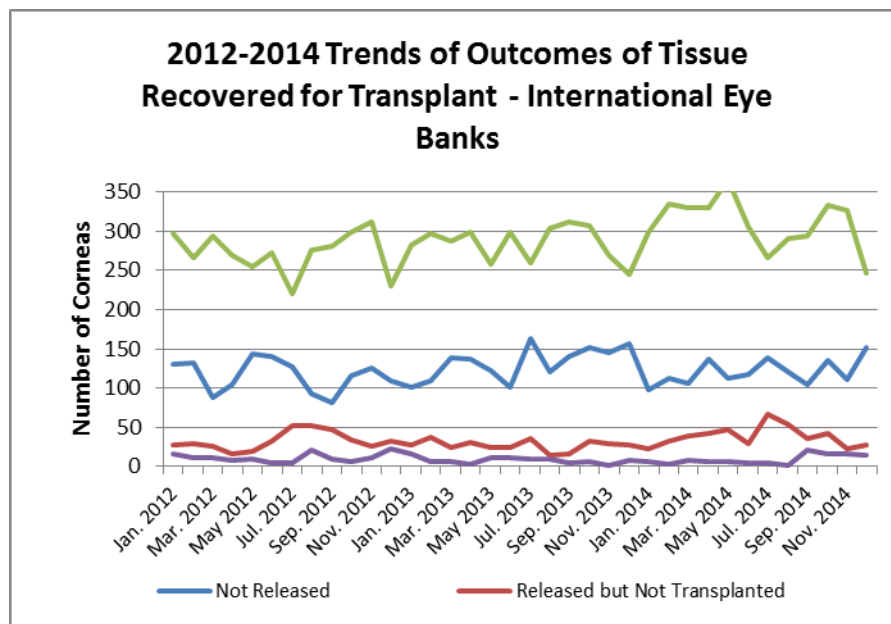
2014 International Eye Banking Statistics Outcomes of Tissue Recovered for Transplant 10 International Eye Banks Reporting

International Eye Banks - Outcomes of Tissue Recovered for Transplant											
Month	Corneas Recovered for Transplant	Corneas Segmented	Corneal Segments Produced	Not Released		Released but Not Transplanted		Whole Corneas and Segments Transplanted		Preserved Long-Term	
Jan. 2014	426	0	0	98	23.0%	22	5.2%	299	70.2%	7	1.6%
Feb. 2014	481	1	2	112	23.3%	33	6.9%	334	69.3%	3	0.6%
Mar. 2014	482	0	0	106	22.0%	39	8.1%	329	68.3%	8	1.7%
Apr. 2014	512	2	4	137	26.8%	42	8.2%	329	64.0%	6	1.2%
May 2014	530	0	0	112	21.1%	47	8.9%	365	68.9%	6	1.1%
Jun. 2014	456	0	0	117	25.7%	29	6.4%	305	66.9%	5	1.1%
Jul. 2014	474	1	2	138	29.1%	67	14.1%	266	56.0%	4	0.8%
Aug. 2014	466	0	0	121	26.0%	53	11.4%	291	62.4%	1	0.2%
Sep. 2014	453	0	0	104	23.0%	35	7.7%	293	64.7%	21	4.6%
Oct. 2014	527	2	2	135	25.6%	42	8.0%	333	63.2%	17	3.2%
Nov. 2014	478	0	0	111	23.2%	23	4.8%	327	68.4%	17	3.6%
Dec. 2014	441	0	0	152	34.5%	27	6.1%	247	56.0%	15	3.4%
2012 Total	5,058	0	0	1,394	27.6%	394	7.8%	3,270	64.7%	137	2.7%
2013 Total	5,427	0	0	1,588	29.3%	324	6.0%	3,415	62.9%	100	1.8%
2014 Total	5,726	6	10	1,443	25.2%	459	8.0%	3,718	64.9%	110	1.9%
2014 Avg.	477	1	1	120	N/A	38	N/A	310	N/A	9	N/A
Std. Dev.	33	0.80	1.3	17	3.7%	13	2.6%	33	4.8%	7	1.4%

*Percentages read from this table should be read as "of the tissue recovered with transplant intent"



2014 International Eye Banking Statistics Outcomes of Tissues Recovered For Transplant 10 International Eye Banks Reporting

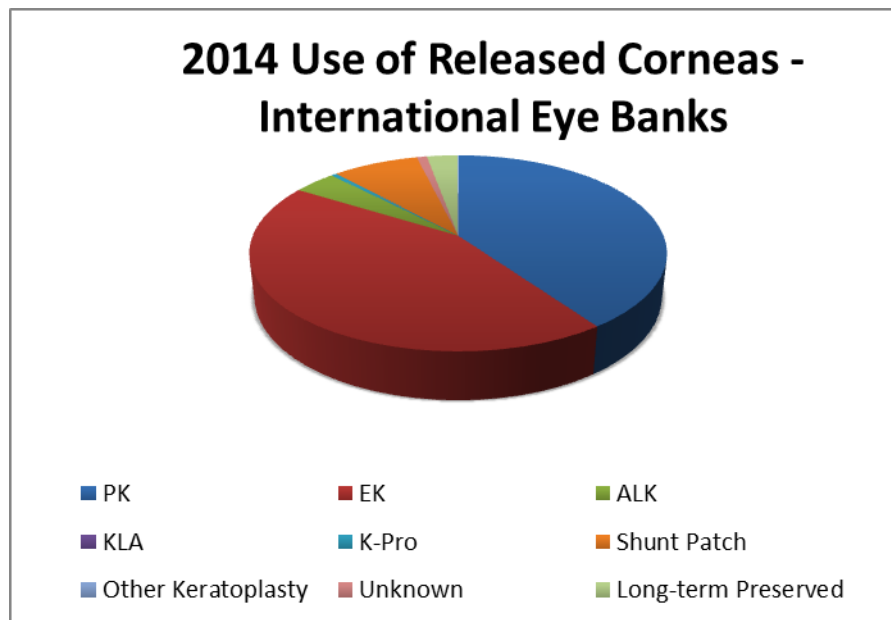


2014 International Eye Banking Statistics

Use of Donated Tissues

10 International Eye Banks Reporting

Distribution	2014	2013	2012	2011
Corneal Grafts Total	3,824	3,515	3,270	5,813
Penetrating Keratoplasty	1,539	1,356	1,246	2,460
Anterior Lamellar Keratoplasty	150	160	122	169
Endothelial Keratoplasty	1,669	1,491	1,271	2,293
Keratolimbal Allograft	0	0	0	2
Keratoprosthesis (K-Pro)	20	14	18	43
Glaucoma Shunt Patch or other non-keratoplasty use	304	227	169	434
Other keratoplasty (experimental surgery)	0	0	1	0
Unknown or Unspecified	36	167	306	46
Sclera	1,010	943	996	1,496
Long-Term Preserved Corneas	113	112	141	31
Keratoplasty	12	1	11	2
Glaucoma Shunt Patching	101	110	119	30
Other Surgical Uses	0	1	11	0
Research	291	305	248	1,122
Training	1,301	1,462	1,445	2,596



2014 International Eye Banking Statistics Intermediate-Term Tissue Distribution 10 International Eye Banks Reporting

Intermediate-Term Tissue Distribution of Source Eye Bank Corneas For Domestic Use		
	2014	2013
Intermediate-term preserved corneas, corneal segments or whole eyes transplanted for:	3,167	3,079
PK	1,214	1,129
Optical or Elective PK	1,155	1,087
Emergency of Full Thickness	59	42
EK	1,453	1,418
DSEK, DSAEK, DLEK	1,211	1,326
DMEK or DMAEK	242	92
ALK	142	150
DALK (Deep Anterior Lamellar Keratoplasty)	136	144
SALK (Superficial Anterior Lamellar Keratoplasty)	0	3
Other ALK (e.g. peripheral, eccentric, etc.)	6	3
KLA	0	0
Keratoprosthesis (K-Pro)	19	11
Glaucoma shunt patch or other non-keratoplasty use	303	227
Other Keratoplasty (e.g. experimental surgery type)	0	0
Unknown or Unspecified	36	144
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for KERATOPLASTY	3,414	3,188
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for TRANSPLANT	3,714	3,415

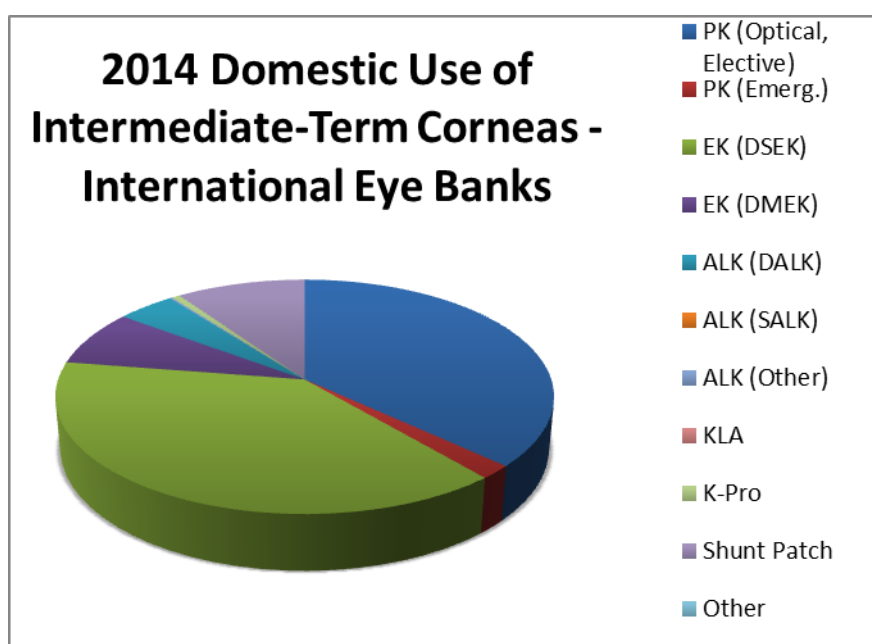
2014 International Eye Banking Statistics

Domestic Surgery Use of Intermediate-Term Preserved Tissue

10 International Eye Banks Reporting

2014 Surgery Types Using Corneas Preserved in Intermediate-Term Media Domestically Distributed Tissue - International Eye Banks												
Month	PK (Optical, Elective)	PK (Emerg.)	EK (DSEK)	EK (DMEK)	ALK (DALK)	ALK (SALK)	ALK (Other)	KLA	K- Pro	Shunt Patch	Other	Unknown
Jan. 2014	36.5%	2.5%	39.0%	5.8%	5.4%	0.0%	0.4%	0.0%	0.4%	5.1%	0.0%	5.1%
Feb. 2014	39.7%	3.8%	38.7%	5.1%	3.8%	0.0%	0.0%	0.0%	0.3%	8.6%	0.0%	0.0%
Mar. 2014	33.7%	1.1%	40.7%	4.8%	2.6%	0.0%	0.0%	0.0%	0.7%	14.3%	0.0%	2.2%
Apr. 2014	37.8%	0.8%	40.6%	4.8%	5.2%	0.0%	0.0%	0.0%	0.4%	10.0%	0.0%	0.4%
May 2014	33.1%	0.6%	39.4%	11.7%	3.2%	0.0%	0.0%	0.0%	0.0%	12.0%	0.0%	0.0%
Jun. 2014	34.5%	1.2%	34.1%	11.6%	4.0%	0.0%	0.0%	0.0%	0.0%	14.5%	0.0%	0.0%
Jul. 2014	43.2%	3.6%	34.1%	6.4%	6.8%	0.0%	0.0%	0.0%	0.0%	5.5%	0.0%	0.5%
Aug. 2014	37.6%	3.0%	38.8%	7.6%	3.4%	0.0%	0.0%	0.0%	0.8%	6.8%	0.0%	2.1%
Sep. 2014	37.5%	1.1%	34.7%	8.7%	6.9%	0.0%	0.0%	0.0%	0.7%	10.5%	0.0%	0.0%
Oct. 2014	34.4%	1.7%	43.1%	7.7%	4.3%	0.0%	1.3%	0.0%	0.7%	6.7%	0.0%	0.0%
Nov. 2014	33.7%	1.1%	38.6%	8.1%	2.8%	0.0%	0.0%	0.0%	2.1%	10.5%	0.0%	3.2%
Dec. 2014	38.4%	2.6%	34.2%	9.5%	3.7%	0.0%	0.5%	0.0%	1.1%	10.0%	0.0%	0.0%
2012 Avg.	20.7%	0.2%	21.1%	0.0%	1.1%	0.0%	0.0%	0.0%	1.3%	2.0%	0.0%	8.8%
2013 Avg.	35.3%	1.4%	43.1%	3.0%	4.7%	0.1%	0.1%	0.0%	0.4%	7.4%	0.0%	4.7%
2014 Avg.	36.5%	1.9%	38.2%	7.6%	4.3%	0.0%	0.2%	0.0%	0.6%	9.6%	0.0%	1.1%
Std. Dev.	3.0%	1.1%	3.0%	2.4%	1.4%	0.0%	0.4%	0.0%	0.6%	3.1%	0.0%	1.7%

*Percentages read from this table should be read as "of the tissue distributed for transplant use domestically"

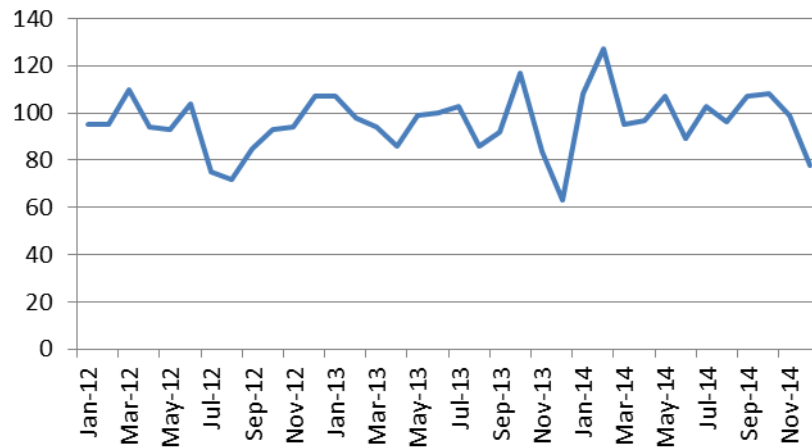


2014 International Eye Banking Statistics

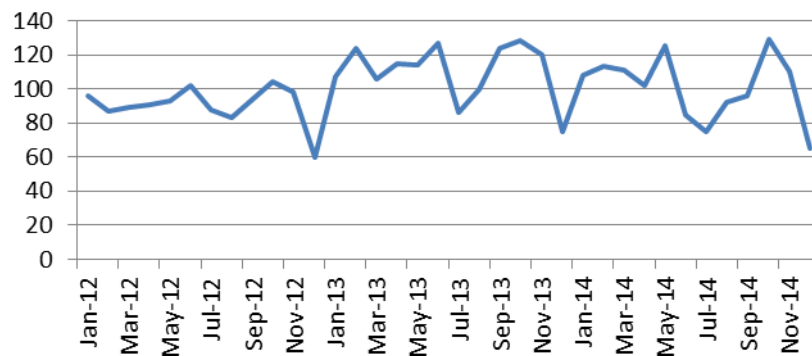
Trends of Domestic Use

10 International Eye Banks Reporting

**2012-2014 Domestic PK Trend -
International Eye Banks**



**2012-2014 Domestic DSEK Trend
- International Eye Banks**

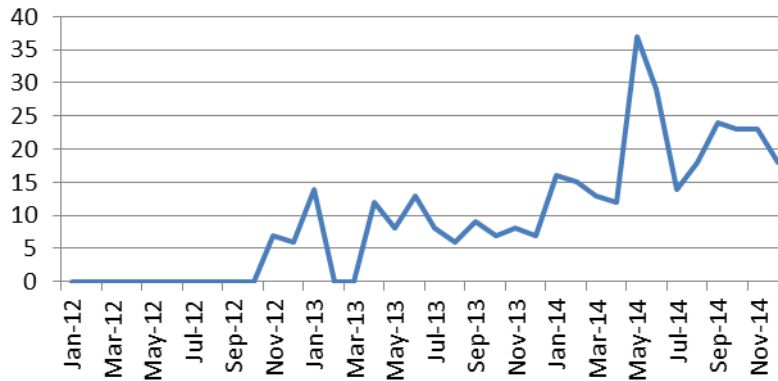


2014 International Eye Banking Statistics

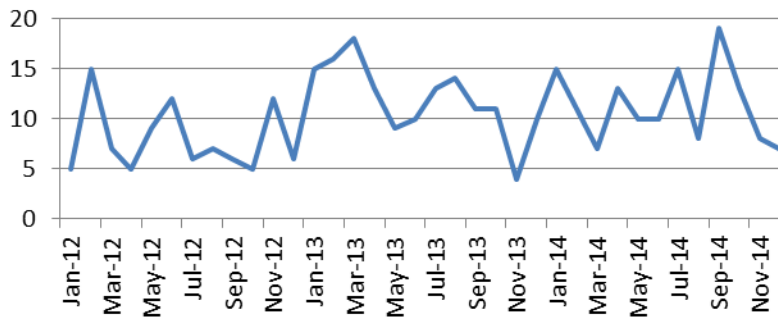
Trends of Domestic Use

10 International Eye Banks Reporting

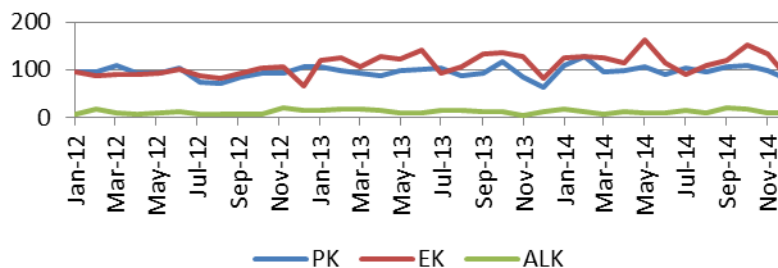
**2012-2014 Domestic DMEK
Trend - International Eye Banks**



**2012-2014 Domestic DALK
Trend - International Eye Banks**



**2012-2014 Domestic PK vs. EK
vs. ALK - International Eye
Banks**



2014 International Eye Banking Statistics
International Surgery Use of Intermediate-Term Preserved Tissue
10 International Eye Banks Reporting

Intermediate-Term Tissue Distribution of Source Eye Bank Corneas For International Use		
	2014	2013
Intermediate-term preserved corneas, corneal segments or whole eyes transplanted for:	551	336
PK	325	227
Optical or Elective PK	325	207
Emergency of Full Thickness	0	20
EK	216	73
DSEK, DSAEK, DLEK	216	73
DMEK or DMAEK	0	0
ALK	8	10
DALK (Deep Anterior Lamellar Keratoplasty)	7	9
SALK (Superficial Anterior Lamellar Keratoplasty)	0	0
Other ALK (e.g. peripheral, eccentric, etc.)	1	1
KLA	0	0
Keratoprosthesis (K-Pro)	1	3
Glaucoma shunt patch or other non-keratoplasty use	1	0
Other Keratoplasty (e.g. experimental surgery type)	0	0
Unknown or Unspecified	0	23
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for KERATOPLASTY	3,414	3,188
Total intermediate-term preserved corneas, corneal segments, and whole eyes used for TRANSPLANT	3,714	3,415

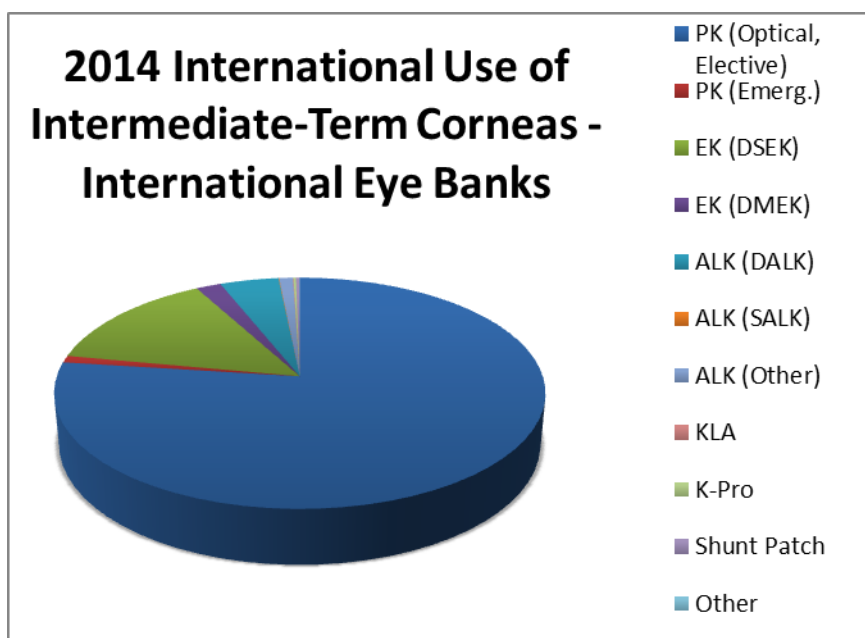
2014 International Eye Banking Statistics

International Surgery Use of Intermediate-Term Preserved Tissue

10 International Eye Banks Reporting

2014 Surgery Types Using Corneas Preserved in Intermediate-Term Media Internationally Distributed Tissue - International Eye Banks												
Month	PK (Optical, Elective)	PK (Emerg.)	EK (DSEK)	EK (DMEK)	ALK (DALK)	ALK (SALK)	ALK (Other)	KLA	K- Pro	Shunt Patch	Other	Unknown
Jan. 2014	59.1%	0.0%	36.4%	0.0%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Feb. 2014	42.9%	0.0%	52.4%	0.0%	2.4%	0.0%	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%
Mar 2014	66.1%	0.0%	33.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Apr. 2014	51.3%	0.0%	47.4%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
May 2014	60.4%	0.0%	39.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Jun. 2014	39.3%	0.0%	58.9%	0.0%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Jul. 2014	80.4%	0.0%	19.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Aug. 2014	59.3%	0.0%	40.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sep. 2014	43.8%	0.0%	43.8%	0.0%	6.3%	0.0%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Oct. 2014	44.1%	0.0%	47.1%	0.0%	5.9%	0.0%	0.0%	0.0%	2.9%	0.0%	0.0%	0.0%
Nov 2014	76.2%	0.0%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dec. 2014	75.4%	0.0%	24.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2012 Avg.	41.2%	0.0%	49.2%	6.1%	2.2%	0.0%	0.0%	0.0%	0.6%	0.3%	0.3%	0.0%
2013 Avg.	61.6%	1.0%	11.2%	0.3%	4.0%	0.2%	1.0%	0.1%	0.2%	0.1%	0.1%	3.5%
2014 Avg.	59.0%	0.7%	10.8%	1.5%	3.4%	0.0%	0.8%	0.0%	0.1%	0.2%	0.0%	3.0%
Std. Dev.	14.2%	0.0%	12.0%	0.0%	2.4%	0.0%	1.8%	0.0%	0.8%	0.7%	0.0%	0.0%

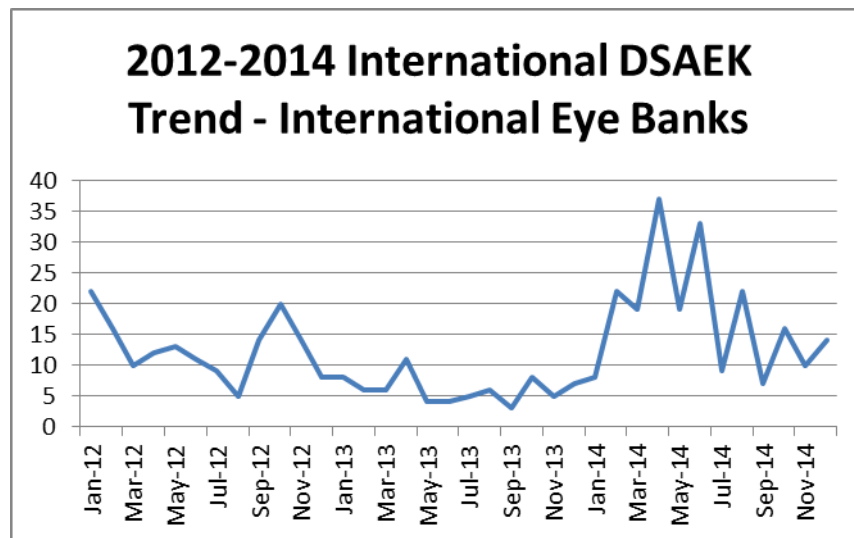
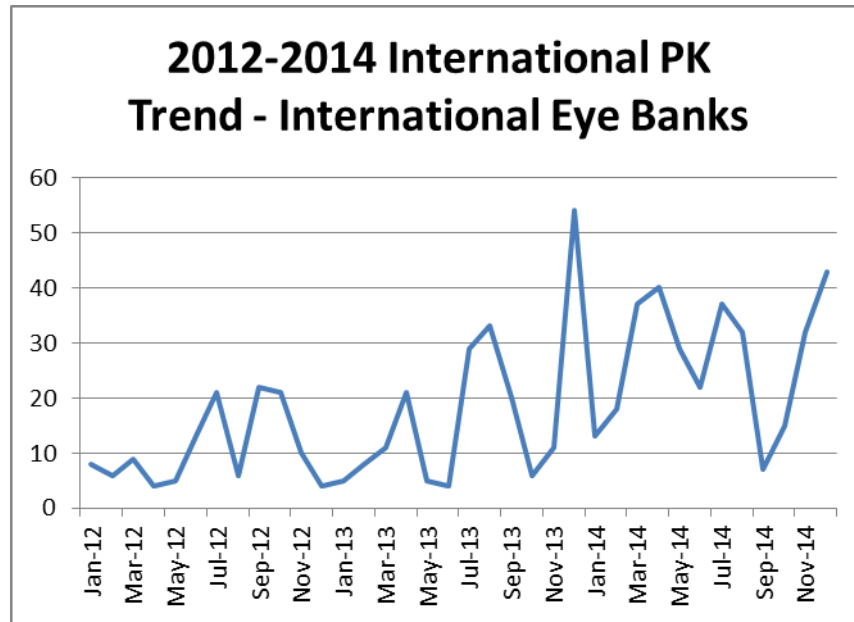
*Percentages read from this table should be read as "of the tissue distributed for transplant use internationally"



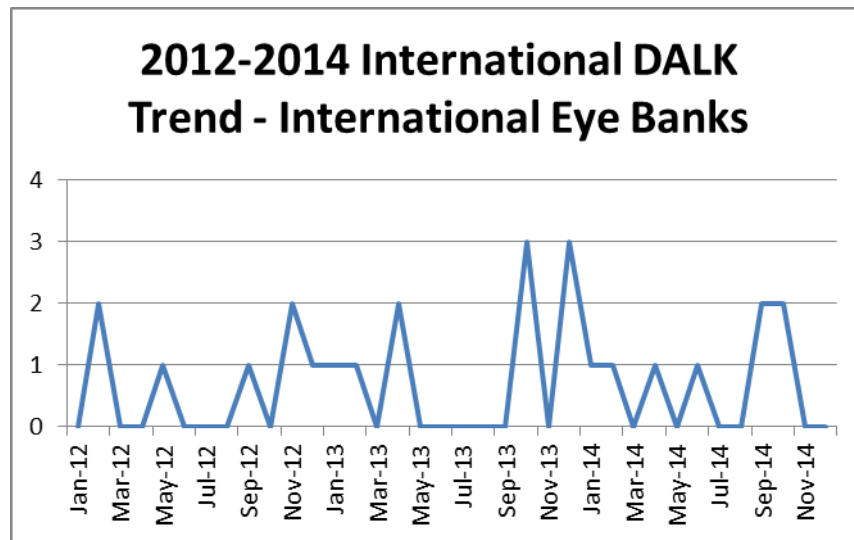
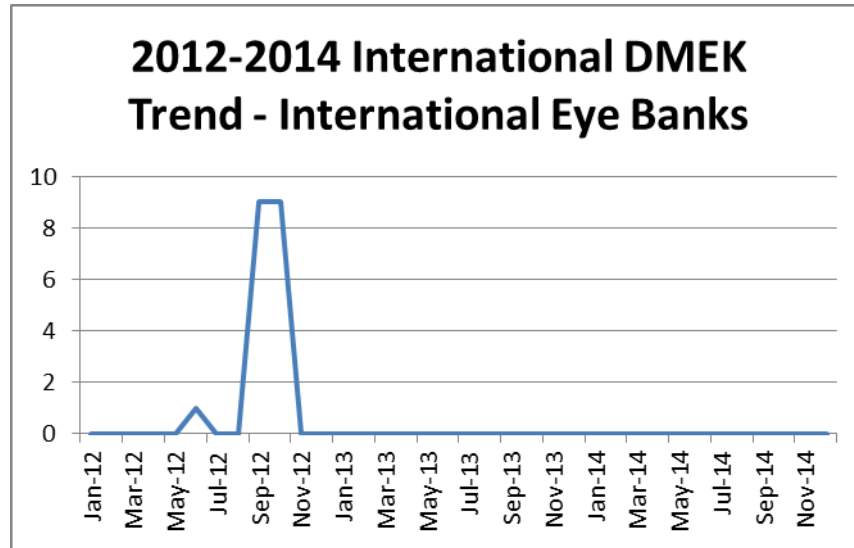
2014 International Eye Banking Statistics

Trends of International Use

10 International Eye Banks Reporting



2014 International Eye Banking Statistics
Trends of International Use
10 International Eye Banks Reporting



2014 International Eye Banking Statistics

Long-Term Tissue Distribution

10 International Eye Banks Reporting

Long-Term Preserved Tissue Preservation and Distribution		
	2014	2013
Long-term preserved corneas or whole globes PRESERVED for transplant	110	100
Long-term preserved corneas, corneal segments, or whole globes DISTRIBUTED for:	113	112
Keratoplasty	12	1
Glaucoma Shunt patching	101	110
Other Surgical Uses	0	1
Long-term preserved corneas, corneal segments, or whole globes FORWARDED to another entity for final distribution	9	5
Sclera or sclera segments PRESERVED for transplantation	1,261	1,325
Sclera or sclera segments DISTRIBUTED for:	1,010	943
Prosthesis following enucleation	40	28
Glaucoma shunt patching	679	597
Other surgical uses	291	318
Sclera or sclera segments FORWARDED to another entity for final distribution	11	9

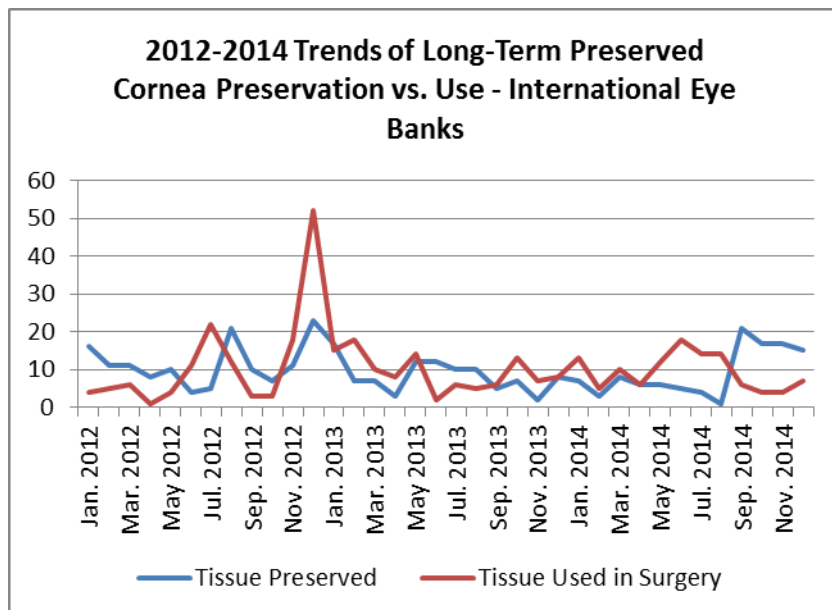
Tissue Processing for Transplant		
	2014	2013
Cornea Processing	664	451
Processed by microkeratome	576	390
Processed by laser	0	8
Processed by hand dissection	28	15
Processed by transfer into long-term preservation	60	36
Processed by other methods	0	2

2014 International Eye Banking Statistics

Long-Term Tissue Trends

10 International Eye Banks Reporting

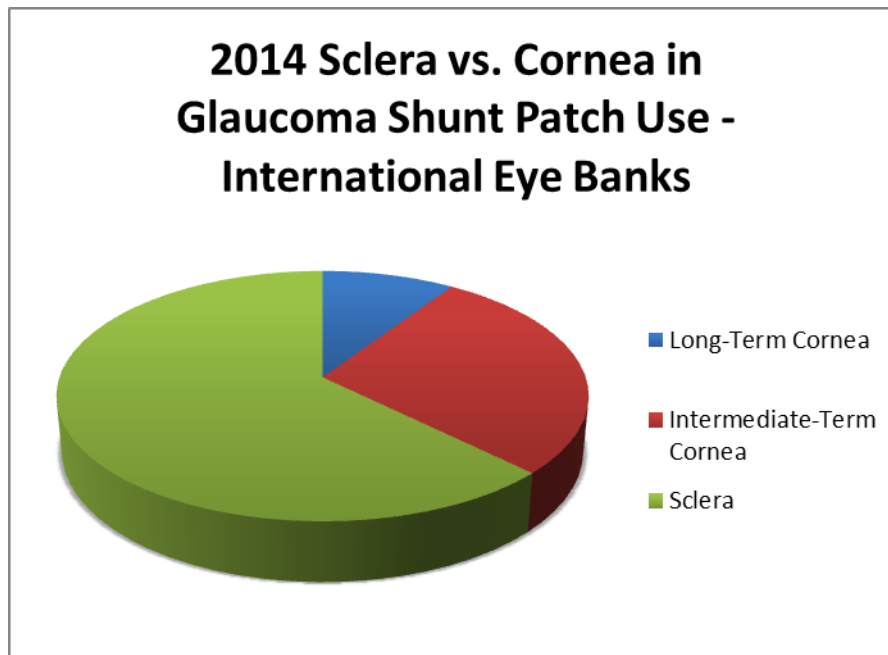
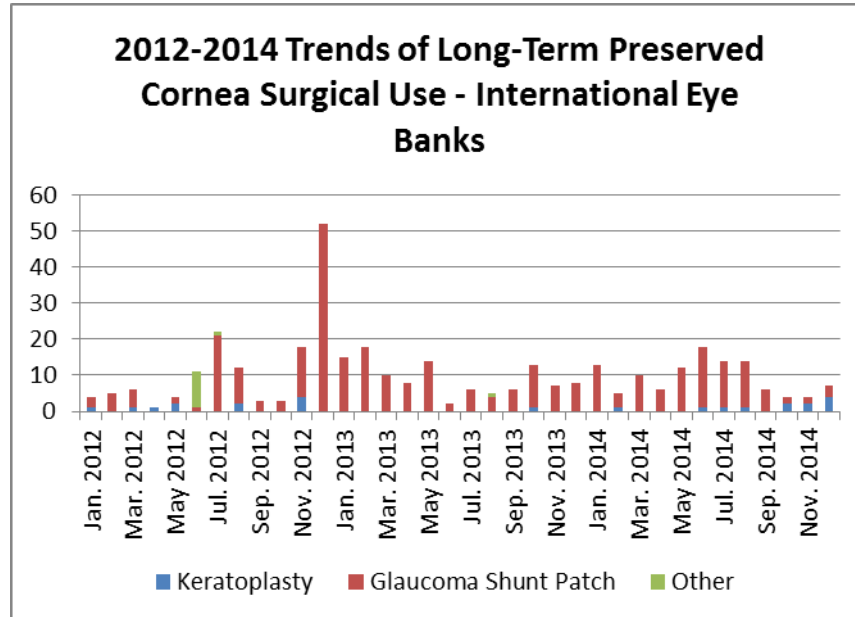
Month	Long-Term Preserved Corneas	Long-Term Cornea Use - Keratoplasty	Long-Term Cornea Use - Glaucoma	Long-Term Cornea Use - Other	Scleral Segments Preserved	Sclera Use - Prosthesis	Sclera Use - Glaucoma	Sclera Use - Other
Jan. 2014	7	0	13	0	100	7	57	30
Feb. 2014	3	1	4	0	108	5	51	24
Mar. 2014	8	0	10	0	96	7	48	38
Apr. 2014	6	0	6	0	96	1	53	30
May 2014	6	0	12	0	200	4	88	34
Jun. 2014	5	1	17	0	71	6	31	20
Jul. 2014	4	1	13	0	122	6	55	26
Aug. 2014	1	1	13	0	115	4	54	22
Sep. 2014	21	0	6	0	90	0	79	12
Oct. 2014	17	2	2	0	65	0	62	34
Nov. 2014	17	2	2	0	125	0	66	21
Dec. 2014	15	4	3	0	73	0	35	0
2012 Total	137	11	119	11	1,210	65	609	322
2013 Total	100	1	110	1	1,325	28	597	318
2014 Total	110	12	101	0	1,261	40	679	291
2014 Avg.	9	1	8	0	105	3	57	24
Std. Dev.	7	1	5	0	36	3	16	11



2014 International Eye Banking Statistics

Long-Term Tissue Trends

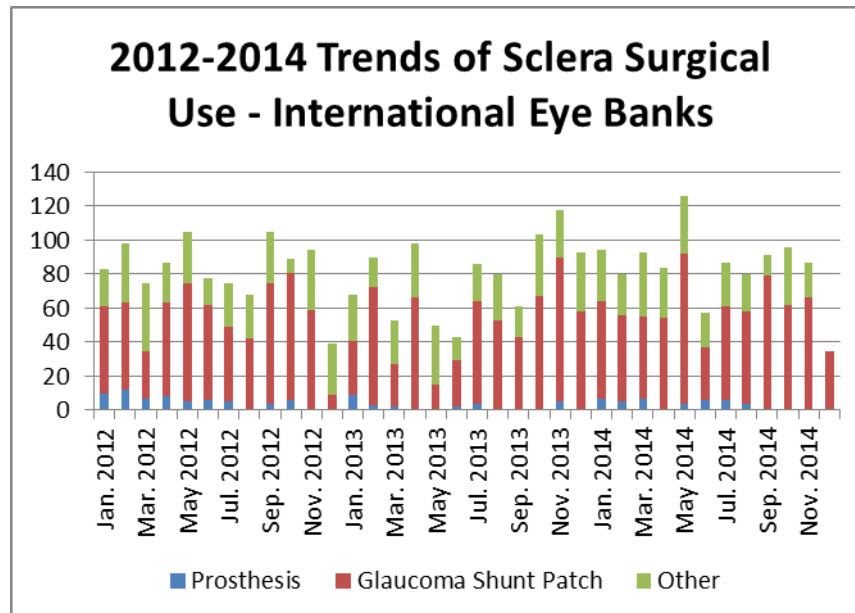
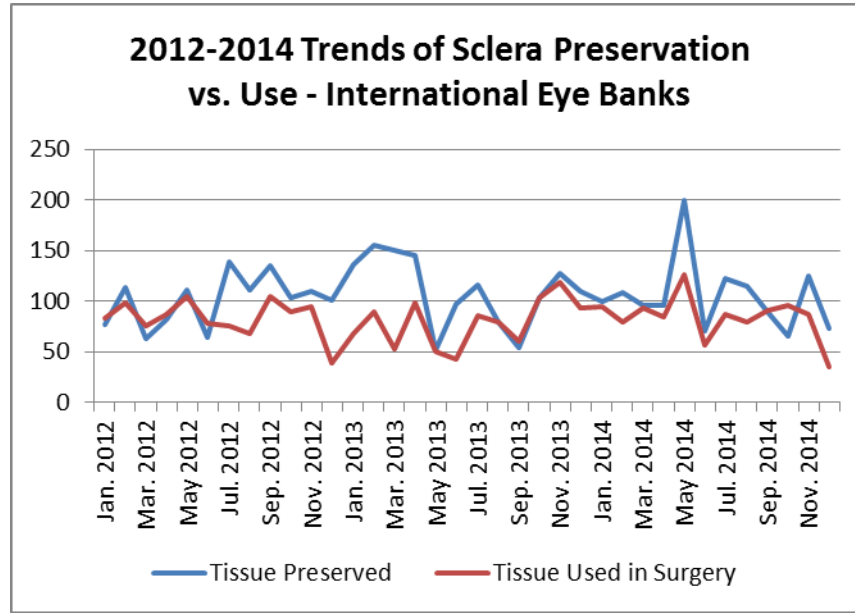
10 International Eye Banks Reporting



2014 International Eye Banking Statistics

Long-Term Tissue Trends

10 International Eye Banks Reporting



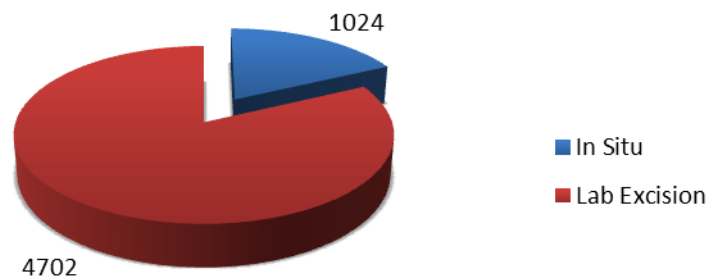
2014 International Eye Banking Statistics

Tissue Processing

10 International Eye Banks Reporting

International Eye Banks					
Month	Processing - Microkeratome	Processing - Laser	Processing - Manual	Processing - Long-Term Preservation	Processing - Other
Jan. 2014	53	0	0	4	0
Feb. 2014	51	0	0	5	0
Mar. 2014	45	0	0	3	0
Apr. 2014	56	0	0	3	0
May 2014	54	0	0	2	0
Jun. 2014	45	0	0	0	0
Jul. 2014	34	0	8	3	0
Aug. 2014	51	0	4	3	0
Sep. 2014	40	0	8	10	0
Oct. 2014	68	0	8	9	0
Nov. 2014	48	0	0	8	0
Dec. 2014	31	0	0	10	0
2012 Total	356	0	161	39	0
2013 Total	390	8	15	36	2
2014 Total	576	0	28	60	0
2014 Avg.	48	0	2	5	0
Std. Dev.	10	0	4	3	0

2014 Cornea Recovery Type - International Eye Banks

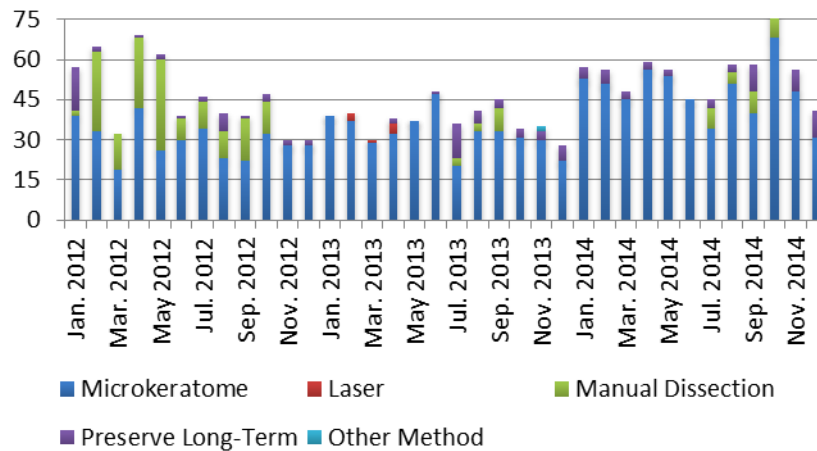


2014 International Eye Banking Statistics

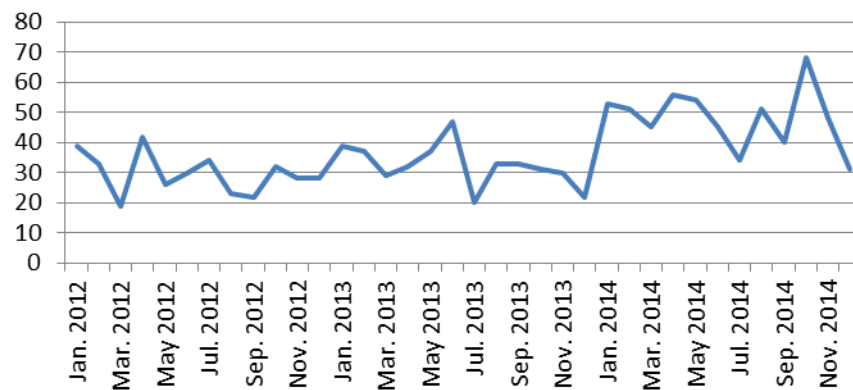
Tissue Processing

10 International Eye Banks Reporting

2012-2014 Cornea Processing Activity - International Eye Banks



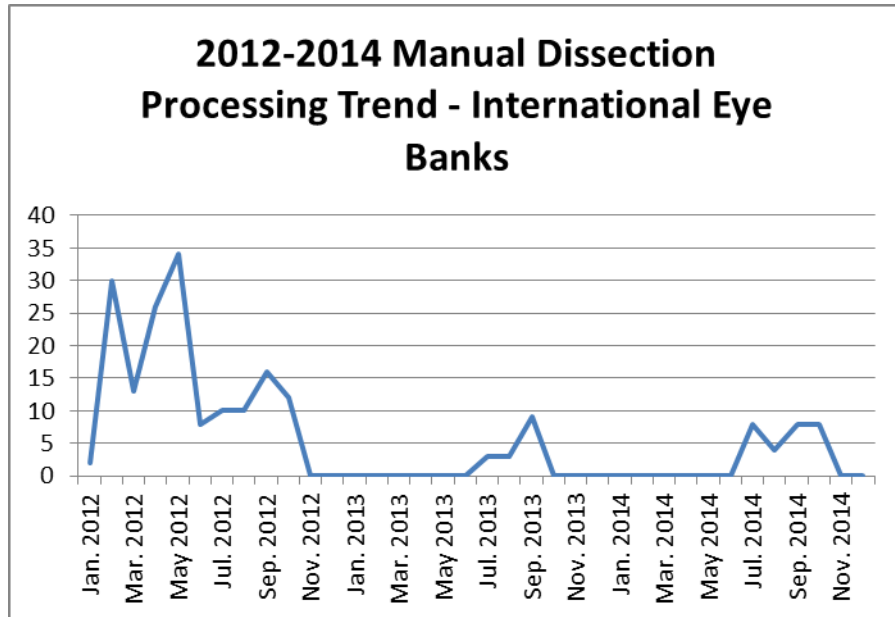
2012-2014 Microkeratome Processing Trend - International Eye Banks



2014 International Eye Banking Statistics

Tissue Processing

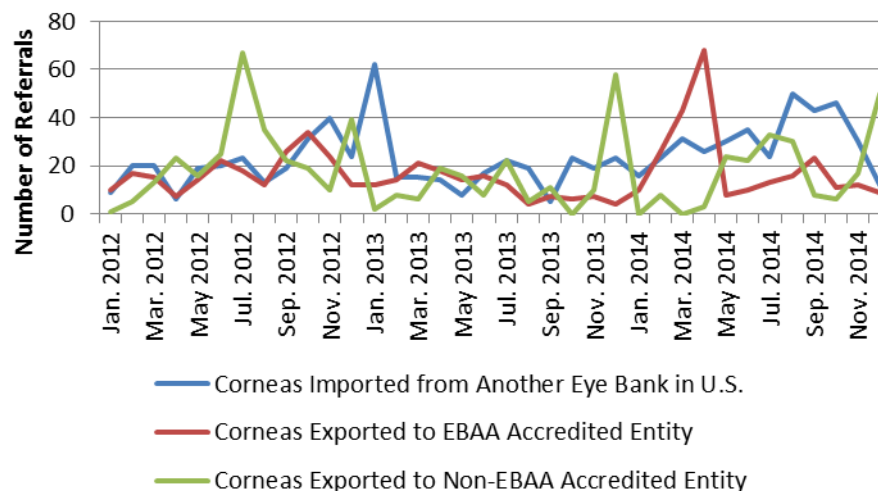
10 International Eye Banks Reporting



2014 International Eye Banking Statistics Forwarded Tissue 10 International Eye Banks Reporting

Month	Imported Tissue	Exported Tissue (to EBAA Accred.)	Exported Tissue (to non-EBAA Accred.)
Jan. 2014	16	10	0
Feb. 2014	23	26	8
Mar. 2014	31	43	0
Apr. 2014	26	68	3
May 2014	30	8	24
Jun. 2014	35	10	22
Jul. 2014	24	13	33
Aug. 2014	50	16	30
Sep. 2014	43	23	8
Oct. 2014	46	11	6
Nov. 2014	30	12	17
Dec. 2014	12	9	50
2012 Total	244	211	275
2013 Total	242	135	165
2014 Total	366	249	201
2014 Avg.	31	21	17
Std. Dev.	12	18	16

2012-2014 Importing and Exporting Trends - International Eye Banks



2014 International Eye Banking Statistics

Indications for Corneal Transplant

10 International Eye Banks Reporting

Indications for Penetrating Keratoplasty	2014		2013	
A. Post-cataract surgery edema	142	9.2%	167	12.3%
B. Keratoconus	309	20.1%	283	20.9%
C. Fuchs' Dystrophy	61	4.0%	47	3.5%
D. Repeat Corneal Transplant	344	22.4%	288	21.2%
E. Other degenerations or dystrophies	36	2.3%	47	3.5%
F. Post-refractive surgery	6	0.4%	3	0.2%
G. Microbial changes	139	9.0%	132	9.7%
H. Mechanical or chemical trauma	125	8.1%	81	6.0%
I. Congenital opacities	24	1.6%	15	1.1%
J. Pterygium	0	0.0%	0	0.0%
K. Non-infectious ulcerative keratitis or perforation	67	4.4%	47	3.5%
L. Other causes of corneal dysfunction or distortion (non-endothelial)	53	3.4%	48	3.5%
M. Other causes of endothelial dysfunction	72	4.7%	75	5.5%
Z. Unknown, unreported, or unspecified	161	10.5%	123	9.1%
Total Indications for Penetrating Keratoplasty	1,539		1,356	

Indications for Anterior Lamellar Keratoplasty	2014		2013	
B. Keratoconus	73	48.7%	88	55.0%
D. Repeat Corneal Transplant	10	6.7%	4	2.5%
E. Other degenerations or dystrophies	6	4.0%	10	6.3%
F. Post-refractive surgery	3	2.0%	0	0.0%
G. Microbial changes	16	10.7%	10	6.3%
H. Mechanical or chemical trauma	10	6.7%	10	6.3%
I. Congenital opacities	7	4.7%	5	3.1%
J. Pterygium	0	0.0%	0	0.0%
K. Non-infectious ulcerative keratitis or perforation	6	4.0%	5	3.1%
L. Other causes of corneal dysfunction or distortion	12	8.0%	10	6.3%
Z. Unknown, unreported, or unspecified	7	4.7%	18	11.3%
Total for Anterior Keratoplasty	150		160	

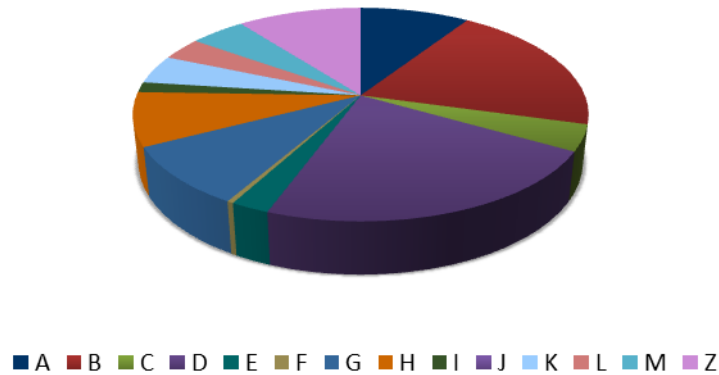
Indications for Endothelial Keratoplasty	2014		2013	
A. Post-Cataract Surgery Edema	509	30.5%	476	31.9%
C. Fuchs' Dystrophy	772	46.3%	683	45.8%
D. Repeat Corneal Transplant	214	12.8%	191	12.8%
M. Other Causes of Endothelial Dysfunction	81	4.9%	69	4.6%
Z. Unknown, unreported, or unspecified	93	5.6%	72	4.8%
Total for Endothelial Keratoplasty	1,669		1,491	

2014 International Eye Banking Statistics

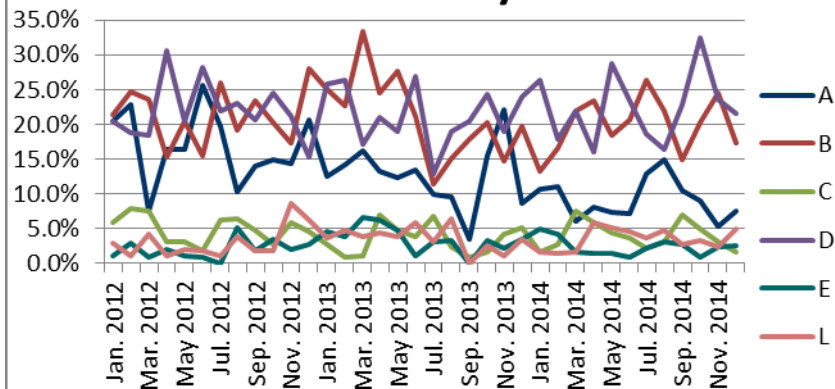
Indications for Corneal Transplant

10 International Eye Banks Reporting

2014 Indications for Penetrating Keratoplasty - International Eye Banks



2012-2014 Trends in Common PK Surgical Indications - International Eye Banks



2014 International Eye Banking Statistics

Indications for Corneal Transplant

10 International Eye Banks Reporting

2014 Indications for Keratoplasty – PK International Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014	10.7%	13.2%	1.7%	26.4%	5.0%	0.0%	11.6%	8.3%	1.7%	0.0%	6.6%	1.7%	3.3%	9.9%
Feb. 2014	11.0%	16.6%	2.8%	17.9%	4.1%	0.0%	11.0%	14.5%	2.1%	0.0%	3.4%	1.4%	6.2%	9.0%
Mar. 2014	6.1%	22.0%	7.6%	22.0%	1.5%	0.8%	12.9%	6.8%	2.3%	0.0%	3.8%	1.5%	2.3%	10.6%
Apr. 2014	8.0%	23.4%	5.8%	16.1%	1.5%	0.7%	5.8%	3.6%	4.4%	0.0%	7.3%	5.8%	7.3%	10.2%
May 2014	7.4%	18.4%	4.4%	28.7%	1.5%	0.7%	16.9%	9.6%	0.7%	0.0%	2.9%	5.1%	2.9%	0.7%
Jun. 2014	7.2%	20.7%	3.6%	23.4%	0.9%	0.0%	7.2%	10.8%	0.9%	0.0%	3.6%	4.5%	7.2%	9.9%
Jul. 2014	12.9%	26.4%	2.1%	18.6%	2.1%	0.7%	7.9%	9.3%	0.7%	0.0%	4.3%	3.6%	4.3%	7.1%
Aug. 2014	14.8%	21.9%	3.1%	16.4%	3.1%	0.0%	7.8%	9.4%	0.8%	0.0%	3.9%	4.7%	3.1%	10.9%
Sep. 2014	10.5%	14.9%	7.0%	22.8%	2.6%	0.0%	10.5%	6.1%	1.8%	0.0%	3.5%	2.6%	3.5%	14.0%
Oct. 2014	8.9%	20.3%	4.9%	32.5%	0.8%	1.6%	6.5%	6.5%	0.8%	0.0%	4.9%	3.3%	8.1%	0.8%
Nov. 2014	5.3%	24.4%	3.1%	23.7%	2.3%	0.0%	3.1%	6.9%	1.5%	0.0%	5.3%	2.3%	3.1%	19.1%
Dec. 2014	7.4%	17.4%	1.7%	21.5%	2.5%	0.0%	6.6%	5.0%	0.8%	0.0%	2.5%	5.0%	5.0%	24.8%
2012 Avg.	10.0%	18.1%	3.8%	12.1%	4.7%	0.2%	2.5%	3.5%	1.8%	0.0%	3.3%	10.3%	3.1%	26.6%
2013 Avg.	12.3%	20.9%	3.5%	21.2%	3.5%	0.2%	9.7%	6.0%	1.1%	0.0%	3.5%	3.5%	5.5%	9.1%
2014 Avg.	9.2%	20.1%	4.0%	22.4%	2.3%	0.4%	9.0%	8.1%	1.6%	0.0%	4.4%	3.4%	4.7%	10.5%
Std. Dev.	2.9%	4.0%	2.0%	5.0%	1.3%	0.5%	3.7%	2.9%	1.1%	0.0%	1.5%	1.6%	2.0%	6.7%

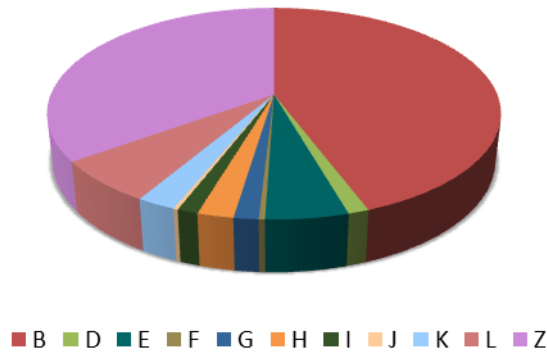
*Percentages read from this table should be read as "of the tissue used for PK"

2014 International Eye Banking Statistics

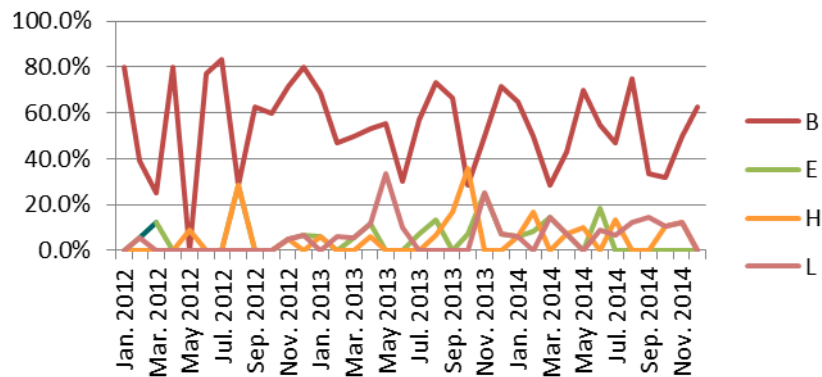
Indications for Corneal Transplant

10 International Eye Banks Reporting

2014 Indications for Anterior Lamellar Keratoplasty - International Eye Banks



2012-2014 Trends in Common ALK Surgical Indications - International Eye Banks



2014 International Eye Banking Statistics

Indications for Corneal Transplant

10 International Eye Banks Reporting

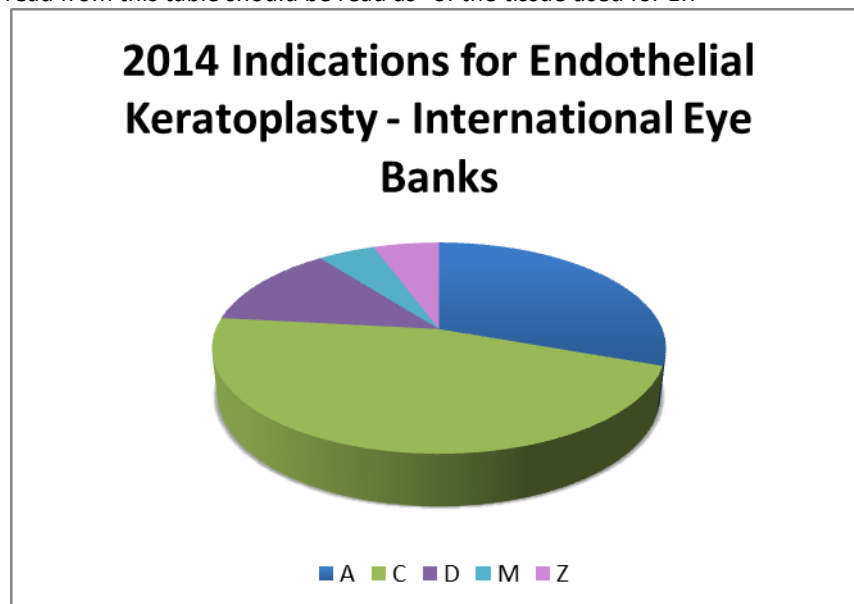
2014 Indications for Keratoplasty – ALK International Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014		64.7%		0.0%	5.9%	0.0%	11.8%	5.9%	0.0%	0.0%	5.9%	5.9%		0.0%
Feb. 2014		50.0%		16.7%	8.3%	0.0%	8.3%	16.7%	0.0%	0.0%	0.0%	0.0%		0.0%
Mar 2014		28.6%		0.0%	14.3%	0.0%	14.3%	0.0%	0.0%	0.0%	28.6%	14.3%		0.0%
Apr. 2014		42.9%		0.0%	7.1%	7.1%	28.6%	7.1%	0.0%	0.0%	0.0%	7.1%		0.0%
May 2014		70.0%		0.0%	0.0%	0.0%	0.0%	10.0%	10.0%	0.0%	10.0%	0.0%		0.0%
Jun. 2014		54.5%		0.0%	18.2%	0.0%	0.0%	0.0%	9.1%	0.0%	9.1%	9.1%		0.0%
Jul. 2014		46.7%		6.7%	0.0%	0.0%	13.3%	13.3%	6.7%	0.0%	0.0%	6.7%		6.7%
Aug. 2014		75.0%		12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%		0.0%
Sep. 2014		33.3%		0.0%	0.0%	0.0%	23.8%	0.0%	9.5%	0.0%	0.0%	14.3%		19.0%
Oct. 2014		31.6%		31.6%	0.0%	0.0%	0.0%	10.5%	0.0%	0.0%	5.3%	10.5%		10.5%
Nov. 2014		50.0%		0.0%	0.0%	12.5%	0.0%	12.5%	12.5%	0.0%	0.0%	12.5%		0.0%
Dec. 2014		62.5%		0.0%	0.0%	12.5%	12.5%	0.0%	12.5%	0.0%	0.0%	0.0%		0.0%
2012 Avg.		56.6%		3.3%	4.9%	0.0%	4.9%	3.3%	4.1%	0.0%	1.6%	2.5%		18.9%
2013 Avg.		55.0%		1.9%	4.4%	0.6%	2.5%	3.5%	1.8%	0.2%	2.8%	6.9%		41.4%
2014 Avg.		48.7%		1.4%	5.5%	0.4%	1.6%	2.4%	1.4%	0.3%	2.6%	7.2%		38.5%
Std. Dev.		15.2%		10.0%	6.4%	5.0%	9.9%	6.2%	5.5%	0.0%	8.4%	5.4%		6.1%

*Percentages read from this table should be read as "of the tissue used for ALK"

2014 International Eye Banking Statistics Indications for Corneal Transplant 10 International Eye Banks Reporting

2014 Indications for Keratoplasty – EK International Eye Banks														
Month	A	B	C	D	E	F	G	H	I	J	K	L	M	Z
Jan. 2014	27.3%		47.7%	15.2%									1.5%	8.3%
Feb. 2014	36.7%		40.0%	18.7%									3.3%	1.3%
Mar. 2014	34.3%		49.0%	12.6%									2.1%	2.1%
Apr. 2014	23.8%		53.6%	8.6%									8.6%	5.3%
May 2014	32.6%		42.5%	8.3%									1.7%	14.9%
Jun. 2014	34.7%		47.6%	10.2%									4.8%	2.7%
Jul. 2014	27.6%		50.0%	15.3%									5.1%	2.0%
Aug. 2014	31.1%		46.2%	13.6%									6.8%	2.3%
Sep. 2014	22.0%		52.8%	14.2%									8.7%	2.4%
Oct. 2014	31.0%		46.4%	13.7%									4.8%	4.2%
Nov. 2014	32.2%		32.9%	15.4%									5.6%	14.0%
Dec. 2014	29.9%		50.5%	9.3%									7.2%	3.1%
2012 Avg.	29.2%		46.8%	12.7%									3.9%	7.4%
2013 Avg.	31.9%		45.8%	12.8%									4.6%	4.8%
2014 Avg.	30.5%		46.3%	12.8%									4.9%	5.6%
Std. Dev.	4.4%		5.8%	3.2%									2.5%	4.7%

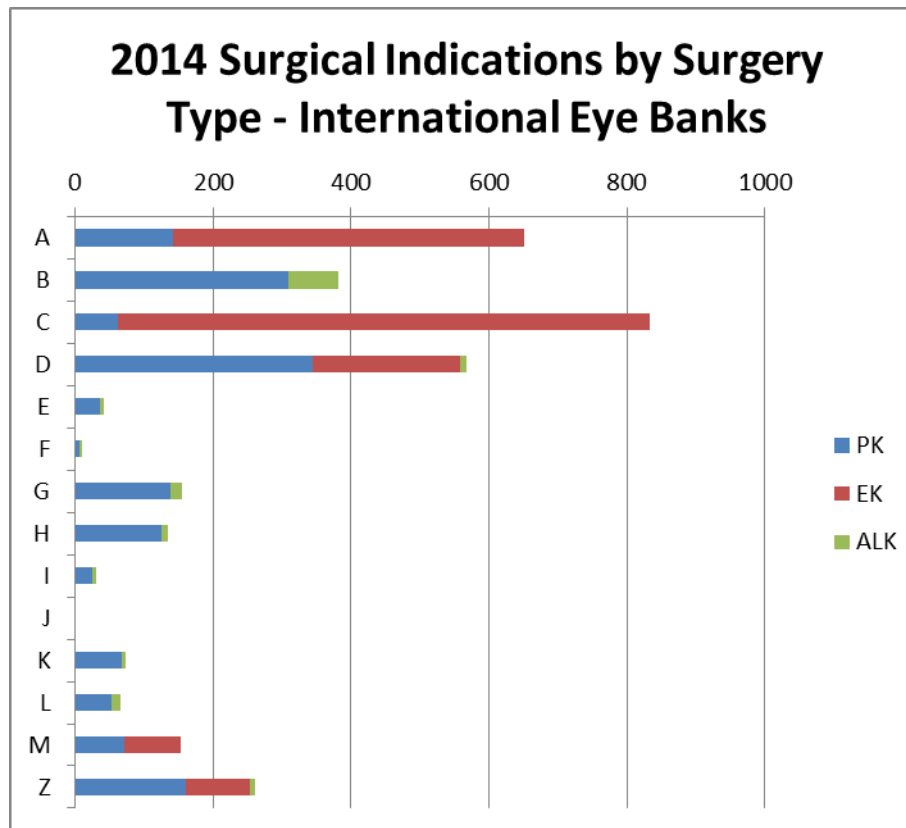
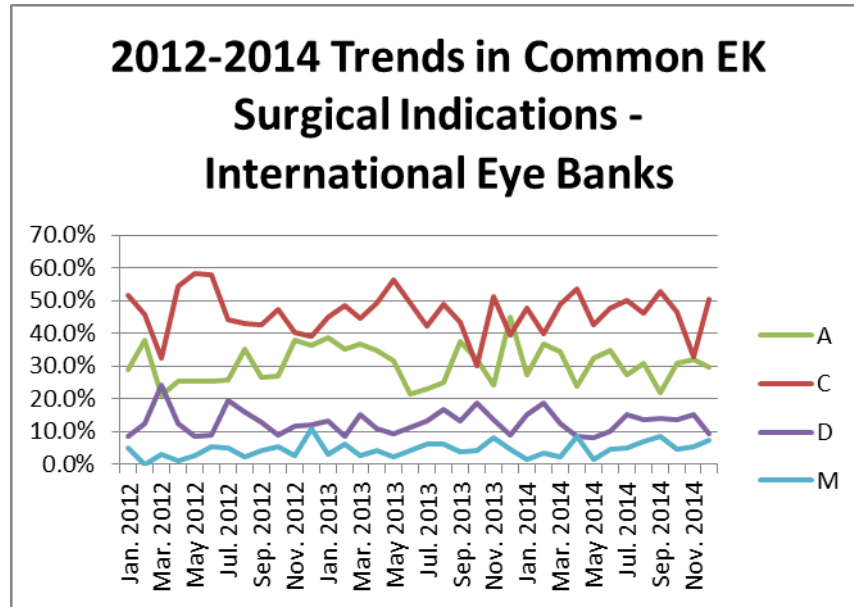
*Percentages read from this table should be read as "of the tissue used for EK"



2014 International Eye Banking Statistics

Indications for Corneal Transplant

10 International Eye Banks Reporting



Eye Banks Submitting Data for the 2014 Eye Banking Statistical Report

STATE	EYE BANK NAME	CITY
AL	Alabama Eye Bank	Birmingham
AR	Arkansas Lions Eye Bank & Laboratory	Little Rock
AZ	Donor Network of Arizona	Phoenix
CA	California Transplant Services	Carlsbad
	One Legacy	Los Angeles
	San Diego Eye Bank	San Diego
	Sierra Donor Services	Sacramento
	TBI Los Angeles / Doheny Eye Institute	Los Angeles
	TBI San Francisco	Richmond
CO	Rocky Mountain Lions Eye Bank	Aurora
CT	Connecticut Eye Bank & Visual Research Foundation, Inc.	New Britain
FL	Florida Lions Eye Bank	Miami
	International Sight Restoration	Tampa
	Lions Eye Institute for Transplantation and Research	Tampa
	TBI Orlando / Medical Eye Bank of Florida	Orlando
GA	Georgia Eye Bank	Atlanta
HI	Hawaii Lions Eye Bank & Makana Foundation	Honolulu
IA	Iowa Lions Eye Bank	Coralville
ID	Idaho Lions Eye Bank	Boise
IN	Indiana Lions Eye & Tissue Transplant Bank	Indianapolis
KS	Kansas Eye Bank & Cornea Research Center	Wichita
KY	Lions Eye Bank of Lexington	Lexington
	University of Louisville Lions Eye Bank	Louisville
LA	Baton Rouge Regional Eye Bank	Baton Rouge
	Louisiana Lions Eye Bank	Shreveport
	Southern Eye Bank	Metairie
MA	TBI Boston	Boston
MD	TBI Baltimore/DC, Medical Eye Bank of Maryland	Baltimore
MI	Eversight	Ann Arbor
MN	Minnesota Lions Eye Bank	Minneapolis
MO	Mid-America Transplant Services	St. Louis
	Saving Sight	Columbia
MS	Mississippi Lions Eye Bank	Flowood
NC	Lifeshare of the Carolinas	Charlotte
	Miracles in Sight.	Winston-Salem
ND	Lions Eye Bank of North Dakota	Bismarck
NE	Lions Eye Bank of Nebraska, Inc.	Omaha
NM	New Mexico Lions Eye Bank	Albuquerque
NV	Nevada Donor Network, Inc.	Las Vegas

STATE	EYE BANK NAME	CITY
NY	Central New York Eye Bank	Syracuse
	Rochester Eye & Human Parts Bank	Rochester
	Sight Society of Northeastern NY (Lions Eye Bank at Albany)	Albany
	The Lions Eye Bank for Long Island	Valley Stream
	The Eye-Bank for Sight Restoration	New York
	Upstate New York Transplant Services, Inc.	Buffalo
OH	Central Ohio Lions Eye Bank, Inc.	Columbus
	Cincinnati Eye Bank for Sight Restoration, Inc.	Cincinnati
	Lions Eye Bank of West Central Ohio	Dayton
OK	Oklahoma Lions Eye Bank	Oklahoma City
OR	Lions VisionGift	Portland
PA	Center for Organ Recovery & Education (CORE)	Pittsburgh
	Gift of Life Donor Program Eye Bank	Hershey
	Lions Eye Bank of Delaware Valley	Philadelphia
	Lions Eye Bank of Northwest Pennsylvania, Inc.	Erie
	Northeast Pennsylvania Lions Eye Bank	Bethlehem
PR	Lions Eye Bank of Puerto Rico	San Juan
SC	LifePoint, Inc.	Charleston
SD	South Dakota Lions Eye Bank	Sioux Falls
TN	East Tennessee Lions Eye Bank, Inc.	Knoxville
	Mid-South Eye Bank for Sight Restoration, Inc.	Memphis
	Tennessee District 12-0 Lions Eye Bank	Chattanooga
	Tennessee Donor Services	Nashville
	The National Eye Bank Center	Memphis
TX	Fort Worth Eye Bank	Fort Worth
	Great Plains Lions Eye Bank, Inc.	Lubbock
	Lions Eye Bank of Texas at Baylor College of Medicine	Houston
	Lone Star Lions Eye Bank	Manor
	San Antonio Eye Bank	San Antonio
	Transplant Services Center, UT Southwestern Medical Center	Dallas
	Western Texas Lions Eye Bank Alliance	San Angelo
UT	Utah Lions Eye Bank	Salt Lake City
VA	Lions Medical Eye Bank & Research Center of Eastern VA, Inc.	Norfolk
	Old Dominion Eye Foundation, Inc.	Richmond
WA	SightLife	Seattle
WI	Lions Eye Bank of Wisconsin	Madison
WV	Medical Eye Bank of West Virginia	Charleston

International Eye Banks Submitting Data for the 2014 Eye Banking Statistical Report

COUNTRY	EYE BANK NAME	CITY
Canada	Lions Eye Bank	Calgary, AB
	Eye Bank of British Columbia	Vancouver, BC
	Misericordia Eye Bank	Winnipeg, MB
	New Brunswick Organ and Tissue Donor Program- Ocular Division	Saint John, NB
	Regional Tissue Bank	Halifax, NS
	Eye Bank of Canada, Ontario Division	Toronto, ON
	Eye Bank of Saskatchewan	Saskatoon, SK
Japan	Cornea Center & Eye Bank	Ichikawa City
Hong Kong	Hospital Authority Lions Eye Bank	Kowloon
China	Daqing Eye Bank	Daqing