

Supplemental Materials

Table 1. Procedure codes of interest

Procedure type	CPT, ICD9 and ICD10 codes
Colonoscopy thru stoma	
Biopsy	44389
Hot biopsy	44392
Snare	44394
EMR	44403
Submucosal Injection	44404
Colonoscopy	
Biopsy	45380
Submucosal Injection	45381
Hot Biopsy	45384
Snare	45385
EMR	45390
Colon polyp	211.3, K63.5, D12.0-D12.7
Rectal polyp	211.4, D12.8

CPT, current procedural terminology; EMR, endoscopic mucosal resection; ICD9, international classification of diseases codes, 9th revision; ICD10, international classification of diseases codes, 10th revision;

Table 2. ICD9 and ICD10 codes for comorbidities and complications of interest

A) Comorbidities of interest:

	ICD9	ICD10
MI	410.x, 412.x	I21.x, I22.x, 125.2
Congestive heart failure	398.91, 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 425.4-425.9, 428.x	I09.9, I11.0, I13.0, I13.2, I25.5, I42.0, I42.5-I42.9, I43.x, I50.x, P29.0
PAD	O93.0, 437.4, 440.x, 441.x, 443.1-443.9, 47.1, 557.1, 557.9 V43.4	I70.x, I71.x, I73.1, I73.8, I73.9, I77.1, I79.0, I79.2, K55.1 K55.8, K55.9, Z95.8, Z95.9
CVA	362.34, 430.x-438.x	G45.x, G46.x, H34.0, I60.x-I69.x
Dementia	290.x, 294.1, 331.2	FOO.x-F03.x, F05.1, G30.x, G31.1
Chronic pulmonary disease	416.8, 416.9, 490.x-505.x, 506.4, 508.1, 508.8	127.8, 127.9, J40.x-J47.x, J60.x-J67.x, J68.4, J70.1, J70.3
Rheumatic disease	446.5, 710.0-710.4, 714.0-714.2, 714.8, 725.x	M05.x, M06.x, M31.5, M32.x-M34.x, M35.1, M35.3, M36.0
Peptic ulcer disease	531.x-534.x	K25.x-K28.x
Mild liver disease	070.22, 070.23, 070.32, 070.33, 070.44, 070.54, 070.6, 070.9, 570.x, 571.x, 573.3, 573.4, 573.8, 573.9, V42.7	B18.x, K70.0-K70.3, K70.9, K71.3-K71.5, K71.7, K73.x, K74.x, K76.0, K76.2-K76.4, K76.8, K76.9, Z94.4
Diabetes without complications	250.0-250.3, 250.8, 250.9	E10.0, E10.1, E10.6, E10.8, E10.9, E11.0, E11.1, E11.6, E11.8, E11.9, E12.0, E12.1, E12.6, E12.8, E12.9, E13.0, E13.1, E13.6, E13.8, E13.9, E14.0, E14.1, E14.6, E14.8, E14.9
Diabetes with complications	250.4-250.7	E10.2-E10.5, E10.7, E11.2-E11.5, E11.7, E12.2-E12.5, E12.7, E13.2- E13.5,

		E13.7, E14.2-E14.5, E14.7
Hemiplegia	334.1, 342.x, 343.x, 344.0-344.6, 344.9	G04.1, G11.4, G80.1, G80.2, G81.x, G82.x, G83.0-G83.4, G83.9
Renal disease	403.01, 403.11, 403.91, 404.02, 404.03, 404.12, 404.13, 404.92, 404.93, 582.x, 583.0-583.7, 585.x, 586.x, 588.0, V42.0, V45.1, V56.x	112.0, I113.1, N03.2-N03.7, N05.2- N05.7, N18.x, N19.x, N25.0, Z49.0-Z49.2, Z94.0, Z99.2
Malignancy	140.x-172.x, 174.x-195.8, 200.x-208.x, 238.6	COO.x-C26.x, C30.x-C34.x, C37.x- C41.x, C43.x, C45.x-C58.x, C60.x-C76.x, C81.x-C85.x, C88.x, C90.x-C97.x
Moderate or severe liver disease	456.0-456.2, 572.2-572.8	185.0, I185.9, I186.4, I198.2, K70.4, K71.1, K72.1, K72.9, K76.5, K76.6, K76.7
Metastatic solid tumor	196.x-199.x	C77.x-C80.x
AIDS/HIV	042.x-044.x	B20.x-B22.x, B24.x
Coagulopathy	286.x, 287.1, 287.3- 287.5	D65-D68.x, D69.1, D69.3-D69.6
Hypertension	401.x, 402.x, 403.x, 404.x, 405.x	I10.x, I11.x, I12.x, I13.x, I15.x
Atrial fibrillation	427.31/427.32	I48.x
GIB	456.0, 456.20, 530.7, 530.82, 531.0x, 531.2x, 531.4, 531.6x, 532.0x, 532.2x, 532.4x, 532.6x, 533.0x, 533.2x, 533.4x, 533.6x, 534.0x, 534.2x, 534.4x, 534.6x, 569.3,	K92.2, K92.1, K29.01, K31.811, K57.x, K29.x, K25.0, K25.2, K25.4, K25.6, K62.5, D62, T81.0, K92.2

	578.0, 578.1, 578.9, 998.1x	
--	-----------------------------	--

CVA, cerebrovascular accident; GIB, gastrointestinal bleeding; ICD9, international classification of diseases codes, 9th revision; ICD10, international classification of diseases codes, 10th revision; MI, myocardial infarction; PAD, peripheral vascular disease;

B) Complications of interest

	ICD9	ICD10
GIB	456.0, 456.20, 530.7, 530.82, 531.0x, 531.2x, 531.4, 531.6x, 532.0x, 532.2x, 532.4x, 532.6x, 533.0x, 533.2x, 533.4x, 533.6x, 534.0x, 534.2x, 534.4x, 534.6x, 569.3, 578.0, 578.1, 578.9, 998.1x	K92.2, K92.1, K29.01, K31.811, K57.x, K29.x, K25.0, K25.2, K25.4, K25.6, K62.5, D62, T81.0, K92.2
CVA	362.34, 430.x-438.x	G45.x, G46.x, H34.0, I60.x-I69.x
MI	410.x, 412.x	I21.x, I22.x, 125.2
VTE	997.79, 415.11	T81.718A, T81.72XA, I26.90, I26.99, T80.0XXA, T81.718A, T81.72XA, T82.817A, T82.818A

CVA, cerebrovascular accident; GIB, gastrointestinal bleeding; ICD9, international classification of diseases codes, 9th revision; ICD10, international classification of diseases codes, 10th revision; MI, myocardial infarction; VTE, venous thromboembolism

Table 3. Multivariate logistic regression model for post-procedural outcomes adjusted for GIB history in addition to antithrombotic use, bridge anticoagulation, CCI, CHADS2 score and EMR use.

OR (95% CI)	GIB	CVA	MI	Any Admission
Antithrombotic				
DOAC	0.89 (0.43-1.83)	0.44 (0.06-3.25)	1.03 (0.14-7.73)	0.86 (0.64-1.15)
Warfarin	1.91 (1.28-2.84)	2.60 (1.30-5.22)	1.91 (0.63-5.80)	1.08 (0.88-1.32)
Clopidogrel	2.82 (2.15-3.71)	4.02 (2.41-6.70)	6.29 (3.84-10.31)	1.32 (1.14-1.53)
Bridge Anticoagulation				
	3.31 (1.69-6.49)	2.65 (0.74-9.45)	4.35 (0.85-4.31)	1.68 (1.06-2.66)
CCI				
	1.15 (1.11-1.19)	1.98 (1.31-3.00)	1.37 (1.29-1.45)	1.21 (1.20-1.22)
CHADS₂ Score				
	1.33 (1.24-1.43)	1.47 (1.31-1.66)	1.16 (0.97-1.39)	1.25 (1.22-1.29)
EMR				
	1.42 (1.23-1.64)	1.29 (1.22-1.36)	2.84 (1.88-4.31)	5.13 (4.88-5.39)
GIB history				
	1.42 (1.23-1.64)	1.38 (0.99-1.93)	0.93 (0.60-1.44)	1.46 (1.38-1.54)

CI, confidence interval; CCI, Charlson comorbidity index; CVA, cerebrovascular accident DOAC, direct-acting oral anticoagulant; EMR, endoscopic mucosal resection; GIB, gastrointestinal bleeding; OR, odds ratio; MI, myocardial infarction

Table 4. Sensitivity analysis.

A) Adjusted odd of 30-day outcomes. Model is adjusted for procedure type, CCI and CHA₂DS₂VASc score.

OR (95% CI)	DOAC	Warfarin	Clopidogrel
GIB	0.86 (0.42-1.76)	1.83 (1.23-2.73)	2.83 (2.16-3.72)
CVA	0.44 (0.06-3.20)	2.54 (1.26-5.10)	4.06 (2.44-6.78)
MI	0.98 (0.13-7.37)	1.83 (0.61-5.55)	6.25 (3.82-10.24)
Admission	0.83 (0.62-1.12)	1.04 (0.85-1.27)	1.33 (1.15-1.54)

CI, confidence interval; CVA, cerebrovascular accident DOAC, direct-acting oral anticoagulant; GIB, gastrointestinal bleeding; MI, myocardial infarction; OR, odds ratio

B) Adjusted odd of 30-day outcomes for an atrial fibrillation only subgroup. Model is adjusted for procedure type, CCI, and CHADS₂.

OR (95% CI)	DOAC	Warfarin	Clopidogrel
GIB	0.51 (0.22-1.18)	0.93 (0.55-1.56)	1.02 (0.44-2.38)
CVA	0.36 (0.05-2.66)	1.13 (0.45-2.83)	0.54 (0.07-4.09)
MI	0.66 (0.08-5.21)	0.52 (0.09-3.16)	1.18 (0.15-9.38)
Admission	0.65 (0.47-0.90)	0.72 (0.56-0.92)	0.77 (0.50-1.19)

CI, confidence interval; CVA, cerebrovascular accident DOAC, direct-acting oral anticoagulant; GIB, gastrointestinal bleeding; MI, myocardial infarction; OR, odds ratio