

Supplementary Online Content

Vail D, Pan C, Pershing S, Mruthyunjaya P. Association of rhegmatogenous retinal detachment and outcomes with the day of the week that patients undergo a repair or receive a diagnosis. *JAMA Ophthalmol*. Published online December 19, 2019. doi:10.1001/jamaophthalmol.2019.5253

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eTable 2. Multinomial Logistic Regression Model of Type of Rhegmatogenous Retinal Detachment Repair by Day of Diagnosis (N=36,831)

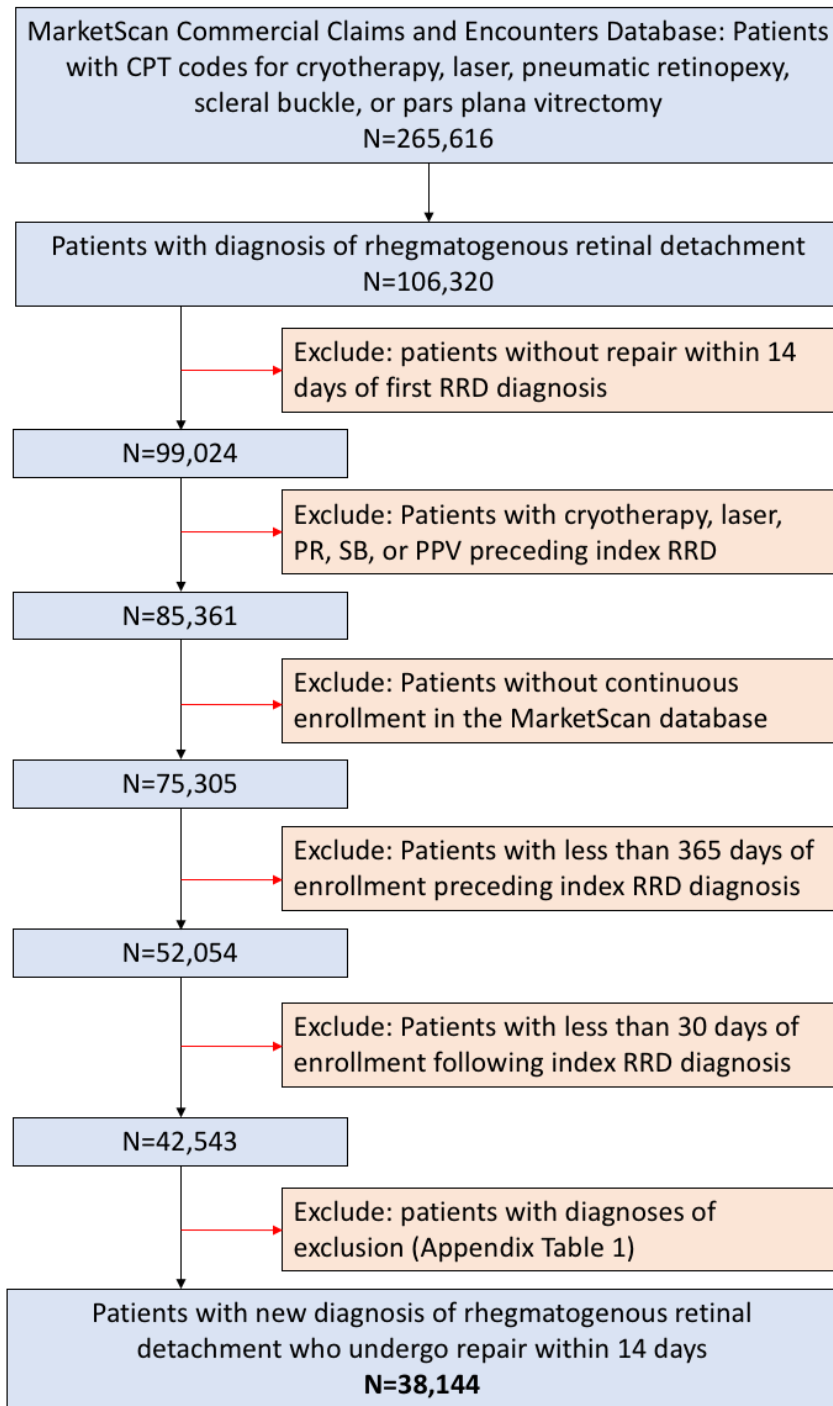
eTable 3. Logistic Regression Models Estimating 30-Day Revision of Initial Scleral Buckle (Defined as Subsequent PR, SB, or PPV Within 30 Days of the Index Procedure), by Day of Week of the Index Procedure (N=3,590)

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

eFigure. Sample Selection Strategy



eTable 1. Diagnostic (*ICD*) and Procedure (*CPT*) Codes

Diagnosis	ICD-9 Code	ICD-10 Code
Rhegmatogenous retinal detachment	361.00, 361.01, 361.02, 61.03, 361.04, 361.05	H33.00x, H33.01x, H33.02x, H33.03x, H33.04x, H33.05x
Myopia	360.21	H44.2x
Pseudophakia	V43.1	Z96.1, Z98.4x
Vitreous hemorrhage	379.23	H43.1x
Lattice degeneration	362.63	H35.41x
Diabetes mellitus	250.x, 362.0x, (except 362.02)	E08.x, E09.x, E10.x, E11.x, E13.x (except E08.35x, E09.35x, E10.35x, E11.35x, E13.35x)
Excluded ocular comorbidities:		
Tractional retinal detachment	36181	H33.4x
Proliferative diabetic retinopathy	36202	E08.3x
Retinopathy of prematurity	362.2x	H35.1x
Sickle cell disease or sickle cell thalassemia	28241	D57x
	28242	
	282.6x	
Retinoschisis	361.1x	H33.1x
Chorioretinitis	363.1x	H30.x
	363.2x	
Endophthalmitis	360.0x	H44.0x
	360.1x	H44.1x
Ruptured globe/intraocular foreign body		
	8710	S05.2x
	8711	S05.3x
	8712	S05.5x
	8715	S05.6x
	8716	H44.6x
	360.5x	H44.7x
	360.6x	
Retinal vascular occlusion	362.3x	H34.x
Serous retinal detachment	3612	H33.2x
Choroidal hemorrhage or rupture	3636	
	36372	H31.3x
		H31.4x
Procedure	CPT code	
Pneumatic retinopexy	67110	
Scleral buckle	67107	

Pars plana vitrectomy, with or without scleral buckle	67108, 67112, 67113, 67036, 67038, 67039, 67040, 67041, 67042, 67043, or 66850	
Laser barricade	67105	
Cryotherapy	67101	

eTable 2. Multinomial Logistic Regression Model of Type of Rhegmatogenous Retinal Detachment Repair by Day of Diagnosis (N=36,831)

	Repair procedure: Multinomial logistic regression with pars plana vitrectomy as reference group							
	Cryotherapy		Laser		Pneumatic retinopexy		Scleral buckle	
	RRR (95% CI)	P Value	RRR (95% CI)	P Value	RRR (95% CI)	P Value	RRR (95% CI)	P Value
Day of diagnosis (base=Wednesday)								
Sunday	0.70 (0.29, 1.68)	.42	0.42 (0.28, 0.62)	<.001	1.53 (1.08, 2.17)	.02	1.02 (0.75, 1.37)	.92
Monday	1.05 (0.77, 1.44)	.75	0.85 (0.74, 0.97)	.02	1.16 (1.00, 1.35)	.045	1.01 (0.90, 1.13)	.89
Tuesday	1.20 (0.88, 1.64)	.25	0.92 (0.80, 1.06)	.25	1.09 (0.94, 1.27)	.24	1.05 (0.93, 1.18)	.43
Thursday	1.05 (0.75, 1.46)	.78	0.96 (0.83, 1.11)	.59	1.19 (1.02, 1.39)	.03	1.07 (0.94, 1.21)	.30
Friday	1.39 (1.02, 1.91)	.04	1.02 (0.88, 1.18)	.76	1.37 (1.17, 1.60)	<.001	1.05 (0.92, 1.19)	.49
Saturday	0.68 (0.36, 1.28)	.23	0.78 (0.61, 0.99)	.04	1.73 (1.36, 2.20)	<.001	1.39 (1.15, 1.68)	.001
Year of surgery	0.93 (0.90, 0.97)	.001	0.99 (0.98, 1.01)	.52	0.97 (0.95, 0.99)	.001	0.90 (0.88, 0.91)	<.001
Age at surgery (years)	0.99 (0.98, 1.00)	.04	0.98 (0.98, 0.98)	<.001	1.00 (1.00, 1.00)	.95	0.96 (0.95, 0.96)	<.001
Sex (base=Male)								
Female	1.37 (1.13, 1.66)	.001	1.62 (1.48, 1.77)	<.001	1.03 (0.94, 1.13)	.52	1.18 (1.09, 1.27)	<.001
Ocular comorbidities								
Myopia	0.64 (0.25, 1.61)	.34	1.14 (0.83, 1.58)	.42	1.32 (0.93, 1.86)	.12	1.23 (0.96, 1.58)	.10
Pseudophakia	0.40 (0.05, 3.02)	.38	0.35 (0.17, 0.69)	.003	1.14 (0.67, 1.96)	.62	0.14 (0.05, 0.45)	.001
Lattice degeneration	0.70 (0.50, 0.98)	.04	0.95 (0.83, 1.09)	.48	0.64 (0.55, 0.75)	<.001	1.28 (1.15, 1.42)	<.001
Vitreous hemorrhage	1.53 (1.15, 2.04)	.004	1.15 (0.99, 1.34)	.06	0.44 (0.37, 0.53)	<.001	0.24 (0.19, 0.31)	<.001
Insurance plan (base=PPO)								

EPO	1.00 (0.69, 1.44)	.99	0.90 (0.76, 1.07)	.25	0.94 (0.79, 1.12)	.49	1.26 (1.08, 1.46)	.003
HMO	1.06 (0.53, 2.10)	.87	1.16 (0.84, 1.61)	.37	0.93 (0.66, 1.32)	.70	0.98 (0.73, 1.31)	.89
POS	0.97 (0.69, 1.36)	.87	0.99 (0.85, 1.15)	.86	1.15 (0.99, 1.34)	.08	1.15 (1.02, 1.30)	.02
Comprehensive	1.02 (0.69, 1.52)	.91	1.23 (1.03, 1.46)	.02	1.03 (0.85, 1.24)	.77	0.96 (0.82, 1.11)	.58
POS with capitation	0.92 (0.31, 2.70)	.87	0.74 (0.43, 1.26)	.26	0.87 (0.50, 1.51)	.62	1.24 (0.78, 1.96)	.37
CDHP	1.06 (0.69, 1.64)	.78	1 (0.83, 1.21)	.98	1.15 (0.94, 1.40)	.18	1.26 (1.08, 1.47)	.004
HDHP	1.16 (0.70, 1.91)	.57	0.92 (0.73, 1.16)	.46	1.32 (1.04, 1.67)	.02	1.16 (0.96, 1.40)	.13
Place of surgery (base=Office)								
Inpatient hospital	n/a	n/a	0.01 (0.00, 0.03)	<.001	0.02 (0.01, 0.05)	<.001	1.03 (0.64, 1.66)	.91
Outpatient hospital	0.01 (0.01, 0.01)	<.001	0.00 (0.00, 0.01)	<.001	0.01 (0.01, 0.01)	<.001	0.79 (0.69, 0.90)	.001
Emergency room	0.04 (0.01, 0.26)	.001	0.03 (0.02, 0.06)	<.001	0.02 (0.01, 0.05)	<.001	1.32 (0.82, 2.13)	.25
Ambulatory surgical center	0.01 (0.00, 0.02)	<.001	0.01 (0.01, 0.02)	<.001	0.01 (0.01, 0.01)	<.001	0.54 (0.46, 0.64)	<.001
Other	0.03 (0.00, 0.21)	<.001	0.03 (0.02, 0.05)	<.001	0.04 (0.02, 0.06)	<.001	0.29 (0.13, 0.63)	.002

Note: RRR=Relative Risk Ratio

eTable 3. Logistic Regression Models Estimating 30-Day Revision of Initial Scleral Buckle (Defined as Subsequent PR, SB, or PPV Within 30 Days of the Index Procedure), by Day of Week of the Index Procedure (N=3,590)

	RRR (95% CI)	P Value
Day of index scleral buckle (base=Wednesday)		
Sunday	0.88 (0.30, 2.60)	.82
Monday	1.31 (0.93, 1.84)	.12
Tuesday	0.87 (0.62, 1.21)	.40
Thursday	0.88 (0.63, 1.23)	.45
Friday	1.06 (0.76, 1.50)	.72
Saturday	1.10 (0.69, 1.76)	.68
Year of surgery	0.94 (0.90, 0.99)	.02
Age at surgery (years)	1.00 (0.99, 1.01)	.83
Sex (base=Male)		
Female	0.98 (0.79, 1.21)	.85
Ocular comorbidities		
Myopia	1.75 (1.00, 3.08)	.05
Pseudophakia	n/a	n/a
Lattice degeneration	1.08 (0.80, 1.44)	.62
Vitreous hemorrhage	1.93 (1.08, 3.46)	.03
Insurance plan (base=PPO)		
EPO	0.90 (0.57, 1.42)	.64
HMO	1.51 (0.76, 2.99)	.24
POS	1.04 (0.75, 1.44)	.83
Comprehensive	1.06 (0.70, 1.60)	.80
POS with capitation	n/a	n/a
CDHP	1.28 (0.84, 1.93)	.25
HDHP	0.86 (0.48, 1.56)	.63
Place of surgery		
Inpatient hospital	0.96 (0.36, 2.53)	.93
Outpatient hospital	0.36 (0.27, 0.49)	<.001
Emergency room	0.33 (0.10, 1.15)	.08
Ambulatory surgical center	0.31 (0.20, 0.47)	<.001

eTable 4. Logistic Regression Models Estimating 30-Day Revision of Initial Pars Plana Vitrectomy (Defined as Subsequent PR, SB, or PPV Within 30 Days of the Index Procedure), by Day of Week of the Index Procedure (N=21,120)

	RRR (95% CI)	P Value
Day of index pars plana vitrectomy (base=Wednesday)		
Sunday	0.95 (0.59, 1.53)	.84
Monday	1.12 (0.95, 1.33)	.19
Tuesday	1.02 (0.87, 1.19)	.83
Thursday	0.98 (0.84, 1.14)	.77
Friday	1.06 (0.90, 1.25)	.50
Saturday	0.91 (0.68, 1.21)	.51
Year of surgery	0.99 (0.97, 1.02)	.61
Age at surgery (years)	1.00 (0.99, 1.00)	.02
Sex (base=Male)		
Female	1.00 (0.90, 1.11)	.97
Ocular comorbidities		
Myopia	0.88 (0.58, 1.35)	.56
Pseudophakia	1.18 (0.74, 1.87)	.48
Lattice degeneration	0.98 (0.83, 1.16)	.82
Vitreous hemorrhage	1.06 (0.89, 1.27)	.50
Insurance plan (base=PPO)		
EPO	1.05 (0.88, 1.26)	.56
HMO	1.15 (0.78, 1.70)	.48
POS	0.91 (0.76, 1.09)	.32
Comprehensive	0.88 (0.70, 1.09)	.23
POS with capitation	1.54 (0.87, 2.72)	.14
CDHP	0.85 (0.66, 1.09)	.19
HDHP	1.01 (0.77, 1.34)	.92
Place of surgery		
Inpatient hospital	0.67 (0.36, 1.24)	.20
Outpatient hospital	0.44 (0.37, 0.51)	<.001
Emergency room	0.14 (0.03, 0.59)	.007
Ambulatory surgical center	0.31 (0.26, 0.38)	<.001
Other	0.16 (0.05, 0.52)	.002

eTable 5. Days From Index Diagnosis of Rhegmatogenous Retinal Detachment to Repair by Day of Diagnosis (N=36,831)

	All types of primary repair (N=36,831)		Pneumatic retinopexy (N=5,018)		Pars plana vitrectomy (N=21,120)		Scleral buckle (N=3,624)	
	Beta (95% CI)	P Value	Beta (95% CI)	P Value	Beta (95% CI)	P Value	Beta (95% CI)	P Value
Day of diagnosis (base=Wednesday)								
Sunday	-0.37 (-0.57, -0.17)	<.001	-0.13 (-0.30, 0.05)	.16	-0.38 (-0.66, -0.11)	.007	-0.54 (-1.24, 0.17)	.13
Monday	-0.05 (-0.13, 0.02)	.16	-0.08 (-0.16, 0.01)	.08	-0.02 (-0.12, 0.09)	.75	-0.09 (-0.36, 0.18)	.52
Tuesday	-0.10 (-0.18, -0.02)	.01	-0.01 (-0.10, 0.07)	.75	-0.16 (-0.27, -0.05)	.003	-0.06 (-0.34, 0.22)	.67
Thursday	0.10 (0.02, 0.18)	.02	-0.06 (-0.15, 0.03)	.18	0.17 (0.06, 0.29)	.003	0.15 (-0.14, 0.43)	.31
Friday	0.28 (0.20, 0.36)	<.001	-0.03 (-0.12, 0.05)	.47	0.48 (0.36, 0.60)	<.001	0.59 (0.30, 0.88)	<.001
Saturday	-0.07 (-0.20, 0.07)	.33	-0.11 (-0.24, 0.01)	.08	0.04 (-0.15, 0.24)	.66	-0.44 (-0.87, -0.01)	.04
Year of surgery	0.02 (0.01, 0.03)	<.001	0.01 (0.00, 0.02)	.03	0.03 (0.02, 0.05)	<.001	0.02 (-0.01, 0.06)	.22
Sex (base=Male)								
Female	0.04 (-0.01, 0.09)	.09	0.03 (-0.02, 0.09)	.20	0.01 (-0.07, 0.08)	.89	0.06 (-0.11, 0.23)	.51
Age at surgery (years)	-0.01 (-0.01, 0.00)	<.001	0.00 (-0.01, 0.00)	.003	0.00 (0.00, 0.00)	.48	-0.01 (-0.02, -0.01)	<.001
Ocular comorbidities								
Myopia	0.20 (0.01, 0.38)	.03	0.25 (0.05, 0.44)	.01	0.09 (-0.19, 0.36)	.54	0.28 (-0.26, 0.82)	.31
Pseudophakia	0.62 (0.36, 0.89)	<.001	0.15 (-0.15, 0.46)	.33	0.70 (0.38, 1.01)	<.001	-0.69 (-3.62, 2.25)	.65
Lattice degeneration	0.03 (-0.05, 0.11)	.43	-0.02 (-0.12, 0.07)	.67	-0.12 (-0.24, -0.01)	.03	0.16 (-0.08, 0.40)	.19
Vitreous hemorrhage	-0.27 (-0.36, -0.19)	<.001	-0.10 (-0.22, 0.02)	.11	-0.27 (-0.39, -0.15)	<.001	-0.27 (-0.87, 0.33)	.37
Insurance plan (base=PPO)								
EPO	-0.32 (-0.53, -0.12)	.002	0.17 (-0.03, 0.37)	.45	-0.15 (-0.44, 0.13)	.29	0.57 (-0.09, 1.22)	.09
HMO	-0.32 (-0.43, -0.20)	<.001	-0.02 (-0.11, 0.06)	.10	-0.03 (-0.15, 0.09)	.63	0.10 (-0.17, 0.37)	.47
POS	-0.31 (-0.43, -0.19)	<.001	-0.03 (-0.14, 0.07)	.60	-0.05 (-0.19, 0.09)	.45	0.27 (-0.08, 0.62)	.13
Comprehensive	-0.32 (-0.40, -0.23)	<.001	0.04 (-0.06, 0.13)	.54	0.31 (0.19, 0.43)	<.001	0.52 (0.16, 0.88)	.004
POS with capitation	-0.30 (-0.62, 0.02)	.07	0.30 (0.00, 0.60)	.05	-0.05 (-0.52, 0.42)	.84	0.14 (-0.90, 1.18)	.79
CDHP	-0.42 (-0.55, -0.29)	<.001	-0.03 (-0.14, 0.08)	.63	-0.15 (-0.30, 0.01)	.07	-0.20 (-0.56, 0.15)	.26
HDHP	-0.42 (-0.57, -0.27)	<.001	-0.08 (-0.21, 0.05)	.22	-0.09 (-0.28, 0.09)	.33	0.03 (-0.40, 0.47)	.88

Place of surgery								
Inpatient hospital	0.89 (0.51, 1.28)	<.001	-0.22 (-0.82, 0.39)	.48	-0.15 (-0.65, 0.35)	.55	1.00 (-0.06, 2.06)	.06
Outpatient hospital	1.15 (1.10, 1.20)	<.001	0.22 (0.12, 0.32)	<.001	0.20 (0.06, 0.34)	.005	0.17 (-0.14, 0.48)	.28
Emergency room	0.90 (0.48, 1.31)	<.001	-0.26 (-0.94, 0.43)	.46	0.19 (-0.39, 0.78)	.52	0.06 (-0.96, 1.08)	.91
Ambulatory surgical center	1.33 (1.26, 1.41)	<.001	0.11 (-0.07, 0.28)	.24	0.44 (0.29, 0.60)	<.001	0.32 (-0.06, 0.70)	.10
Other	1.62 (1.23, 2.01)	<.001	0.62 (0.13, 1.10)	.01	0.80 (0.29, 1.30)	.002	1.10 (-0.84, 3.03)	.27