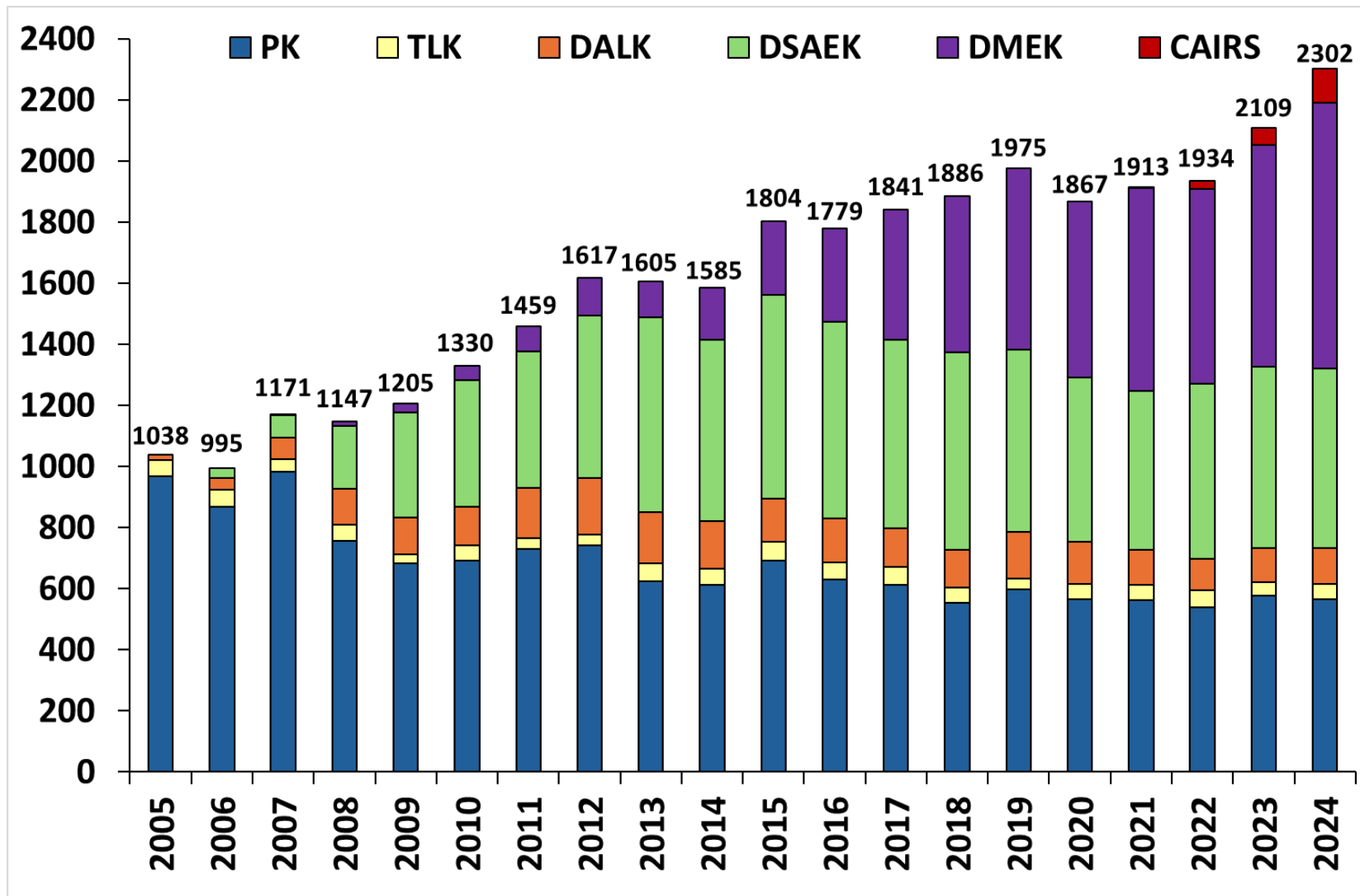


The Australian Corneal Graft Registry 2025

Dr Miriam C Keane PhD

**The ACGR is funded by the Commonwealth Government of Australia via the
Organ and Tissue Authority (DonateLife)**

Registered Grafts 2005 to 2024



*Excludes limbal grafts. Registrations for grafts performed in 2024 are still being received and entered into the database

The ACGR Database - Feb 2025

	Registered	Followed	Failed	EGF*	PNF*
Total	48,094	79%	25%	7%	2%
1985 onwards					
PK	28,958 (60%)	84%	27%	6%	<1%
Patch/TLK	1,838 (4%)	76%	22%	12%	1%
Limbak	88 (<1%)	80%	42%	18%	1%
Introduced					
2000					
DALK	2,414 (5%)	64%	9%	3%	1%
2006					
DS(A)EK	8,989 (19%)	78%	25%	9%	5%
2007					
DMEK	5,681 (12%)	68%	17%	12%	8%
2021					
CAIRS	126 (<1%)	24%	2%	2%	0%

July to December 2024 still to be entered

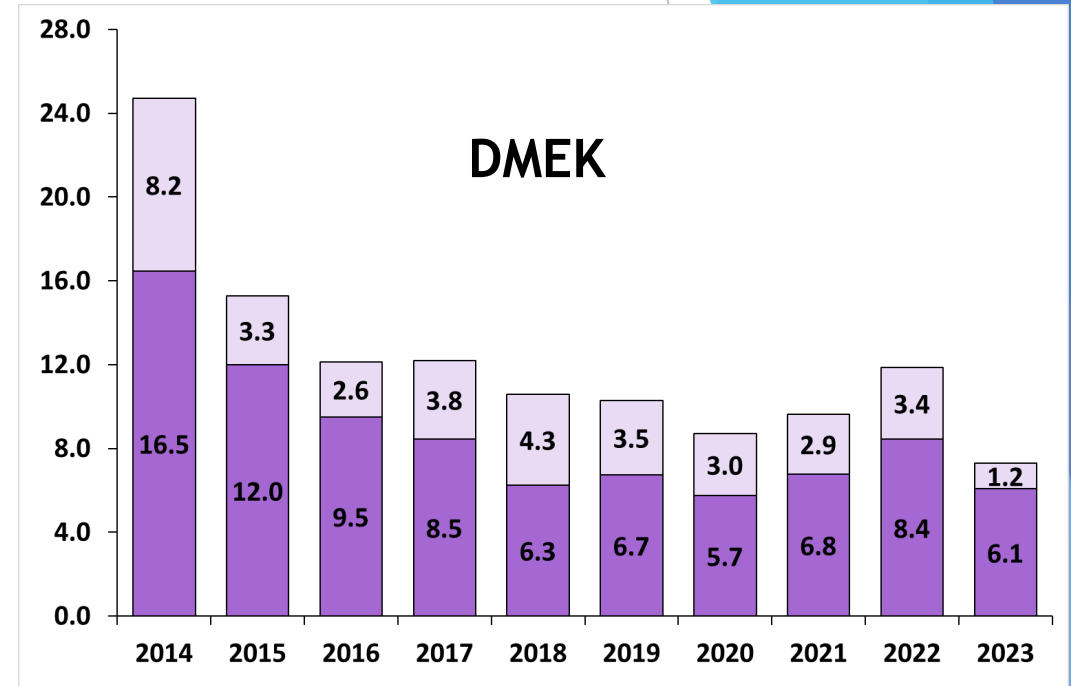
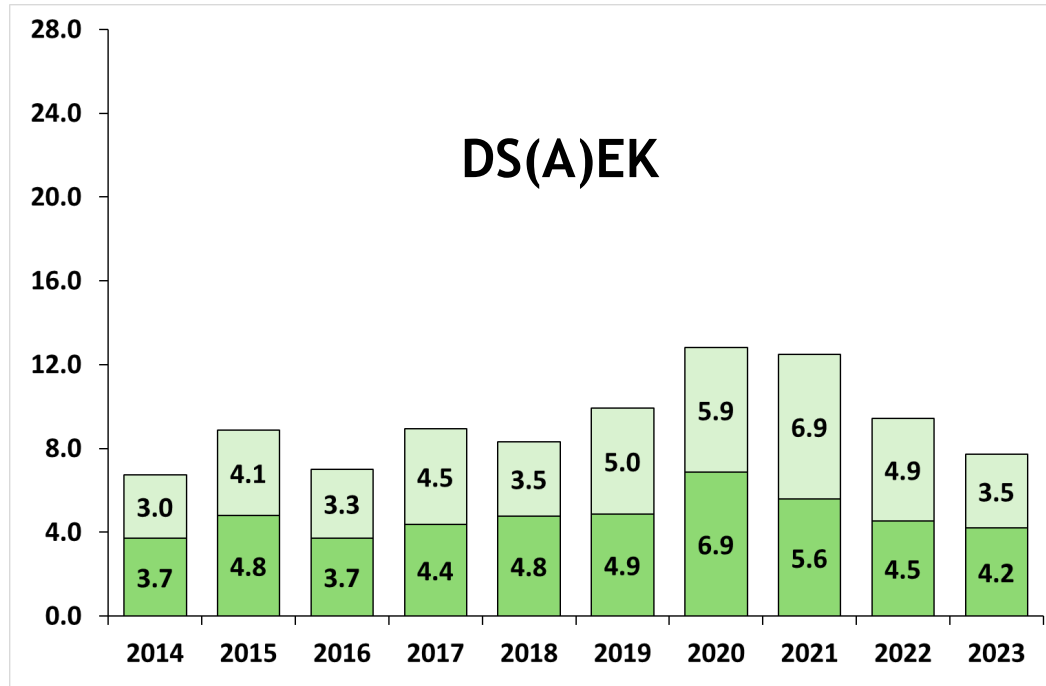
EGF = Early graft failure, failed within 12 months of graft

PNF = Primary non-functioning graft, surgeon specified that graft never cleared/attached

*Both likely to be underreported for grafts from 2023 and 2024

Failure Rates 2014 to 2023

PERCENTAGE OF GRAFTS



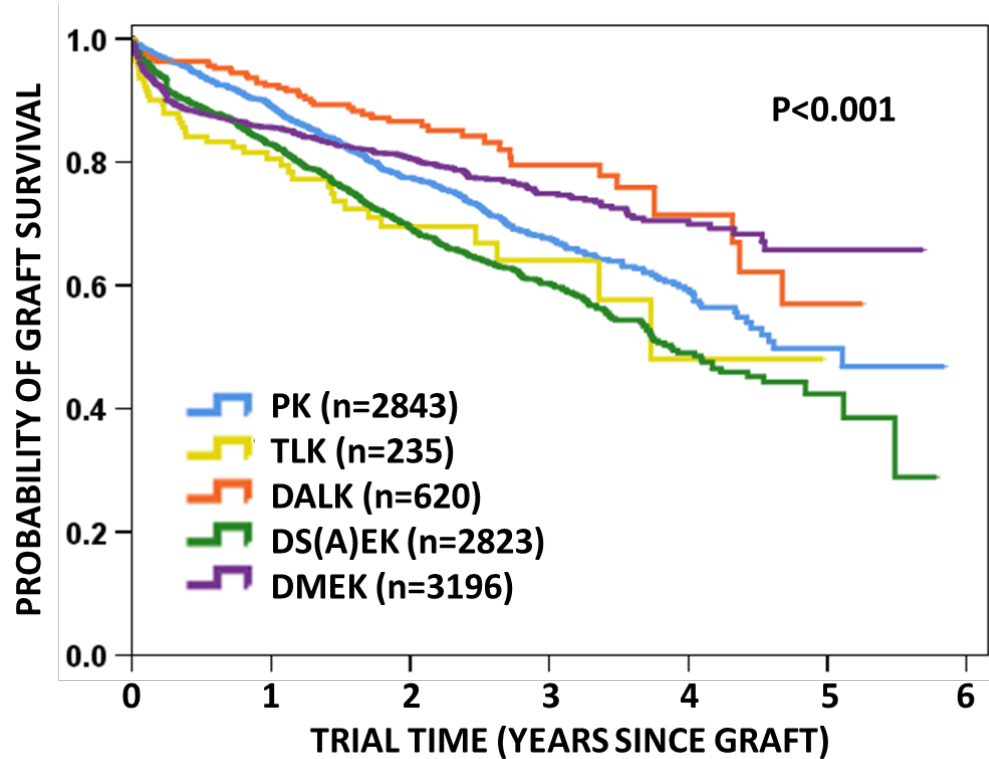
YEAR GRAFT PERFORMED

Darker portion = Primary Non-Functioning Grafts

Lighter portion = Early Graft Failure (1 year)

Survival of Recent Registered Grafts

2019 to 2023



	PK	DALK	DS(A)EK	DMEK
Failed previous	50%	5%	28%	21%
Fuchs' dystrophy	2%	0%	39%	64%
BK/endo failure	4%	0%	29%	13%
Keratoconus	24%	72%	0%	0%

	1m	3m	6m	1	2	3	4	5
PK	1763	1707	1588	1362	734	335	131	24
TLK	132	121	105	76	40	16	2	NA
DALK	280	269	261	226	130	53	25	5
DS(A)EK	1742	1615	1451	1160	628	317	104	14
DMEK	2055	1882	1689	1342	738	333	124	21

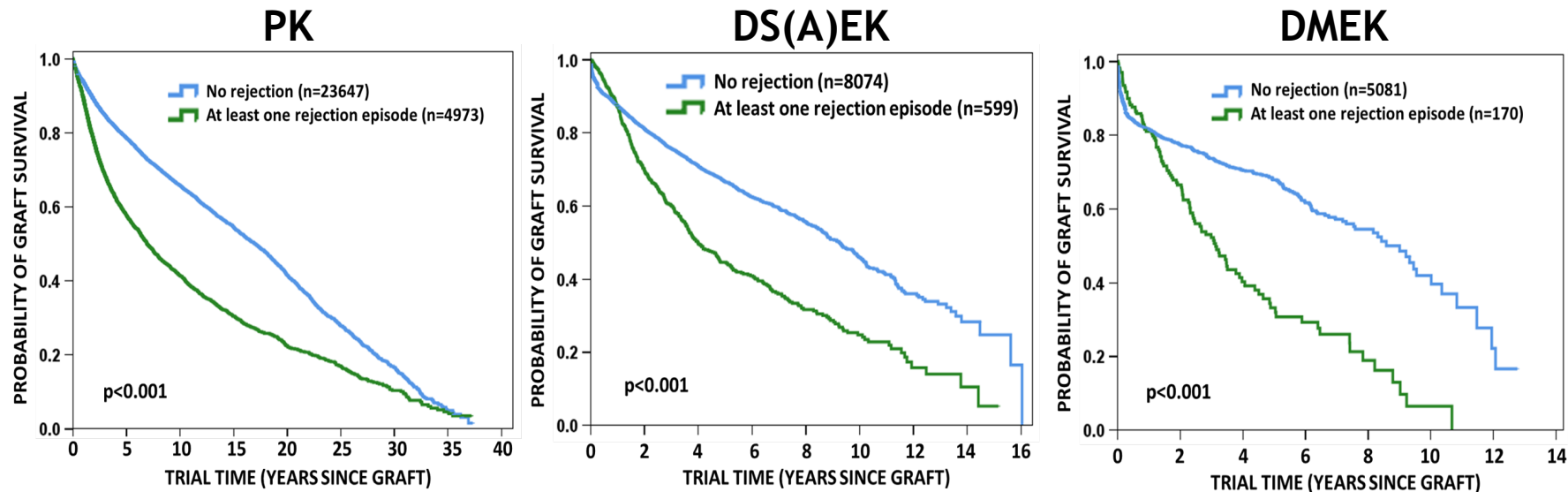
ACGR 2025 Major Report - Results

- ▶ **PK analyses still ongoing**
- ▶ **Significant variables that you can't change**
 - ▶ Indication for graft
 - ▶ Graft era
 - ▶ History of raised IOP
 - ▶ Corneal neovascularisation at graft
- ▶ **Significant variables amenable to change**
 - ▶ Graft (and incision) size - 8.5mm
 - ▶ Donor age
 - ▶ Under 50 for DMEK have poorer outcomes
 - ▶ Under 60 for DS(A)EK have better outcomes
 - ▶ Endothelial cell count 3100+ superior for DS(A)EK
 - ▶ Interstate transportation poorer for DS(A)EK

ACGR 2025 Major Report - Rejection

- ▶ PK: 17%, DS(A)EK: 7%, and DMEK: 3%

PK	DS(A)EK	DMEK
Rejection 25%	Endothelial failure 41%	Primary graft failure 47%
Endothelial failure 23%	Primary graft failure 21%	Endothelial failure 28%
Infection 8%	Rejection 13%	Rejection 8%



- ▶ High rates of PGF and EGF mask rejection rates
- ▶ Retained in DS(A)EK model, hazard ratio 1.58

Acknowledgments

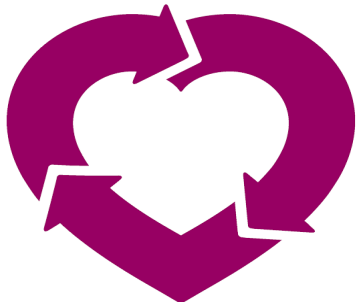
- ▶ **Contributing surgeons and eye banks**
- ▶ **The Australian Government Organ and Tissue Authority**
- ▶ **Assistance with updating the records held within the database is provided by the Australian Institute of Health and Welfare through linkage with the National Death Index.**



Australian Corneal Graft Registry - Phone: 08 8432 4600; Email: miriam.keane@flinders.edu.au
<https://www.flinders.edu.au/fhmri/research/fhmri-eye-vision/corneal-graft-registry>

2021/22 report: <https://doi.org/10.25957/9vyp-0j93>

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