

Supplementary Online Content

Campbell RJ, El-Defrawy SR, Gill SS, et al. Association of cataract surgical outcomes with late surgeon career stages: a population-based cohort study. *JAMA Ophthalmol*. Published online October 11, 2018. doi:10.1001/jamaophthalmol.2018.4886

eAppendix. Detail of the study outcome coding

eTable 1. Effect of late surgeon career stage and covariates on posterior capsule rupture risk

eTable 2. Effect of late surgeon career stage and covariates on dropped lens fragment risk

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAPPENDIX. Details of Study Outcome Coding

(Ontario Hospital Insurance Plan database)

STUDY OUTCOME	CODING
Posterior capsule rupture	fee_schedule_code= 'E940A' service_date=reg_dt
Dropped lens fragments	fee_schedule_code = ('E142A' or 'E148A') 1<=service_date-reg_dt <=14
	AND
	fee_schedule_code ='E141A' service_date = service_date of E142A or E148A
Retinal detachment	fee_schedule_code = ('E152A', 'E142A', or 'E148A') 1<=service_date-reg_dt <=14
	AND
	fee_schedule_code='E936A' service_date = service_date of E152A, E142A or E148A
Suspected endophthalmitis	fee_schedule_code= ('E142A' or 'E148A') 1<=service_date-reg_dt <=14 - excluding cases where (fee_schedule_code='E936A' and service_date = service_date of E142A or E148A) - excluding cases where (fee_schedule_code='E141A' and service_date= service date of E142A or E148A
	OR
	fee_schedule_code='E149A' 1<=service_date-reg_dt<=14 - excluding cases where (fee_schedule_code='E936A' and service_date=service_date of E149A) - excluding cases where (fee_schedule_code='E151A' and service_date is between 1 and 14 days of service_date of E149A)

eTable 1. Effect of late surgeon career stage and covariates on posterior capsule rupture risk^{a,b}

	Odds Ratio	95% Confidence Interval	p-Value
Surgeon Level Effects			
Late career ^c	0.89	0.65 to 1.21	0.447
Early career ^c	1.11	0.87 to 1.40	0.399
Surgical volume (25-250 cases/year) ^d	2.65	1.66 to 4.22	<0.001
Surgical volume (251-500 cases/year) ^d	1.87	1.22 to 2.86	0.004
Surgical volume (501-1000 cases/year) ^d	1.20	0.81 to 1.76	0.364
Patient Level Effects			
Female gender	0.94	0.85 to 1.04	0.224
Age (71-75) ^e	1.13	0.98 to 1.31	0.084
Age (76-80) ^e	1.09	0.94 to 1.27	0.262
Age (≥81) ^e	1.61	1.41 to 1.84	<0.001
Number of unique medications used ^f	1.02	1.01 to 1.02	<0.001
Glaucoma medication use ^g	1.38	1.20 to 1.58	<0.001
Tamsulosin use ^f	1.29	1.07 to 1.56	0.008
Diabetes	1.01	0.91 to 1.12	0.877
Non-academic surgical center ^h	0.81	0.63 to 1.05	0.111

^a Overall cataract surgery complications represent a composite of the four individual cataract surgical complications (posterior capsule rupture, dropped lens fragments, retinal detachment, and suspected endophthalmitis).

^b Adjusted for calendar year to control for secular trends

^c Reference category: Mid career (15-25 years since medical school graduation)

^d Reference category: Surgical volume (>1000 cases/year)

^e Reference category: Age (66-70 years)

^f Within the year preceding surgery

^g Within the 90 days preceding surgery

^h Reference category: Academic surgical center

eTable 2. Effect of late surgeon career stage and covariates on dropped lens fragment risk^{a,b}

	Odds Ratio	95% Confidence Interval	p-Value
Surgeon Level Effects			
Late career ^c	2.30	1.50 to 3.54	<0.001
Early career ^c	1.35	0.80 to 2.28	0.252
Surgical volume (25-250 cases/year) ^d	7.56	3.16 to 18.09	<0.001
Surgical volume (251-500 cases/year) ^d	4.66	2.08 to 10.43	0.000
Surgical volume (501-1000 cases/year) ^d	3.19	1.48 to 6.90	0.003
Patient Level Effects			
Female gender	0.91	0.72 to 1.15	0.422
Age (71-75) ^e	1.02	0.71 to 1.46	0.926
Age (76-80) ^e	1.17	0.82 to 1.69	0.384
Age (≥81) ^e	1.66	1.20 to 2.29	0.002
Number of unique medications used ^f	1.02	1.00 to 1.04	0.016
Glaucoma medication use ^g	1.15	0.82 to 1.61	0.422
Tamsulosin use ^f	1.82	1.24 to 2.69	0.002
Diabetes	1.05	0.83 to 1.33	0.699
Non-academic surgical center^h	0.81	0.55 to 1.20	0.286

^a Overall cataract surgery complications represent a composite of the four individual cataract surgical complications (posterior capsule rupture, dropped lens fragments, retinal detachment, and suspected endophthalmitis).

^b Adjusted for calendar year to control for secular trends

^c Reference category: Mid career (15-25 years since medical school graduation)

^d Reference category: Surgical volume (>1000 cases/year)

^e Reference category: Age (66-70 years)

^f Within the year preceding surgery

^g Within the 90 days preceding surgery

^h Reference category: Academic surgical center

eTable 3. Effect of late surgeon career stage and covariates on retinal detachment risk^{a,b}

	Odds Ratio	95% Confidence Interval	p-Value
Surgeon Level Effects			
Late career ^c	1.57	0.94 to 2.61	0.085
Early career ^c	1.18	0.61 to 2.27	0.624
Surgical volume (25-250 cases/year) ^d	2.06	0.86 to 4.93	0.104
Surgical volume (251-500 cases/year) ^d	0.90	0.42 to 1.92	0.787
Surgical volume (501-1000 cases/year) ^d	1.06	0.57 to 1.96	0.854
Patient Level Effects			
Female gender	0.52	0.32 to 0.83	0.007
Age (71-75) ^e	1.72	0.88 to 3.33	0.111
Age (76-80) ^e	1.01	0.47 to 2.18	0.981
Age (≥81) ^e	1.39	0.70 to 2.74	0.348
Number of unique medications used ^f	0.98	0.93 to 1.02	0.313
Glaucoma medication use ^g	0.99	0.45 to 2.17	0.977
Tamsulosin use ^f	1.14	0.48 to 2.75	0.763
Diabetes	1.25	0.76 to 2.06	0.381
Non-academic surgical center ^h	0.65	0.40 to 1.07	0.089

^a Overall cataract surgery complications represent a composite of the four individual cataract surgical complications (posterior capsule rupture, dropped lens fragments, retinal detachment, and suspected endophthalmitis).

^b Adjusted for calendar year to control for secular trends

^c Reference category: Mid career (15-25 years since medical school graduation)

^d Reference category: Surgical volume (>1000 cases/year)

^e Reference category: Age (66-70 years)

^f Within the year preceding surgery

^g Within the 90 days preceding surgery

^h Reference category: Academic surgical center

eTable 4. Effect of late surgeon career stage and covariates on suspected endophthalmitis risk^{a,b}

	Odds Ratio	95% Confidence Interval	p-Value
Surgeon Level Effects			
Late career ^c	1.41	1.01 to 1.98	0.046
Early career ^c	1.58	1.07 to 2.33	0.023
Surgical volume (25-250 cases/year) ^d	2.67	1.48 to 4.81	0.001
Surgical volume (251-500 cases/year) ^d	1.26	0.75 to 2.12	0.386
Surgical volume (501-1000 cases/year) ^d	1.27	0.80 to 2.02	0.307
Patient Level Effects			
Female Gender	0.66	0.52 to 0.83	<0.001
Age (71-75) ^e	0.85	0.61 to 1.19	0.348
Age (76-80) ^e	0.90	0.63 to 1.28	0.545
Age (≥81) ^e	1.21	0.89 to 1.65	0.228
Number of unique medications used ^f	1.03	1.01 to 1.05	0.002
Glaucoma medication use ^g	1.04	0.72 to 1.52	0.826
Tamsulosin use ^f	0.69	0.41 to 1.17	0.172
Diabetes	0.99	0.77 to 1.28	0.946
Non-academic surgical center ^h	0.71	0.51 to 0.99	0.043

^a Overall cataract surgery complications represent a composite of the four individual cataract surgical complications (posterior capsule rupture, dropped lens fragments, retinal detachment, and suspected endophthalmitis).

^b Adjusted for calendar year to control for secular trends

^c Reference category: Mid career (15-25 years since medical school graduation)

^d Reference category: Surgical volume (>1000 cases/year)

^e Reference category: Age (66-70 years)

^f Within the year preceding surgery

^g Within the 90 days preceding surgery

^h Reference category: Academic surgical center