SUPPLEMENTAL MATERIAL

Association of *APOL1* Risk Alleles with Cardiovascular Disease in African Americans in the Million Veteran Program

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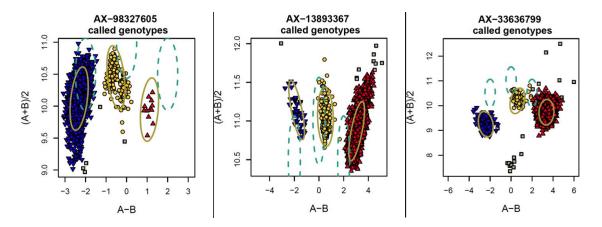
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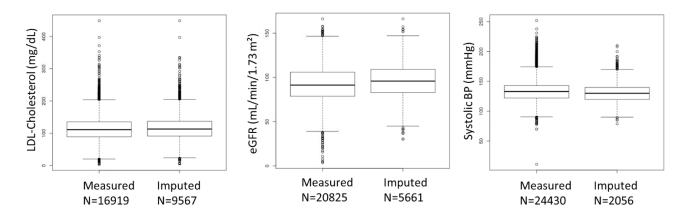
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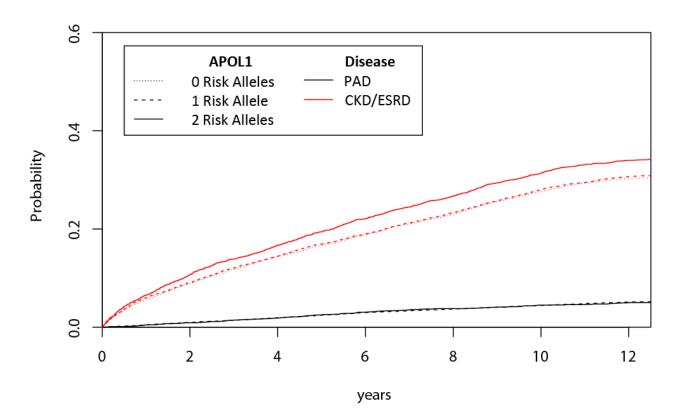
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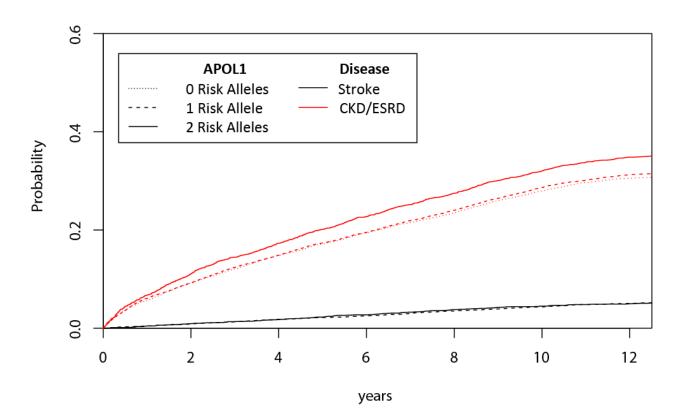
Supplemental Figure 1. Genotype intensity clustering plots of the APOL1 risk alleles on the MVP Axiom Biobank Genotyping Array from a representative genotyping batch. The AX-13893367 probe represents G1a (rs73885319, APOL1 p.S342G). The AX-33636799 probe represents G1b (rs60910145, APOL1 p.I384M). The AX-98327605 probe represents G2 (rs71785313, APOL1 del388-389).



Supplemental Figure 2. Comparison of measured and imputed data distributions for LDL-cholesterol, eGFR and systolic blood pressure.



Supplemental Figure 3. Cumulative incidence function estimates from competing risks modeling of PAD and CKD/ESRD outcomes.



Supplemental Figure 4. Cumulative incidence function estimates from competing risks modeling of Stroke and CKD/ESRD outcomes.

Supplemental Table 1. Association of APOL1 and cardiovascular disease previously reported in the
literature

	Cohort				Reported Cardiovascular Association			Reported Cohort Characteristics			
Paper*	Cohort	N High risk (2)	N Low risk (0 or 1)	Endpoint	OR/ HR	Р	Diabetes	Hyper- tension	Smoking	Female	
Ito, Circ Res 2013 ¹	JHS	284	783	MI/ Stroke/ cardiac revasc	2.2	9.00E-04	23%	70%	13%	62%	
	WHI	103	646	MI/Stroke/ cardiac revasc	2	8.00E-03	20%	57%	12%	100%	
Langefeld, KI 2015 ²	SPRINT	361	2210	MI/coronary & carotid revasc	1.16	0.46	0%	100%	24%	46%	
Mukamal, ATVB 2016 ³	CHS	91	707	MI	1.8	0.02	26%	69%	14%	53%	
Grams, JASN 2016 ⁴	ARIC	470	3206	MI/cardiac revasc/ stroke/HF	1.04	-	17%	55%	30%	54%	
Chen, ATVB 2017⁵	AASK	160	533	MI/cardiac revasc/ stroke/HF	1.23	0.31	0%	100%	42%	40%	
Chen, JAHA 2017 ⁶	MESA	213	1533	Incident CAD (MI/angina/ death)	1	-	25%	59%	18%	55%	
				Incident MI	1.24	-					
Wang, Cardiorenal med 2017 ⁷	CATH GEN	231	1410	prevalent CAD	1.02	-	39%	75%	44%	46%	
Gutiérrez, Circ GPM 2018 ⁸	REGARDS	9259	1346	Incident CHD or ischemic stroke	1.15	-	30%	68%	18%	62%	
Franceschini, JAMA Card. 2018 ⁹	WHI	9767	1370	Incident CHD	1.13	-	13%	55%	51%	100%	

JHS, Jackson Heart Study; WHI, Women's Health Initiative; SPRINT, Systolic Blood Pressure Intervention Trial; CHS, Cardiovascular Health Study; ARIC, Atherosclerotic Risk in the Community Study; AASK, African American Study of Kidney Disease and Hypertension; MESA, Multi-Ethnic Study of Atherosclerosis; CATH GEN, Duke Catheterization Genetics Study. *Please see Supplemental References for complete citation.

Supplemental Table 2. Diagnosis, procedure, and laboratory code components of coronary artery disease, end stage renal disease and peripheral artery disease definition in Million Veterans Project Cohort

stage			a peripheral artery disease definition in Willion Veterans Project Conort
	System	Code	Diagnosis
CAD	ICD9	410	Acute myocardial infarction
CAD	ICD10	121	Acute myocardial infarction
CAD	ICD10	122	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD9	0.66	Percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy
CAD	ICD9	36	Operations On Vessels Of Heart
		36.01	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy without mention of
CAD	ICD9	30.01	thrombolytic agent
CAD	1650	26.02	Single vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy with mention of
CAD	ICD9	36.02	thrombolytic agent
CAD	ICD9	36.03	Open chest coronary artery angioplasty
CAD	ICD9	36.04	Intracoronary artery thrombolytic infusion
			Multiple vessel percutaneous transluminal coronary angioplasty [PTCA] or coronary atherectomy performed during the
CAD	ICD9	36.05	same operation, with or without mention of thrombolytic agent
CAD	ICD9	36.06	Insertion of non-drug-eluting coronary artery stent(s)
CAD	ICD9	36.07	Insertion of drug-eluting coronary artery stent(s)
CAD	ICD9	36.09	Other removal of coronary artery obstruction
CAD	ICD9	36.1	Bypass Anastomosis For Heart Revascularization
CAD	ICD9	36.11	
			(Aorto)coronary bypass of one coronary artery
CAD	ICD9	36.12	(Aorto)coronary bypass of two coronary arteries
CAD	ICD9	36.13	(Aorto)coronary bypass of three coronary arteries
CAD	ICD9	36.14	(Aorto)coronary bypass of four or more coronary arteries
CAD	ICD9	36.15	Single internal mammary-coronary artery bypass
CAD	ICD9	36.16	Double internal mammary-coronary artery bypass
CAD	ICD9	36.17	Abdominal-coronary artery bypass
CAD	ICD9	36.19	Other bypass anastomosis for heart revascularization
CAD	ICD9	36.2	Heart revascularization by arterial implant
CAD	ICD9	99.1	Injection or infusion of thrombolytic agent
CAD	ICD10	210	Coronary Artery, Single
CAD	ICD10	211	Coronary Artery, Two Arteries
CAD	ICD10	212	Coronary Artery, Three Arteries
CAD	ICD10	213	Coronary Artery, Four or More Arteries
CAD	ICD10	270	Coronary Artery, One Artery
CAD	ICD10	271	Coronary Artery, Two Arteries
CAD	ICD10	272	Coronary Artery, Three Arteries
CAD	ICD10	273	Coronary Artery, Four or More Arteries
CAD	ICD10	02C0	Coronary Artery, One Artery
CAD	ICD10	02C1	Coronary Artery, Two Arteries
CAD	ICD10	02C3	Coronary Artery, Three Arteries
CAD	ICD10	02C4	Coronary Artery, Four or More Arteries
			Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; single
CAD	CPT	92928	major coronary artery or branch
			Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed;
CAD	CPT	92933	single major coronary artery or branch
			Percutaneous transcatheter placement of intracoronary stent(s), with coronary angioplasty when performed; each
CAD	CPT	92929	additional branch of a major coronary artery
			Percutaneous transluminal coronary atherectomy, with intracoronary stent, with coronary angioplasty when performed;
CAD	CPT	92934	each additional branch of a major coronary artery
			Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial,
CAD	СРТ	92937	venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when
CAD	Cri	52557	performed; single vessel
			Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial,
CAD	СРТ	92938	venous), any combination of intracoronary stent, atherectomy and angioplasty, including distal protection when
CAD	CFT	92938	performed; each additional branch subtended by the bypass graft
	CDT	02044	Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction,
CAD	СРТ	92941	coronary artery or coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty,
			including aspiration thrombectomy when performed, single vessel
CAD	СРТ	92943	Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or
			coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; single vessel
			Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or
CAD	CPT	92944	coronary artery bypass graft, any combination of intracoronary stent, atherectomy and angioplasty; each additional
			coronary artery, coronary artery branch, or bypass graft

CAD	CPT	G0290	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic
			intervention, any method; single vessel
CAD	CPT	G0291	Transcatheter placement of a drug eluting intracoronary stent(s), percutaneous, with or without other therapeutic
			intervention, any method; each additional vessel
CAD	CPT	C9600	Percutaneous transcatheter placement of drug eluting intracoronary stent(s), with coronary angioplasty when performed;
			single major coronary artery or branch
CAD	CPT	C9601	Percutaneous transcatheter placement of drug-eluting intracoronary stent(s), with coronary angioplasty when
			performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
CAD	CPT	C9602	Percutaneous transluminal coronary atherectomy, with drug eluting intracoronary stent, with coronary angioplasty when
			performed; single major coronary artery or branch
CAD	CPT	C9603	Percutaneous transluminal coronary atherectomy, with drug-eluting intracoronary stent, with coronary angioplasty when
			performed; each additional branch of a major coronary artery (list separately in addition to code for primary procedure)
			Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial,
CAD	СРТ	C9604	venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection
			when performed
			Percutaneous transluminal revascularization of or through coronary artery bypass graft (internal mammary, free arterial,
CAD	СРТ	C9605	venous), any combination of drug-eluting intracoronary stent, atherectomy and angioplasty, including distal protection
			when performed
			Percutaneous transluminal revascularization of acute total/subtotal occlusion during acute myocardial infarction,
CAD	CPT	C9606	coronary artery or coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and
			angioplasty, including
			Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or
CAD	CPT	C9607	coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; single
			vessel
			Percutaneous transluminal revascularization of chronic total occlusion, coronary artery, coronary artery branch, or
CAD	CPT	C9608	coronary artery bypass graft, any combination of drug-eluting intracoronary stent, atherectomy and angioplasty; each
			additional coronary ar
CAD	CPT	92973	Percutaneous transluminal coronary thrombectomy mechanical
CAD	CPT	92974	Transcatheter placement of radiation delivery device for subsequent coronary intravascular brachytherapy
CAD	CPT	92975	Thrombolysis, coronary; by intracoronary infusion, including selective coronary angiography
CAD	СРТ	92977	Thrombolysis, coronary; by intravenous infusion
CAD	CPT	92980	Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any
			method; single vessel
CAD	СРТ	92981	(Transcatheter placement of an intracoronary stent(s), percutaneous, with or without other therapeutic intervention, any
			method; each additional vessel
CAD	CPT	92982	Percutaneous transluminal coronary balloon angioplasty, single vessel
CAD	CPT	92984	Percutaneous transluminal coronary balloon angioplasty, each additional vessel
CAD	CPT	92995	Percutaneous transluminal coronary atherectomy, with or without balloon angioplasty, initial vessel
CAD	CPT	92996	Percutaneous transluminal coronary atherectomy, each additional vessel
CAD	CPT	33510	Coronary artery bypass, vein only; single coronary venous graft
CAD	CPT	33511	Coronary artery bypass, vein only; two coronary venous grafts
CAD	CPT	33512	Coronary artery bypass, vein only; three coronary venous grafts
CAD	CPT	33513	Coronary artery bypass, vein only; four coronary venous grafts
CAD	CPT	33514	Coronary artery bypass, vein only; five coronary venous grafts
CAD CAD	CPT CPT	33516 33517	Coronary artery bypass, vein only; six or more coronary venous grafts Coronary artery bypass, using venous graft(s) and arterial graft(s); single vein graft
CAD	CPT	33517	Coronary artery bypass, using venous graft(s) and arterial graft(s), single venous grafts
CAD	CPT	33518	Coronary artery bypass, using venous graft(s) and arterial graft(s), two venous grafts
CAD	CPT	33521	Coronary artery bypass, using venous graft(s) and arterial graft(s); four venous grafts
CAD	CPT	33522	Coronary artery bypass, using venous graft(s) and arterial graft(s); five venous grafts
CAD	CPT	33523	Coronary artery bypass, using venous graft(s) and arterial graft(s); rive venous grafts
CAD	CPT	33530	Reoperation, coronary artery bypass procedure or valve procedure, more than one month after original operation
CAD	CPT	33533	Coronary artery bypass, using arterial graft(s); single arterial graft
CAD	CPT	33534	Coronary artery bypass, using arterial graft(s); single arterial grafts
CAD	CPT	33535	Coronary artery bypass, using arterial graft(s); two coronary arterial grafts
CAD	CPT	33536	Coronary artery bypass, using arterial graft(s); four or more coronary arterial grafts
CAD			Coronary endarterectomy, open, any method, of left anterior descending, circumflex, or right coronary artery performed
CAD	CPT	33572	in conjunction with coronary artery bypass graft procedure, each vessel
CAD	ICD9	410	Acute myocardial infarction
CAD	ICD9	410	Other acute and subacute forms of ischemic heart disease
CAD	ICD9	411.1	Intermediate coronary syndrome
CAD	ICD9	411.1	Acute coronary occlusion without myocardial infarction
CAD	ICD9	411.81	Other acute and subacute forms of ischemic heart disease, other
CAD	ICD9	411.85	Old myocardial infarction
CAD	ICD9	414	Other forms of chronic ischemic heart disease
CAD	ICD9	414.01	Coronary atherosclerosis of native coronary artery
			· · · · · · · · · · · · · · · · · · ·

CAD	ICD9	414.02	Coronary atherosclerosis of autologous vein bypass graft
CAD	ICD9	414.03	Coronary atherosclerosis of nonautologous biological bypass graft
CAD	ICD9	414.04	Coronary atherosclerosis of artery bypass graft
CAD	ICD9	414.05	Coronary atherosclerosis of unspecified bypass graft
CAD	ICD9	414.2	Chronic total occlusion of coronary artery
CAD	ICD9	414.3	Coronary atherosclerosis due to lipid rich plaque
CAD	ICD9	414.4	Coronary atherosclerosis due to calcified coronary lesion
CAD	ICD9	414.8	Other specified forms of chronic ischemic heart disease
CAD	ICD9	414.9	Chronic ischemic heart disease, unspecified
CAD	ICD9	V45.81	
			Aortocoronary bypass status
CAD	ICD9	V45.82	Percutaneous transluminal coronary angioplasty status
CAD	ICD10	121	ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD10	122	Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction
CAD	ICD10	123	Certain current complications following ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction (within
0,12	.0010	.20	the 28 day period)
CAD	ICD10	124	Other acute ischemic heart diseases
CAD	ICD10	125.1	Atherosclerotic heart disease of native coronary artery
CAD	ICD10	125.2	Old myocardial infarction
CAD	ICD10	125.5	Ischemic cardiomyopathy
CAD	ICD10	125.6	Silent myocardial ischemia
CAD	ICD10	125.70	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris
CAD	ICD10	125.71	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	125.72	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	125.72	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris
CAD	ICD10	125.75	
			Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
CAD	ICD10	125.810	
CAD	ICD10	125.82	Chronic total occlusion of coronary artery
CAD	ICD10	125.83	Coronary atherosclerosis due to lipid rich plaque
CAD	ICD10	125.84	Coronary atherosclerosis due to calcified coronary lesion
CAD	ICD10	125.89	Other forms of chronic ischemic heart disease
CAD	ICD10	125.9	Chronic ischemic heart disease, unspecified
CAD	ICD10	Z95.1	Presence of aortocoronary bypass graft
CAD	ICD10	Z98.61	Coronary angioplasty status
CAD	ICD10	120.0	Unstable angina
ESRD	ICD10	T86.10	UNSPECIFIED COMPLICATION OF KIDNEY TRANSPLANT
ESRD	ICD10	T86.12	KIDNEY TRANSPLANT FAILURE
ESRD	ICD10	Z94.0	KIDNEY TRANSPLANT STATUS
ESRD	ICD10	T86.11	KIDNEY TRANSPLANT REJECTION
ESRD	ICD9	996.81	COMPLICATIONS OF TRANSPLANTED KIDNEY
ESRD	ICD9	V42.0	KIDNEY REPLACED BY TRANSPLANT
ESRD	CPT	50360	RENAL ALLOTRANSPLANTATION, IMPLANTATION OF GRAFT; WITHOUT RECIPIENT NEPHRECTOMY
ESRD	CPT	50365	RENAL ALLOTRANSPLANTATION, IMPLANTATION OF GRAFT; WITH RECIPIENT NEPHRECTOMY
ESRD	CPT	50380	RENAL AUTOTRANSPLANTATION, REIMPLANTATION OF GRAFT, WITH RECEIPENT REFINERED WITH
ESRD	ICD9	55.61	
ESRD	ICD9	55.69	OTHER KIDNEY TRANSPLANTATION
ESRD	ICD10	OTSOOZZ	REPOSITION RIGHT KIDNEY, OPEN APPROACH
ESRD	ICD10	OTS10ZZ	REPOSITION LEFT KIDNEY, OPEN APPROACH
ESRD	ICD10	Z49.31	ENCOUNTER FOR ADEQUACY TESTING FOR HEMODIALYSIS
ESRD	ICD10	Z99.2	DEPENDENCE ON RENAL DIALYSIS
ESRD	ICD9	V45.11	RENAL DIALYSIS STATUS
ESRD	ICD9	V56.0	AFTERCARE INVOLVING EXTRACORPOREAL DIALYSIS
			END STAGE RENAL DISEASE (ESRD) RELATED SERVICES PER FULL MONTH; FOR PATIENTS BETWEEN TWELVE AND
ESRD	CPT	90920	NINETEEN YEARS OF AGE TO INCLUDE MONITORING FOR THE ADEQUACY OF NUTRITION, ASSESSMENT OF GROWTH AND
			DEVELOPMENT, AND COUNSELING OF PARENTS
			END STAGE RENAL DISEASE (ESRD) RELATED SERVICES PER FULL MONTH; FOR PATIENTS TWENTY YEARS OF AGE AND
ESRD	CPT	90921	OVER
			END STAGE RENAL DISEASE (ESRD) RELATED SERVICES (LESS THAN FULL MONTH), PER DAY; FOR PATIENTS BETWEEN
ESRD	CPT	90924	TWELVE AND NINETEEN YEARS OF AGE
			END STAGE RENAL DISEASE (ESRD) RELATED SERVICES (LESS THAN FULL MONTH), PER DAY; FOR PATIENTS TWENTY YEARS
ESRD	CPT	90925	OF AGE AND OVER
	CDT	00025	
ESRD	CPT	90935	HEMODIALYSIS PROCEDURE WITH SINGLE PHYSICIAN EVALUATION
ESRD	CPT	90937	HEMODIALYSIS PROCEDURE REQUIRING REPEATED EVALUATION(S) WITH OR WITHOUT SUBSTANTIAL REVISION OF
			DIALYSIS PRESCRIPTION
			DIALYSIS PROCEDURE OTHER THAN HEMODIALYSIS (EG, PERITONEAL DIALYSIS, HEMOFILTRATION, OR OTHER
ESRD	CPT	90945	CONTINUOUS RENAL REPLACEMENT THERAPIES), WITH SINGLE PHYSICIAN EVALUATION

			DIALYSIS PROCEDURE OTHER THAN HEMODIALYSIS (EG, PERITONEAL DIALYSIS, HEMOFILTRATION, OR OTHER
ESRD	СРТ	90947	CONTINUOUS RENAL REPLACEMENT THERAPIES) REQUIRING REPEATED PHYSICIAN EVALUATIONS, WITH OR WITHOUT
LJND	CFT	50547	SUBSTANTIAL REVISION OF DIALYSIS PRESCRIPTION
			END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 4
ESRD	CPT	90960	OR MORE FACE-TO-FACE PHYSICIAN VISITS PER MONTH
			END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 2-3
ESRD	CPT	90961	
			FACE-TO-FACE PHYSICIAN VISITS PER MONTH
ESRD	CPT	90962	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES MONTHLY, FOR PATIENTS 20 YEARS OF AGE AND OLDER; WITH 1
			FACE-TO-FACE PHYSICIAN VISIT PER MONTH
ESRD	CPT	90966	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES FOR HOME DIALYSIS PER FULL MONTH, FOR PATIENTS 20 YEARS
			OF AGE AND OLDER
ESRD	CPT	90970	END-STAGE RENAL DISEASE (ESRD) RELATED SERVICES FOR DIALYSIS LESS THAN A FULL MONTH OF SERVICE, PER DAY;
			FOR PATIENTS 20 YEARS OF AGE AND OLDER
ESRD	CPT	90989	DIALYSIS TRAINING, PATIENT, INCLUDING HELPER WHERE APPLICABLE, ANY MODE, COMPLETED COURSE
ESRD	CPT	90993	DIALYSIS TRAINING, PATIENT, INCLUDING HELPER WHERE APPLICABLE, ANY MODE, COURSE NOT COMPLETED, PER
5000	CDT	00000	TRAINING SESSION
ESRD	CPT	90999	UNLISTED DIALYSIS PROCEDURE, INPATIENT OR OUTPATIENT
ESRD	CPT	99512	HOME VISIT FOR HEMODIALYSIS
ESRD	ICD9	39.93	INSERTION OF VESSEL-TO-VESSEL CANNULA
ESRD	ICD9	39.95	HEMODIALYSIS
ESRD	ICD9	54.98	PERITONEAL DIALYSIS
ESRD	ICD10	03170JD	BYPASS RIGHT BRACHIAL ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031C0JF	BYPASS LEFT RADIAL ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031A0JF	BYPASS LEFT ULNAR ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03130JD	BYPASS RIGHT SUBCLAVIAN ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	031B0JF	BYPASS RIGHT RADIAL ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03140JD	BYPASS LEFT SUBCLAVIAN ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03150JD	BYPASS RIGHT AXILLARY ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03160JD	BYPASS LEFT AXILLARY ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03180JD	BYPASS LEFT BRACHIAL ARTERY TO UPPER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
ESRD	ICD10	03190JF	BYPASS RIGHT ULNAR ARTERY TO LOWER ARM VEIN WITH SYNTHETIC SUBSTITUTE, OPEN APPROACH
PAD	CPT	35302	Thromboendarterectomy, including patch graft, if performed; superficial femoral artery
PAD	CPT	35303	Thromboendarterectomy, including patch graft, if performed; popliteal artery
PAD	CPT	35304	Thromboendarterectomy, including patch graft, if performed; tibioperoneal trunk artery
PAD	CPT	35305	Thromboendarterectomy, including patch graft, if performed; tibial or peroneal artery, initial vessel
PAD	CPT	35306	Thromboendarterectomy, including patch graft, if performed; each additional tibial or peroneal artery (List separately in
	0.1	00000	addition to code for primary procedure)
	CPT	35331	Thromboendarterectomy, including patch graft, if performed; abdominal aorta
PAD	CLI		Thromboendarterectomy, including patch graft, if performed; iliac
PAD PAD	CPT	35351	Thromboendarterectomy, including pater grant, in performed, mac
		35351 35355	Thromboendarterectomy, including patch graft, if performed; illofemoral
PAD	СРТ		
PAD PAD	CPT CPT	35355	Thromboendarterectomy, including patch graft, if performed; iliofemoral
PAD PAD PAD	CPT CPT CPT	35355 35361	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac
PAD PAD PAD PAD PAD	CPT CPT CPT CPT	35355 35361 35363 35371	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral
PAD PAD PAD PAD PAD PAD	СРТ СРТ СРТ СРТ СРТ	35355 35361 35363 35371 35372	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral
PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic
PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac
PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459 35470	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459 35470 35472	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; aortic
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35470 35472 35473 35474	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35474	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483 35483	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483 35483	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483 35485 35491	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; tibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483 35483 35485 35491 35492	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; ortic Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; tibioperoneal trunk and branches Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; fibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; aortic
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459 35470 35472 35473 35473 35474 35481 35482 35483 35483 35485 35491 35492 35493	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; iliac Transluminal peripheral atherectomy, percutaneous; iliac
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35371 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35481 35482 35483 35485 35483 35485 35491 35492 35493 35495	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; iliac Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; aortic Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; iliac Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35482 35483 35483 35483 35485 35491 35492 35493 35495 35521	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; artic Transluminal peripheral atherectomy, percutaneous; iliac Transluminal peripheral atherectomy, percutaneous; iliac Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches Bypass graft, with vein; axillary-femoral Bypass graft, with vein; axillary-femoral
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35482 35483 35485 35483 35485 35491 35492 35493 35495 35521 35533	Thromboendarterectomy, including patch graft, if performed; iliofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; ibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; iliac Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; open; emoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, open; femoral-popliteal Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, percutaneous; femoral-popliteal Translumin
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35482 35483 35485 35485 35485 35491 35492 35493 35495 35521 35533	Thromboendarterectomy, including patch graft, if performed; illofemoral Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; deep (profunda) femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; iliac Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; offica Transluminal peripheral atherectomy, open; filac Transluminal peripheral atherectomy, open; filac Transluminal peripheral atherectomy, open; filac Transluminal peripheral atherectomy, open; tibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, percutaneous; tibioperoneal trunk and branches Bypass graft, with vein; axillary-femoral Bypass graft, with vein; axillary-femoral Bypass graft, with vein; axillary-femoral Bypass graft, with vein; axioliac
PAD PAD PAD PAD PAD PAD PAD PAD PAD PAD	CPT CPT CPT CPT CPT CPT CPT CPT CPT CPT	35355 35361 35363 35372 35452 35454 35456 35459 35470 35472 35473 35474 35481 35482 35483 35485 35483 35485 35491 35492 35493 35495 35521 35533	Thromboendarterectomy, including patch graft, if performed; combined aortoiliac Thromboendarterectomy, including patch graft, if performed; combined aortoiliofemoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; common femoral Thromboendarterectomy, including patch graft, if performed; common femoral Transluminal balloon angioplasty, open; aortic Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; femoral-popliteal Transluminal balloon angioplasty, open; tibioperoneal trunk and branches Transluminal balloon angioplasty, percutaneous; tibioperoneal trunk or branches, each vessel Transluminal balloon angioplasty, percutaneous; aortic Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal balloon angioplasty, percutaneous; femoral-popliteal Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, open; iliac Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, open; ibioperoneal trunk and branches Transluminal peripheral atherectomy, percutaneous; aortic Transluminal peripheral atherectomy, percutaneous; iliac Transluminal peripheral atherectomy, percutaneous; ibioperoneal trunk and branches Bypass graft, with vein; axillary-femoral Bypass graft, with vein; axillary-femoral-femoral Bypass graft, with v

PAD	CPT	35548	Bypass graft, with vein; aortoiliofemoral, unilateral
PAD	CPT	35549	Bypass graft, with vein; aortoiliofemoral, bilateral
PAD	CPT	35551	Bypass graft, with vein; aortofemoral-popliteal
PAD	CPT	35556	Bypass graft, with vein; femoral-popliteal
PAD	CPT	35558	Bypass graft, with vein; femoral-femoral
PAD	CPT	35563	Bypass graft, with vein; ilioiliac
PAD	CPT	35565	Bypass graft, with vein; iliofemoral
PAD	CPT	35566	Bypass graft, with vein; femoral-anterior tibial, posterior tibial, peroneal artery or other distal vessels
PAD	CPT	35571	Bypass graft, with vein; popliteal-tibial, -peroneal artery or other distal vessels
PAD	CPT	35583	In-situ vein bypass; femoral-popliteal
PAD	CPT	35585	In-situ vein bypass; femoral-anterior tibial, posterior tibial, or peroneal artery
PAD	CPT	35587	In-situ vein bypass; popliteal-tibial, peroneal
PAD	CPT	35621	Bypass graft, with other than vein; axillary-femoral
PAD	CPT	35623	Bypass graft, with other than vein; axillary-popliteal or -tibial
PAD	CPT	35637	Bypass graft, with other than vein; aortoiliac
PAD	CPT	35638	Bypass graft, with other than vein; aortobi-iliac
PAD	CPT	35646	Bypass graft, with other than vein; aortobifemoral
PAD	CPT	35647	Bypass graft, with other than vein; aortofemoral
PAD	CPT	35654	Bypass graft, with other than vein; axillary-femoral-femoral
PAD	CPT	35656	Bypass graft, with other than vein; femoral-popliteal
PAD	CPT	35661	Bypass graft, with other than vein; femoral-femoral
PAD	CPT	35663	Bypass graft, with other than vein; ilioiliac
PAD	CPT	35665	Bypass graft, with other than vein; iliofemoral
PAD	CPT	35666	Bypass graft, with other than vein; femoral-anterior tibial, posterior tibial, or peroneal artery
PAD	CPT	35671	Bypass graft, with other than vein; popliteal-tibial or -peroneal artery
PAD	СРТ	35876	Thrombectomy of arterial or venous graft (other than hemodialysis graft or fistula); with revision of arterial or venous
PAD	CFT	55670	graft
PAD	CPT	35879	Revision, lower extremity arterial bypass, without thrombectomy, open; with vein patch angioplasty
PAD	CPT	35881	Revision, lower extremity arterial bypass, without thrombectomy, open; with segmental vein interposition
PAD	СРТ	35883	Revision, femoral anastomosis of synthetic arterial bypass graft in groin, open; with nonautogenous patch graft (eg,
PAD	CFT	22002	Dacron, ePTFE, bovine pericardium)
PAD	CPT	35884	Revision, femoral anastomosis of synthetic arterial bypass graft in groin, open; with autogenous vein patch graft
PAD	CPT	37220	Iliac PTA-open or percutaneous initial vessel
PAD	CPT	37221	lliac stent w PTA
PAD	CPT	37222	Iliac PTA each additional iliac vessel
PAD	CPT	37223	Iliac stent w PTA each additional iliac vessel
PAD	CPT	37224	Fem-pop PTA- open or percut No add on codes
PAD	CPT	37225	Fem-pop w atherectomy includes PTA
PAD	CPT	37226	Fem-pop stent includes PTA
PAD	CPT	37227	Fem-pop stent w atherectomy includes PTA
PAD	CPT	37228	Tib-peroneal PTA- open or percut initial vessel
PAD	CPT	37229	Tib-peroneal atherectomy includes PTA
PAD	CPT	37230	Tib-peroneal stent includes PTA
PAD	CPT	37231	Tib-peroneal stent w atherectomy includes PTA
PAD	CPT	37232	Tib-peroneal PTA each additional vessel
PAD	CPT	37233	Tib-peroneal atherectomy each additional vessel
PAD	CPT	37234	Tib-peroneal stent includes PTA each additional vessel
PAD	CPT	37235	Tib-peroneal stent w atherectomy includes PTA each additional vessel
PAD	CPT	37205#	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity
			arteries), percutaneous; initial vessel
PAD	CPT	35381	Femoral / popliteal / tibioperoneal endarterectomy
PAD	CPT	35541	Bypass graft, with vein; aorto-iliac
PAD	CPT	35546	Bypass graft, with vein; aorto-femoral
PAD	CPT	35582	In-situ venin bypass
PAD	CPT	35651	Bypass graft, other than vein; aortofemoral-popliteal
PAD	CPT	35226	Repair of blood vessel, direct; lower extremity
PAD	CPT	35256	Repair of blood vessel with vein graft; lower extremity
PAD	CPT	35286	Repair of blood vessel with other than vein graft; lower extremity
PAD	CPT	35641	Bypass graft, other than vein; aortoiliac
PAD	CPT	37184#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary
PAD	CPT	37185#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary; second vessel
PAD	СРТ	37186#	Percutaneous mechanical thrombectomy, arterial bypass graft, noncoronary; non-primary
PAD	CPT	37206#	Transcatheter placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity
			arteries), percutaneous; second vessel
PAD	СРТ	37207#	Open placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries)

PAD	СРТ	37208#	Open placement of an intravascular stent(s) (except coronary, carotid, vertebral, iliac, and lower extremity arteries);
	CDT	27200	second vessel
PAD	CPT	27290	Interpelviabdominal amputation (hindquarter amputation)
PAD	CPT	27295	Disarticulation of hip
PAD	CPT CPT	27590	Amputation, thigh, through femur, any level; Amputation, thigh, through femur, any level; immediate fitting technique including first sast
PAD		27591	Amputation, thigh, through femur, any level; immediate fitting technique including first cast
PAD	CPT	27592	Amputation, thigh, through femur, any level; open, circular (guillotine)
PAD	CPT	27594	Amputation, thigh, through femur, any level; secondary closure or scar revision
PAD	CPT	27596	Amputation, thigh, through femur, any level; re-amputation
PAD	CPT	27598	Disarticulation at knee
PAD	CPT	27880	Amputation, leg, through tibia and fibula;
PAD	CPT	27881	Amputation, leg, through tibia and fibula; with immediate fitting technique including application of first cast
PAD	CPT	27882	Amputation, leg, through tibia and fibula; open, circular (guillotine)
PAD	CPT	27884	Amputation, leg, through tibia and fibula; secondary closure or scar revision
PAD	CPT	27886	Amputation, leg, through tibia and fibula; re-amputation
PAD	СРТ	27888	Amputation, ankle, through malleoli of tibia and fibula (eg, Syme, Pirogoff type procedures), with plastic closure and resection of nerves
PAD	СРТ	93923	Noninvasive physiologic studies of upper or lower extremity arteries, multiple levels or with provocative functional maneuvers, complete bilateral study
PAD	СРТ	93924	non-invasive physiologic studies of lower extremity arteries, at rest and following treadmill stress testing, complete bilateral study
PAD	ICD10	170.0**	Atherosclerosis of aorta
PAD	ICD10	170.2**	Atherosclerosis of actual Atherosclerosis of actual actu
PAD	ICD10	170.3**	Atherosclerosis of unspecified type of bypass graft(s) of the extremities
PAD	ICD10	170.4**	Atherosclerosis of autologous vein bypass graft(s) of the extremities
PAD	ICD10	170.5**	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities
PAD	ICD10	170.6**	Atherosclerosis of nonbiological bypass graft(s) of the extremities
PAD	ICD10	170.7**	Atherosclerosis of other type of bypass graft(s) of the extremities
PAD	ICD10	170.9**	Other and unspecified atherosclerosis
PAD	ICD10	173.9**	Peripheral vascular disease, unspecified
PAD	ICD10	0470***	Dilation of Abdominal Aorta
PAD	ICD10	312090	Bypass Innominate Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312091	Bypass Innominate Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009B	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009D	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009C	Bypass Abdominal Aorta to Bilateral Internal liac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009D	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009G	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	0410090 041009H	Bypass Abdominal Aorta to Bilatera Externa inac Arteries with Autologous Venous Venous Fissue, Open Approach
PAD	ICD10	0410091 041009J	
PAD	ICD10	041009J 041009K	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Venous Tissue, Open Approach
			Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009Q	Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041009R	Bypass Abdominal Aorta to Lower Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	04100A6	Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Arterial Tissue, Open Approach Bypass Abdominal Aorta to Left Common Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100A7	
PAD	ICD10	04100A8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Autologous Arterial Tissue, Open Approach Bypass Abdominal Aorta to Right Internal Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100A9	
PAD	ICD10	04100AB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Arterial Tissue, Open Approach Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AC	
PAD	ICD10	04100AD	Bypass Abdominal Aorta to Right External Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AF	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AH	Bypass Abdominal Aorta to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AJ	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AQ	Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100AR	Bypass Abdominal Aorta to Lower Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	04100J6	Bypass Abdominal Aorta to Right Common Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100J7	Bypass Abdominal Aorta to Left Common Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100J8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	04100J9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	04100JD	Bypass Abdominal Aorta to Right External Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JF	Bypass Abdominal Aorta to Left External Iliac Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Synthetic Substitute, Open Approach

PAD	ICD10	04100JH	Bypass Abdominal Aorta to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JJ	Bypass Abdominal Aorta to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	04100JQ	Bypass Abdominal Aorta to Lower Extremity Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100JR	Bypass Abdominal Aorta to Lower Artery with Synthetic Substitute, Open Approach
PAD	ICD10	04100K6	Bypass Abdominal Aorta to Right Common Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100K7	Bypass Abdominal Aorta to Left Common Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100K8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100K9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KD	Bypass Abdominal Aorta to Right External Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KF	Bypass Abdominal Aorta to Left External Iliac Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KH	Bypass Abdominal Aorta to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KJ	Bypass Abdominal Aorta to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	04100KQ	Bypass Abdominal Aorta to Lower Extremity Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10 ICD10	04100KR 04100Z6	Bypass Abdominal Aorta to Lower Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	0410028 04100Z7	Bypass Abdominal Aorta to Right Common Iliac Artery, Open Approach
PAD PAD	ICD10	0410027 04100Z8	Bypass Abdominal Aorta to Left Common Iliac Artery, Open Approach Bypass Abdominal Aorta to Bilateral Common Iliac Arteries, Open Approach
PAD	ICD10	0410028 04100Z9	Bypass Abdominal Aorta to Right Internal Iliac Artery, Open Approach
PAD	ICD10	0410029 04100ZB	Bypass Abdominal Aorta to Left Internal Iliac Artery, Open Approach
PAD	ICD10	041002B 04100ZC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries, Open Approach
PAD	ICD10	04100ZC	Bypass Abdominal Aorta to Right External Iliac Artery, Open Approach
PAD	ICD10	041002D	Bypass Abdominal Aorta to Left External Iliac Artery, Open Approach
PAD	ICD10	04100ZG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries, Open Approach
PAD	ICD10	04100ZH	Bypass Abdominal Aorta to Right Femoral Artery, Open Approach
PAD	ICD10	04100ZJ	Bypass Abdominal Aorta to Left Femoral Artery, Open Approach
PAD	ICD10	04100ZK	Bypass Abdominal Aorta to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	04100ZQ	Bypass Abdominal Aorta to Lower Extremity Artery, Open Approach
PAD	ICD10	04100ZR	Bypass Abdominal Aorta to Lower Artery, Open Approach
PAD	ICD10	312092	Bypass Innominate Artery to Bilateral Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312093	Bypass Innominate Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312094	Bypass Innominate Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312095	Bypass Innominate Artery to Bilateral Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041049B	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049C	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041049D	Bypass Abdominal Aorta to Right External Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049F	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049G	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
	10040	04404011	Approach
PAD	ICD10	041049H	Bypass Abdominal Aorta to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049J	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049K	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041049Q	Approach Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041049Q 041049R	Bypass Abdominal Aorta to Lower Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
FAD	ICDIO	041045K	Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Venous rissue, Percutaneous Endoscopic Approach Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	04104A6	Approach
PAD	ICD10	04104A7	Bypass Abdominal Aorta to Left Common Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
			Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	04104A8	Approach
PAD	ICD10	04104A9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
	10040		Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	04104AC	Approach
PAD	ICD10	04104AD	Bypass Abdominal Aorta to Right External Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AF	Bypass Abdominal Aorta to Left External Iliac Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	04104AG	Approach
PAD	ICD10	04104AH	Bypass Abdominal Aorta to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AJ	Bypass Abdominal Aorta to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach

PAD	ICD10	04104AK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AQ	Bypass Abdominal Aorta to Lower Extremity Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104AR	Bypass Abdominal Aorta to Lower Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	312096 312097	Bypass Innominate Artery to Right Upper Leg Artery with Autologous Venous Tissue, Open Approach Bypass Innominate Artery to Left Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312098	Bypass Innominate Artery to Elect opper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	312099	Bypass Innominate Artery to Bidterial opper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313090	Bypass Right Subclavian Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313091	Bypass Right Subclavian Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313092	Bypass Right Subclavian Artery to Bilateral Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313093	Bypass Right Subclavian Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313094	Bypass Right Subclavian Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313095	Bypass Right Subclavian Artery to Bilateral Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313096	Bypass Right Subclavian Artery to Right Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313097	Bypass Right Subclavian Artery to Left Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313098	Bypass Right Subclavian Artery to Bilateral Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	313099	Bypass Right Subclavian Artery to Right Lower Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314090	Bypass Left Subclavian Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD PAD	ICD10 ICD10	314091 314092	Bypass Left Subclavian Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach Bypass Left Subclavian Artery to Bilateral Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314092	Bypass Left Subclavian Artery to Bilateral Opper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314094	Bypass Left Subclavian Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314095	Bypass Left Subclavian Artery to Bilateral Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314096	Bypass Left Subclavian Artery to Right Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314097	Bypass Left Subclavian Artery to Left Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314098	Bypass Left Subclavian Artery to Bilateral Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	314099	Bypass Left Subclavian Artery to Right Lower Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315090	Bypass Right Axillary Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315091	Bypass Right Axillary Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315092	Bypass Right Axillary Artery to Bilateral Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315093	Bypass Right Axillary Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315094	Bypass Right Axillary Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315095	Bypass Right Axillary Artery to Bilateral Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315096	Bypass Right Axillary Artery to Right Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD PAD	ICD10 ICD10	315097 315098	Bypass Right Axillary Artery to Left Upper Leg Artery with Autologous Venous Tissue, Open Approach Bypass Right Axillary Artery to Bilateral Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	315099	Bypass Right Axillary Artery to Right Lower Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316090	Bypass Left Axillary Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316091	Bypass Left Axillary Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316092	Bypass Left Axillary Artery to Bilateral Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316093	Bypass Left Axillary Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316094	Bypass Left Axillary Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316095	Bypass Left Axillary Artery to Bilateral Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316096	Bypass Left Axillary Artery to Right Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316097	Bypass Left Axillary Artery to Left Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	316098	Bypass Left Axillary Artery to Bilateral Upper Leg Artery with Autologous Venous Tissue, Open Approach
PAD PAD	ICD10 ICD10	316099 317090	Bypass Left Axillary Artery to Right Lower Leg Artery with Autologous Venous Tissue, Open Approach Bypass Right Brachial Artery to Right Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	317090	Bypass Right Brachial Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	318091	Bypass Left Brachial Artery to Left Upper Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	318094	Bypass Left Brachial Artery to Left Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	319093	Bypass Right Ulnar Artery to Right Lower Arm Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	410096	Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	410097	Bypass Abdominal Aorta to Left Common Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	410098	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	410099	Bypass Abdominal Aorta to Right Internal Iliac Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	410496	Bypass Abdominal Aorta to Right Common Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	410497	Bypass Abdominal Aorta to Left Common Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	410498	Approach
PAD	ICD10	410499	Bypass Abdominal Aorta to Right Internal Iliac Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	04104J6	Bypass Abdominal Aorta to Right Common Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	04104J7 04104J8	Bypass Abdominal Aorta to Left Common Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach

PAD	ICD10	04104J9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JB	Bypass Abdominal Aorta to Left Internal Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JD	Bypass Abdominal Aorta to Right External Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JF	Bypass Abdominal Aorta to Left External Iliac Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JH	Bypass Abdominal Aorta to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JJ	Bypass Abdominal Aorta to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JQ	Bypass Abdominal Aorta to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104JR	Bypass Abdominal Aorta to Lower Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
1710	ICDIO		
PAD	ICD10	04104K6	Bypass Abdominal Aorta to Right Common Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
			Approach
	10010	04104K7	Bypass Abdominal Aorta to Left Common Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104K7	Approach
			Bypass Abdominal Aorta to Bilateral Common Iliac Arteries with Nonautologous Tissue Substitute, Percutaneous
PAD	ICD10	04104K8	
			Endoscopic Approach
		04104K9	Bypass Abdominal Aorta to Right Internal Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104K9	Approach
			Bypass Abdominal Aorta to Left Internal Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104KB	
			Approach
PAD	ICD10	04104KC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries with Nonautologous Tissue Substitute, Percutaneous
PAD	ICDIO	04104KC	Endoscopic Approach
			Bypass Abdominal Aorta to Right External Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104KD	
			Approach
PAD	ICD10	04104KF	Bypass Abdominal Aorta to Left External Iliac Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
IAD	ICDIO	0410410	Approach
			Bypass Abdominal Aorta to Bilateral External Iliac Arteries with Nonautologous Tissue Substitute, Percutaneous
PAD	ICD10	04104KG	
			Endoscopic Approach
PAD	ICD10	04104KH	Bypass Abdominal Aorta to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
IAD	ICDIO	04104101	Approach
			Bypass Abdominal Aorta to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104KJ	Approach
PAD	ICD10	04104KK	Bypass Abdominal Aorta to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous Endoscopic
1710	ICDIO	0110110	Approach
			Bypass Abdominal Aorta to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	04104KQ	Approach
	10040	04404//D	
PAD	ICD10	04104KR	Bypass Abdominal Aorta to Lower Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	04104Z6	Bypass Abdominal Aorta to Right Common Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104Z7	Bypass Abdominal Aorta to Left Common Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104Z8	Bypass Abdominal Aorta to Bilateral Common Iliac Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	04104Z9	Bypass Abdominal Aorta to Right Internal Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZB	Bypass Abdominal Aorta to Left Internal Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZC	Bypass Abdominal Aorta to Bilateral Internal Iliac Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZD	Bypass Abdominal Aorta to Right External Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZF	Bypass Abdominal Aorta to Left External Iliac Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZG	Bypass Abdominal Aorta to Bilateral External Iliac Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZH	Bypass Abdominal Aorta to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZJ	Bypass Abdominal Aorta to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZK	Bypass Abdominal Aorta to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZQ	Bypass Abdominal Aorta to Lower Extremity Artery, Percutaneous Endoscopic Approach
PAD	ICD10	04104ZR	Bypass Abdominal Aorta to Lower Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041C09H	Bypass Right Common Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041C09J	Bypass Right Common Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041C09K	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
	ICD10		Bypass Right Common Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD		041C0AH	
PAD	ICD10	041C0AJ	Bypass Right Common Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041C0AK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041C0JH	Bypass Right Common Iliac Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041C0JJ	Bypass Right Common Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041C0JK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041C0KH	Bypass Right Common Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041C0KJ	Bypass Right Common Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041C0KK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041C0ZH	Bypass Right Common Iliac Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041C0ZJ	Bypass Right Common Iliac Artery to Left Femoral Artery, Open Approach

PAD	ICD10	041C0ZK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041C49H	Bypass Right Common Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
I AD	ICDIO	04104511	Approach
		041C49J	Bypass Right Common Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	0410495	Approach
	10040	0446401	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041C49K	Approach
			Bypass Right Common Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041C4AH	Approach
			Bypass Right Common Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041C4AJ	Approach
			Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041C4AK	Approach
PAD	ICD10	041C4JH	Bypass Right Common Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041C4JJ	Bypass Right Common lliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICDIU	041041	Bypass Right Common Iliac Artery to Bilateral Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic
PAD	ICD10	041C4JK	
			Approach Durana Bisht Common lling Anton to Bisht Formard Anton with Negentral com Tissue Substitute Department of the
PAD	ICD10	041C4KH	Bypass Right Common Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous
			Endoscopic Approach
PAD	ICD10	041C4KJ	Bypass Right Common Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
			Approach
PAD	ICD10	041C4KK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous
	.0010		Endoscopic Approach
PAD	ICD10	041C4ZH	Bypass Right Common Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041C4ZJ	Bypass Right Common Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041C4ZK	Bypass Right Common Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041D09H	Bypass Left Common Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041D09J	Bypass Left Common Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041D09K	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041D0AH	Bypass Left Common Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041D0AJ	Bypass Left Common Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041D0AK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041D0JH	Bypass Left Common Iliac Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041D0JJ	Bypass Left Common Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041D0JK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041D0KH	Bypass Left Common Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041D0KJ	Bypass Left Common Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041D0KK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041D0KK	Bypass Left Common Iliac Artery to Bilderan emoral Artery, Open Approach
PAD	ICD10	041D0ZJ	Bypass Left Common Iliac Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041D025 041D0ZK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICDIU	041D02K	
PAD	ICD10	041D49H	Bypass Left Common Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach Durant left Common lling Artenuite Left Forgand Artenuith Autologicus Vergue Tierre Deputerous Folgeografic
PAD	ICD10	041D49J	Bypass Left Common Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041D49K	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041D4AH	Bypass Left Common Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041D4AJ	Bypass Left Common Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
1710	10010	0110 00	Approach
PAD	ICD10	041D4AK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
I AD	ICDIO	041D4AK	Approach
PAD	ICD10	041D4JH	Bypass Left Common Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041D4JJ	Bypass Left Common Iliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
	10010		Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic
PAD	ICD10	041D4JK	Approach
			Bypass Left Common Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041D4KH	Approach
_			Bypass Left Common Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041D4KJ	Approach
			Bypass Left Common Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous
PAD	ICD10	041D4KK	Endoscopic Approach
PAD	ICD10	041D4ZH	Bypass Left Common Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041D42H 041D4ZJ	Bypass Left Common Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041D42J 041D4ZK	Bypass Left Common Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
	10010	07104LN	system control inde Artery to Bilderal Ferroral Arteries, Ferentalicous Endoscopic Approach

PAD	ICD10	041E09H	Bypass Right Internal Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041E09J	Bypass Right Internal Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041E09K	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041E0AH	Bypass Right Internal Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041E0AJ	Bypass Right Internal Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041E0AK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041E0JH	Bypass Right Internal Iliac Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041E0JJ	Bypass Right Internal Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041E0JK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041E0KH	Bypass Right Internal Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041E0KJ	Bypass Right Internal Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041E0KK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041E0ZH	Bypass Right Internal Iliac Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041E0ZJ	Bypass Right Internal Iliac Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041E0ZK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041E49H	Bypass Right Internal Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
IAD	ICDIO	04124511	Approach
		0415401	Bypass Right Internal Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041E49J	Approach
	10040	04454014	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041E49K	Approach
			By ass Right Internal Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041E4AH	Approach
			Bypass Right Internal Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041E4AJ	
			Approach Duran Diabh Internal Iline Anton de Dilateral Forenach Antonios with Autologous Artoniol Tierre Descuteres un Foderaccia
PAD	ICD10	041E4AK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041E4JH	Bypass Right Internal Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041E4JJ	Bypass Right Internal Iliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041E4JK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic
TAD	ICDIO	0412451	Approach
PAD	ICD10	041E4KH	Bypass Right Internal Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
IAD	ICDIO	04124111	Approach
	10010	041541	Bypass Right Internal Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041E4KJ	Approach
			Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous
PAD	ICD10	041E4KK	Endoscopic Approach
PAD	ICD10	041E4ZH	Bypass Right Internal Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041E4ZJ	Bypass Right Internal Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041E4ZK	Bypass Right Internal Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041F09H	Bypass Left Internal Iliac Artery to Bight Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041F09J	Bypass Left Internal Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
		041F09J	
PAD	ICD10		Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041F0AH	Bypass Left Internal Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041F0AJ	Bypass Left Internal Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041F0AK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041F0JH	Bypass Left Internal Iliac Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041F0JJ	Bypass Left Internal Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041F0JK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041F0KH	Bypass Left Internal Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041F0KJ	Bypass Left Internal Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041F0KK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041F0ZH	Bypass Left Internal Iliac Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041F0ZJ	Bypass Left Internal Iliac Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041F0ZK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries, Open Approach
			Bypass Left Internal Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041F49H	Approach
			Bypass Left Internal Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041F49J	Approach
PAD	ICD10	041F49K	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach Durang left laternal lling Antomate Dight Formand Antonia ith Antologous Antonial Tissue, Dereutogous Forlagous
PAD	ICD10	041F4AH	Bypass Left Internal Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041F4AJ	Bypass Left Internal Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
			Approach

PAD	ICD10	041F4AK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	041F4JH 041F4JJ	Bypass Left Internal Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach Bypass Left Internal Iliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041F4JK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041F4KH	Bypass Left Internal Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041F4KJ	Bypass Left Internal Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041F4KK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041F4ZH	Bypass Left Internal Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041F4ZJ	Bypass Left Internal Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041F4ZK	Bypass Left Internal Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041H09H	Bypass Right External Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10 ICD10	041H09J 041H09K	Bypass Right External Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD PAD	ICD10	041H09K 041H0AH	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041H0AH 041H0AJ	Bypass Right External Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach Bypass Right External Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041H0AJ	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041H0AK 041H0JH	Bypass Right External fliac Artery to Bilateral Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041H0JJ	Bypass Right External Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041H0JK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041H0KH	Bypass Right External Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041H0KJ	Bypass Right External Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041H0KK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041H0ZH	Bypass Right External Iliac Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041H0ZJ	Bypass Right External Iliac Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041H0ZK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041H49H	Bypass Right External Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H49J	Bypass Right External Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H49K	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H4AH	Bypass Right External Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H4AJ	Bypass Right External Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H4AK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041H4JH	Bypass Right External Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041H4JJ	Bypass Right External Iliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic
PAD	ICD10	041H4JK	Approach Bypass Right External Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous
PAD	ICD10	041H4KH	Endoscopic Approach
PAD	ICD10	041H4KJ	Bypass Right External Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041H4KK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041H4ZH	Bypass Right External Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041H4ZJ	Bypass Right External Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041H4ZK	Bypass Right External Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	041J09H 041J09J	Bypass Left External Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach Bypass Left External Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041J09J 041J09K	Bypass Left External lliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041J09K 041J0AH	Bypass Left External Iliac Artery to Blateral Perioral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041J0AH 041J0AJ	Bypass Left External Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041J0AJ 041J0AK	Bypass Left External Iliac Artery to Bilateral Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041J0JH	Bypass Left External Iliac Artery to Bilder an emolar Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041J0JJ	Bypass Left External Iliac Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041J0JK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041J0KH	Bypass Left External Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041J0KJ	Bypass Left External Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach

PAD	ICD10	041J0KK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041J0ZH	Bypass Left External Iliac Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041J0ZJ	Bypass Left External Iliac Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041J0ZK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041J49H	Bypass Left External Iliac Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041J49J	Bypass Left External Iliac Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041J49K	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach Bypass Left External Iliac Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041J4AH	Approach Bypass Left External Iliac Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041J4AJ	Approach
PAD	ICD10	041J4AK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041J4JH	Bypass Left External Iliac Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041J4JJ	Bypass Left External Iliac Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041J4JK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041J4KH	Bypass Left External Iliac Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041J4KJ	Bypass Left External Iliac Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041J4KK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous
	10040		Endoscopic Approach
PAD	ICD10	041J4ZH	Bypass Left External Iliac Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041J4ZJ	Bypass Left External Iliac Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041J4ZK	Bypass Left External Iliac Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041K09H	Bypass Right Femoral Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09J	Bypass Right Femoral Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09K	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09L	Bypass Right Femoral Artery to Popliteal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09M	Bypass Right Femoral Artery to Peroneal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09N	Bypass Right Femoral Artery to Posterior Tibial Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09P	Bypass Right Femoral Artery to Foot Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09Q	Bypass Right Femoral Artery to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K09S	Bypass Right Femoral Artery to Lower Extremity Vein with Autologous Venous Tissue, Open Approach
PAD	ICD10	041K0AH	Bypass Right Femoral Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AH 041K0AJ	Bypass Right Femoral Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AL	Bypass Right Femoral Artery to Popliteal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AM	Bypass Right Femoral Artery to Peroneal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AN	Bypass Right Femoral Artery to Posterior Tibial Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AP	Bypass Right Femoral Artery to Foot Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AQ	Bypass Right Femoral Artery to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0AS	Bypass Right Femoral Artery to Lower Extremity Vein with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041K0JH	Bypass Right Femoral Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JJ	Bypass Right Femoral Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041KOJL	Bypass Right Femoral Artery to Popliteal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JM	Bypass Right Femoral Artery to Peroneal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JN	Bypass Right Femoral Artery to Posterior Tibial Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JP	Bypass Right Femoral Artery to Foot Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JQ	Bypass Right Femoral Artery to Lower Extremity Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041K0JQ 041K0JS	Bypass Right Femoral Artery to Lower Extremity Vein with Synthetic Substitute, Open Approach
			Bypass Right Femoral Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KH	
PAD	ICD10	041K0KJ	Bypass Right Femoral Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KL	Bypass Right Femoral Artery to Popliteal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KM	Bypass Right Femoral Artery to Peroneal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KN	Bypass Right Femoral Artery to Posterior Tibial Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KP	Bypass Right Femoral Artery to Foot Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KQ	Bypass Right Femoral Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0KS	Bypass Right Femoral Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041K0ZH	Bypass Right Femoral Artery to Right Femoral Artery, Open Approach

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PAD	ICD10	041K0ZJ	Bypass Right Femoral Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041K0ZK	Bypass Right Femoral Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041K0ZL	Bypass Right Femoral Artery to Popliteal Artery, Open Approach
PAD	ICD10	041K0ZM	Bypass Right Femoral Artery to Peroneal Artery, Open Approach
PAD	ICD10	041K0ZN	Bypass Right Femoral Artery to Posterior Tibial Artery, Open Approach
PAD	ICD10	041K0ZP	Bypass Right Femoral Artery to Foot Artery, Open Approach
PAD	ICD10	041K0ZQ	Bypass Right Femoral Artery to Lower Extremity Artery, Open Approach
PAD	ICD10	041K0ZS	Bypass Right Femoral Artery to Lower Extremity Vein, Open Approach
PAD	ICD10	041K49H	Bypass Right Femoral Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K49J	Bypass Right Femoral Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K49K	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K49L	Bypass Right Femoral Artery to Popliteal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K49M	Bypass Right Femoral Artery to Peroneal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K49N	Bypass Right Femoral Artery to Posterior Tibial Artery with Autologous Venous Tissue, Percutaneous Endoscopic
			Approach
PAD	ICD10	041K49P	Bypass Right Femoral Artery to Foot Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach Bypass Right Femoral Artery to Lower Extremity Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041K49Q	Approach
PAD	ICD10	041K49S	Bypass Right Femoral Artery to Lower Extremity Vein with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K4AH	Bypass Right Femoral Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K4AJ	Bypass Right Femoral Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K4AK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041K4AL	Approach Bypass Right Femoral Artery to Popliteal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K4AM	Bypass Right Femoral Artery to Peroneal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
1710	10010	0111111	Bypass Right Femoral Artery to Posterior Tibial Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041K4AN	Approach
PAD	ICD10	041K4AP	Bypass Right Femoral Artery to Foot Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach Bypass Right Femoral Artery to Lower Extremity Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041K4AQ	Approach
PAD	ICD10	041K4AS	Bypass Right Femoral Artery to Lower Extremity Vein with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JH	Bypass Right Femoral Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JJ	Bypass Right Femoral Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JL	Bypass Right Femoral Artery to Popliteal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JM	Bypass Right Femoral Artery to Peroneal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JN	Bypass Right Femoral Artery to Posterior Tibial Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JN 041K4JP	
			Bypass Right Femoral Artery to Foot Artery with Synthetic Substitute, Percutaneous Endoscopic Approach Bypass Right Femoral Artery to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4JQ	
PAD	ICD10	041K4JS	Bypass Right Femoral Artery to Lower Extremity Vein with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4KH	Bypass Right Femoral Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4KJ	Bypass Right Femoral Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICDIO	041K4KJ	Approach
PAD	ICD10	041K4KK	Bypass Right Femoral Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous
I AD	ICDIO	0418488	Endoscopic Approach
PAD	ICD10	041K4KL	Bypass Right Femoral Artery to Popliteal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
			Bypass Right Femoral Artery to Peroneal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041K4KM	Approach
			Bypass Right Femoral Artery to Posterior Tibial Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041K4KN	Approach
PAD	ICD10	041K4KP	Bypass Right Femoral Artery to Foot Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4KQ	Bypass Right Femoral Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041K4KS	Bypass Right Femoral Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Percutaneous Endoscopic
			Approach
PAD	ICD10	041K4ZH	Bypass Right Femoral Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZJ	Bypass Right Femoral Artery to Left Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZK	Bypass Right Femoral Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZL	Bypass Right Femoral Artery to Popliteal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZM	Bypass Right Femoral Artery to Peroneal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZN	Bypass Right Femoral Artery to Posterior Tibial Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZP	Bypass Right Femoral Artery to Foot Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041K4ZQ	Bypass Right Femoral Artery to Lower Extremity Artery, Percutaneous Endoscopic Approach

PAD	ICD10	041K4ZS	Bypass Right Femoral Artery to Lower Extremity Vein, Percutaneous Endoscopic Approach
PAD	ICD10	041L09H	Bypass Left Femoral Artery to Right Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09J	Bypass Left Femoral Artery to Left Femoral Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09K	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09L	Bypass Left Femoral Artery to Popliteal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09M	Bypass Left Femoral Artery to Peroneal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09N	Bypass Left Femoral Artery to Posterior Tibial Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09P	Bypass Left Femoral Artery to Foot Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09Q	Bypass Left Femoral Artery to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L09S	Bypass Left Femoral Artery to Lower Extremity Vein with Autologous Venous Tissue, Open Approach
PAD	ICD10	041L0AH	Bypass Left Femoral Artery to Right Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AJ	Bypass Left Femoral Artery to Left Femoral Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AL	Bypass Left Femoral Artery to Popliteal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AM	Bypass Left Femoral Artery to Peroneal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AN	Bypass Left Femoral Artery to Posterior Tibial Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AP	Bypass Left Femoral Artery to Foot Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AQ	Bypass Left Femoral Artery to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0AS	Bypass Left Femoral Artery to Lower Extremity Vein with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041L0JH	Bypass Left Femoral Artery to Right Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JJ	Bypass Left Femoral Artery to Left Femoral Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Synthetic Substitute, Open Approach
PAD	ICD10	041LOJK 041LOJL	
			Bypass Left Femoral Artery to Popliteal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JM	Bypass Left Femoral Artery to Peroneal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JN	Bypass Left Femoral Artery to Posterior Tibial Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JP	Bypass Left Femoral Artery to Foot Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JQ	Bypass Left Femoral Artery to Lower Extremity Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041L0JS	Bypass Left Femoral Artery to Lower Extremity Vein with Synthetic Substitute, Open Approach
PAD	ICD10	041L0KH	Bypass Left Femoral Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041LOKJ	Bypass Left Femoral Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KL	Bypass Left Femoral Artery to Popliteal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KM	Bypass Left Femoral Artery to Peroneal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KN	Bypass Left Femoral Artery to Posterior Tibial Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KP	Bypass Left Femoral Artery to Foot Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KQ	Bypass Left Femoral Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0KS	Bypass Left Femoral Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041L0ZH	Bypass Left Femoral Artery to Right Femoral Artery, Open Approach
PAD	ICD10	041L0ZJ	Bypass Left Femoral Artery to Left Femoral Artery, Open Approach
PAD	ICD10	041L0ZK	Bypass Left Femoral Artery to Bilateral Femoral Arteries, Open Approach
PAD	ICD10	041L0ZL	Bypass Left Femoral Artery to Popliteal Artery, Open Approach
PAD	ICD10	041L0ZM	Bypass Left Femoral Artery to Peroneal Artery, Open Approach
PAD	ICD10	041L0ZN	Bypass Left Femoral Artery to Posterior Tibial Artery, Open Approach
PAD	ICD10	041L0ZP	Bypass Left Femoral Artery to Foot Artery, Open Approach
PAD	ICD10	041L0ZQ	Bypass Left Femoral Artery to Lower Extremity Artery, Open Approach
PAD	ICD10	041L0ZS	Bypass Left Femoral Artery to Lower Extremity Vein, Open Approach
PAD	ICD10	041L49H	Bypass Left Femoral Artery to Right Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49J	Bypass Left Femoral Artery to Left Femoral Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49K	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49L	Bypass Left Femoral Artery to Popliteal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49M	Bypass Left Femoral Artery to Peroneal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49N	Bypass Left Femoral Artery to Posterior Tibial Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L49P	Bypass Left Femoral Artery to Foot Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
TAD	ICDIO	0411451	Bypass Left Femoral Artery to Lower Extremity Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041L49Q	Approach
PAD	ICD10	041L49S	Bypass Left Femoral Artery to Lower Extremity Vein with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AH	Bypass Left Femoral Artery to Right Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AJ	Bypass Left Femoral Artery to Left Femoral Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AL	Bypass Left Femoral Artery to Popliteal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AM	Bypass Left Femoral Artery to Peroneal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AN	Bypass Left Femoral Artery to Posterior Tibial Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4AN 041L4AP	Bypass Left Femoral Artery to Foot Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAU	ICD10	UHIL4AP	bypass Left Femoral Artery to Foot Artery with Autologous Arterial Fissue, Pertutalleous Endoscopic Approach

			Bypass Left Femoral Artery to Lower Extremity Artery with Autologous Arterial Tissue, Percutaneous Endoscopic
PAD	ICD10	041L4AQ	Approach
PAD	ICD10	041L4AS	Bypass Left Femoral Artery to Lower Extremity Vein with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JH	Bypass Left Femoral Artery to Right Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JJ	Bypass Left Femoral Artery to Left Femoral Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JL	Bypass Left Femoral Artery to Popliteal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JM	Bypass Left Femoral Artery to Peroneal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JN	Bypass Left Femoral Artery to Posterior Tibial Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JP	Bypass Left Femoral Artery to Foot Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JQ	Bypass Left Femoral Artery to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4JS	Bypass Left Femoral Artery to Lower Extremity Vein with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4KH	Bypass Left Femoral Artery to Right Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4KJ	Bypass Left Femoral Artery to Left Femoral Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4KK	Bypass Left Femoral Artery to Bilateral Femoral Arteries with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041L4KL	Approach Bypass Left Femoral Artery to Popliteal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4KM	Bypass Left Femoral Artery to Peroneal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
			Bypass Left Femoral Artery to Posterior Tibial Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041L4KN	Approach
PAD	ICD10	041L4KP	Bypass Left Femoral Artery to Foot Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041L4KQ	Bypass Left Femoral Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICDIU	041L4KQ	Approach
PAD	ICD10	041L4KS	Bypass Left Femoral Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Percutaneous Endoscopic
			Approach
PAD	ICD10	041L4ZH 041L4ZJ	Bypass Left Femoral Artery to Right Femoral Artery, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	041L4ZJ 041L4ZK	Bypass Left Femoral Artery to Left Femoral Artery, Percutaneous Endoscopic Approach Bypass Left Femoral Artery to Bilateral Femoral Arteries, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZL	Bypass Left Femoral Artery to Dilateral Femoral Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZM	Bypass Left Femoral Artery to Peroneal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZN	Bypass Left Femoral Artery to Posterior Tibial Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZP	Bypass Left Femoral Artery to Foot Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZQ	Bypass Left Femoral Artery to Lower Extremity Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041L4ZS	Bypass Left Femoral Artery to Lower Extremity Vein, Percutaneous Endoscopic Approach
PAD	ICD10	041M09L	Bypass Right Popliteal Artery to Popliteal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041M09M	Bypass Right Popliteal Artery to Peroneal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041M09P	Bypass Right Popliteal Artery to Foot Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041M09Q	Bypass Right Popliteal Artery to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041M09S	Bypass Right Popliteal Artery to Lower Extremity Vein with Autologous Venous Tissue, Open Approach
PAD	ICD10	041M0AL	Bypass Right Popliteal Artery to Popliteal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041M0AM	Bypass Right Popliteal Artery to Peroneal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10 ICD10	041M0AP	Bypass Right Popliteal Artery to Foot Artery with Autologous Arterial Tissue, Open Approach
PAD PAD	ICD10	041M0AQ 041M0AS	Bypass Right Popliteal Artery to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach Bypass Right Popliteal Artery to Lower Extremity Vein with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041M0AS 041M0JL	Bypass Right Popliteal Artery to Popliteal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041M0JM	Bypass Right Popliteal Artery to Peroneal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041M0JP	Bypass Right Popliteal Artery to Foot Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041M0JQ	Bypass Right Popliteal Artery to Lower Extremity Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041M0JS	Bypass Right Popliteal Artery to Lower Extremity Vein with Synthetic Substitute, Open Approach
PAD	ICD10	041M0KL	Bypass Right Popliteal Artery to Popliteal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041M0KM	Bypass Right Popliteal Artery to Peroneal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041M0KP	Bypass Right Popliteal Artery to Foot Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041M0KQ	Bypass Right Popliteal Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041M0KS	Bypass Right Popliteal Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041M0ZL	Bypass Right Popliteal Artery to Popliteal Artery, Open Approach
PAD	ICD10	041M0ZM	Bypass Right Popliteal Artery to Peroneal Artery, Open Approach
PAD	ICD10	041M0ZP	Bypass Right Popliteal Artery to Foot Artery, Open Approach Bypass Right Popliteal Artery to Lower Extremity Artery, Open Approach
PAD PAD	ICD10 ICD10	041M0ZQ 041M0ZS	Bypass Right Popliteal Artery to Lower Extremity Artery, Open Approach Bypass Right Popliteal Artery to Lower Extremity Vein, Open Approach
PAD	ICD10	041M023 041M49L	Bypass Right Popliteal Artery to Popliteal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M49L	Bypass Right Popliteal Artery to Popliteal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M49P	Bypass Right Popliteal Artery to Foot Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
			Bypass Right Popliteal Artery to Lower Extremity Artery with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041M49Q	Approach

			Bypass Right Popliteal Artery to Lower Extremity Vein with Autologous Venous Tissue, Percutaneous Endoscopic
PAD	ICD10	041M49S	Approach
PAD	ICD10	041M4AL	Bypass Right Popliteal Artery to Popliteal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M4AM	Bypass Right Popliteal Artery to Peroneal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M4AP	Bypass Right Popliteal Artery to Foot Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M4AQ	Bypass Right Popliteal Artery to Lower Extremity Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M4AS	Bypass Right Popliteal Artery to Lower Extremity Vein with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041M4JL	Bypass Right Popliteal Artery to Popliteal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4JM	Bypass Right Popliteal Artery to Peroneal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4JP	Bypass Right Popliteal Artery to Foot Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4JQ	Bypass Right Popliteal Artery to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4JS	Bypass Right Popliteal Artery to Lower Extremity Vein with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4KL	Bypass Right Popliteal Artery to Popliteal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4KM	Bypass Right Popliteal Artery to Peroneal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4KP	Bypass Right Popliteal Artery to Foot Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach Bypass Right Popliteal Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041M4KQ	Approach
PAD	ICD10	041M4KS	Bypass Right Popliteal Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041M4ZL	Bypass Right Popliteal Artery to Popliteal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041M4ZM	Bypass Right Popliteal Artery to Peroneal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041M4ZP	Bypass Right Popliteal Artery to Foot Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041M4ZQ	Bypass Right Popliteal Artery to Lower Extremity Artery, Percutaneous Endoscopic Approach
PAD PAD	ICD10 ICD10	041M4ZS 041N09L	Bypass Right Popliteal Artery to Lower Extremity Vein, Percutaneous Endoscopic Approach Bypass Left Popliteal Artery to Popliteal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041N09L 041N09M	Bypass Left Popliteal Artery to Peroneal Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041N09P	Bypass Left Popliteal Artery to Foot Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041N09Q	Bypass Left Popliteal Artery to Lower Extremity Artery with Autologous Venous Tissue, Open Approach
PAD	ICD10	041N09S	Bypass Left Popliteal Artery to Lower Extremity Vein with Autologous Venous Tissue, Open Approach
PAD	ICD10	041N0AL	Bypass Left Popliteal Artery to Popliteal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041N0AM	Bypass Left Popliteal Artery to Peroneal Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041N0AP	Bypass Left Popliteal Artery to Foot Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041N0AQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Autologous Arterial Tissue, Open Approach
PAD	ICD10	041N0AS	Bypass Left Popliteal Artery to Lower Extremity Vein with Autologous Arterial Tissue, Open Approach
PAD PAD	ICD10 ICD10	041N0JL 041N0JM	Bypass Left Popliteal Artery to Popliteal Artery with Synthetic Substitute, Open Approach Bypass Left Popliteal Artery to Peroneal Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041N0JM	Bypass Left Popliteal Artery to Foot Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041N0JQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Synthetic Substitute, Open Approach
PAD	ICD10	041N0JS	Bypass Left Popliteal Artery to Lower Extremity Vein with Synthetic Substitute, Open Approach
PAD	ICD10	041N0KL	Bypass Left Popliteal Artery to Popliteal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041N0KM	Bypass Left Popliteal Artery to Peroneal Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041N0KP	Bypass Left Popliteal Artery to Foot Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041N0KQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041N0KS	Bypass Left Popliteal Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Open Approach
PAD	ICD10	041N0ZL	Bypass Left Popliteal Artery to Popliteal Artery, Open Approach
PAD	ICD10	041N0ZM	Bypass Left Popliteal Artery to Peroneal Artery, Open Approach
PAD PAD	ICD10 ICD10	041N0ZP 041N0ZQ	Bypass Left Popliteal Artery to Foot Artery, Open Approach Bypass Left Popliteal Artery to Lower Extremity Artery, Open Approach
PAD	ICD10	041N02Q	Bypass Left Popliteal Artery to Lower Extremity Artery, Open Approach
PAD	ICD10	041N025 041N49L	Bypass Left Popliteal Artery to Popliteal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N49M	Bypass Left Popliteal Artery to Peroneal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N49P	Bypass Left Popliteal Artery to Foot Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N49Q	Bypass Left Popliteal Artery to Lower Extremity Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N49S	Bypass Left Popliteal Artery to Lower Extremity Vein with Autologous Venous Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4AL	Bypass Left Popliteal Artery to Popliteal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4AM	Bypass Left Popliteal Artery to Peroneal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4AP	Bypass Left Popliteal Artery to Foot Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4AQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4AS	Bypass Left Popliteal Artery to Lower Extremity Vein with Autologous Arterial Tissue, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JL	Bypass Left Popliteal Artery to Popliteal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach

PAD	ICD10	041N4JM	Bypass Left Popliteal Artery to Peroneal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JP	Bypass Left Popliteal Artery to Foot Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JQ	Bypass Left Popliteal Artery to Lower Extremity Artery with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4JS	Bypass Left Popliteal Artery to Lower Extremity Vein with Synthetic Substitute, Percutaneous Endoscopic Approach
PAD	ICD10	041N4KL	Bypass Left Popliteal Artery to Popliteal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
			Bypass Left Popliteal Artery to Peroneal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041N4KM	Approach
PAD	ICD10	041N4KP	Bypass Left Popliteal Artery to Foot Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach
FAD	ICDIO	0411141	Bypass Left Popliteal Artery to Lower Extremity Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic
PAD	ICD10	041N4KQ	
			Approach Burgers left Deplited Artem to Lewer Extension Vain with Neurontal accur Tions Substitute, Deputter and Endersonia
PAD	ICD10	041N4KS	Bypass Left Popliteal Artery to Lower Extremity Vein with Nonautologous Tissue Substitute, Percutaneous Endoscopic
			Approach
PAD	ICD10	041N4ZL	Bypass Left Popliteal Artery to Popliteal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZM	Bypass Left Popliteal Artery to Peroneal Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZP	Bypass Left Popliteal Artery to Foot Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZQ	Bypass Left Popliteal Artery to Lower Extremity Artery, Percutaneous Endoscopic Approach
PAD	ICD10	041N4ZS	Bypass Left Popliteal Artery to Lower Extremity Vein, Percutaneous Endoscopic Approach
PAD	ICD10	0470***	Dilation of Aotra
PAD	ICD10	047C***	Dilation of Common Iliac Artery, Right
PAD	ICD10	047D***	Dilation of Common Iliac Artery, Left
PAD	ICD10	047E***	Dilation of Internal Iliac Artery, Right
PAD	ICD10	047F***	Dilation of Internal Iliac Artery, Left
PAD	ICD10	047H***	Dilation of External Iliac Artery, Right
PAD	ICD10	047J***	Dilation of External Iliac Artery, Left
PAD	ICD10	047K***	Dilation of Femoral Artery, Right
PAD	ICD10	047L***	Dilation of Femoral Artery, Left
PAD	ICD10	047M***	Dilation of Popliteal Artery, Right
PAD	ICD10	047N***	Dilation of Popliteal Artery, Left
PAD	ICD10	047P***	Dilation of Anterior Tibial Artery, Right
PAD	ICD10	047Q***	Dilation of Anterior Tibial Artery, Left
PAD	ICD10	047R***	Dilation of Posterior Tibial Artery, Right
		047K 047S***	
PAD	ICD10	0475*** 047T***	Dilation of Posterior Tibial Artery, Left
PAD	ICD10		Dilation of Perneal Artery, Right
PAD	ICD10	047U***	Dilation of Peroneal Artery, Left
PAD	ICD10	047V***	Dilation of Foot Artery, Right
PAD	ICD10	047W***	Dilation of Foot Artery, Left
PAD	ICD10	047Y***	Dilation of Lower Artery
PAD	ICD10	04C0***	Extirpation of Aotra
PAD	ICD10	04CC***	Extirpation of Common Iliac Artery, Right
PAD	ICD10	04CD***	Extirpation of Common Iliac Artery, Left
PAD	ICD10	04CE***	Extirpation of Internal Iliac Artery, Right
PAD	ICD10	04CF***	Extirpation of Internal Iliac Artery, Left
PAD	ICD10	04CH***	Extirpation of External Iliac Artery, Right
PAD	ICD10	04CJ***	Extirpation of External Iliac Artery, Left
PAD	ICD10	04CK***	Extirpation of Femoral Artery, Right
PAD	ICD10	04CL***	Extirpation of Femoral Artery, Left
PAD	ICD10	04CM***	Extirpation of Popliteal Artery, Right
PAD	ICD10	04CN***	Extirpation of Popliteal Artery, Left
PAD	ICD10	04CP***	Extirpation of Anterior Tibial Artery, Right
PAD	ICD10	04CQ***	Extirpation of Anterior Tibial Artery, Left
PAD	ICD10	04CR***	Extirpation of Posterior Tibial Artery, Right
PAD	ICD10	04CS***	Extirpation of Posterior Tibial Artery, Left
PAD	ICD10	04CT***	Extirpation of Perneal Artery, Right
PAD	ICD10	04CU***	Extirpation of Peroneal Artery, Left
PAD	ICD10	04CV***	Extirpation of Foot Artery, Right
PAD	ICD10	04CW***	Extirpation of Foot Artery, Left
PAD	ICD10	04CY***	Extirpation of Lower Artery
PAD	ICD10	04C1 0Y62***	Detachment at Right Hindquarter, Open Approach
PAD	ICD10	0Y63***	Detachment at Left Hindquarter, Open Approach
PAD	ICD10	0Y64***	Detachment at Bilateral Hindquarters, Open Approach
		0Y67***	
PAD	ICD10		Detachment at Right Femoral Region, Open Approach
PAD	ICD10	0Y68***	Detachment at Left Femoral Region, Open Approach
PAD	ICD10	0Y6C***	Detachment at Right Upper Leg. Open Approach
PAD	ICD10	0Y6D***	Detachment at Left Upper Leg, Open Approach
PAD	ICD10	0Y6F***	Detachment at Right Knee Region, Open Approach
PAD	ICD10	0Y6G***	Detachment at Left Knee Region, Open Approach

PAD	ICD10	0Y6H***	Detachment at Right Lower Leg, Open Approach
PAD	ICD10	0Y6J***	Detachment at Left Lower Leg, Open Approach
PAD	ICD10	0Y6M***	Detachment at Right Foot, Open Approach
PAD	ICD10	0Y6N***	Detachment at Left Foot, Open Approach
PAD	ICD9	440	Atherosclerosis of the aorta
PAD	ICD9	440.2	Atherosclerosis of the native arteries of the extremities, unspecified
PAD	ICD9	440.21	Atherosclerosis of the native arteries of the extremities, with intermittent claudication
PAD	ICD9	440.22	Atherosclerosis of the native arteries of the extremities, with rest pain
PAD	ICD9	440.23	Atherosclerosis of native arteries of the extremities with ulceration
PAD	ICD9	440.24	Atherosclerosis of the native arteries of the extremities, with gangrene
PAD	ICD9	440.29	Atherosclerosis of the native arteries of the extremities, other
PAD	ICD9	440.3	Atherosclerosis of bypass graft of the extremities, unspecified
PAD	ICD9	440.31	Atherosclerosis of bypass graft of the extremities, autogenous vein
PAD	ICD9	440.32	Atherosclerosis of bypass graft of the extremities, non-autogenous vein
PAD	ICD9	440.4	Chronic total occlusion of the artery of the exttremitites
PAD	ICD9	440.8	Atherosclerosis of other specified arteries
PAD	ICD9	443.9	Peripheral vascular disease, unspecified
PAD	ICD9	38.14	Endarterectomy, Aorta
PAD	ICD9	38.18	Endarterectomy, Lower limb arteries
PAD	ICD9	39.25	Aorto-iliac-femoral bypass
PAD	ICD9	39.29	Peripheral vascular bypass
PAD	ICD9	39.5	Angioplasty or atherectomy of non-coronary vessels
PAD	ICD9	39.9	Insertion of non-drug-eluting peripheral vessel stents
PAD	ICD9	84.1	Amputation of the lower limb, not otherwise specified
PAD	ICD9	84.12	Amputaiton through foot
PAD	ICD9	84.13	Disarticulation of ankle
PAD	ICD9	84.14	Amputation through ankle
PAD	ICD9	84.15	Other ampuytation below knee
PAD	ICD9	84.16	Disarticulation of knee
PAD	ICD9	84.17	Amputation above knee
PAD	ICD9	84.18	Disarticulation of hip
PAD	ICD9	84.19	Abdominopelvic amputation
PAD	ICD9	84.3	Revision of amputation stump

Supplemental Table 3. Proportion of individuals with missing data for baseline variables with missingness and the variance inflation factor for these variables due to imputation

Variable	Proportion of participants with missing data at baseline	Variance Inflation Factor
Systolic BP	0.06	1.06
Diastolic BP	0.18	1.23
Body mass index	0.09	1.10
LDL-C	0.24	1.32
HDL-C	0.23	1.29
Triglyceride-C	0.25	1.34
eGFR	0.13	1.15

BP, blood pressure; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; Triglyceride-C, Triglyceride cholesterol eGFR, estimated Glomerular Filtration Rate

			_								_	
		CA		_			oke	_		PA		_
	N	events	HR (95% CI)	Ρ	N	events	HR (95% CI)	Ρ	N	events	HR (95% CI)	Ρ
Numbe	Number of APOL1 risk alleles											
2 Risk alleles	3254	539	1.11 (1.01, 1.21)	0.039	3542	289	1.2 (1.05, 1.36)	0.007	3525	307	1.15 (1.01, 1.29)	0.031
1 Risk Allele	12396	2027	1.04 (0.97, 1.1)	0.25	13514	1015	1.03 (0.94, 1.12)	0.476	13407	1107	1.02 (0.93, 1.1)	0.684
0 Risk alleles	10836	1707	Ref	-	11732	857	Ref	-	11677	943	Ref	-
APOL1	genotype	e compos	ition									
G1/ G1	1145	194	1.13 (0.97, 1.29)	0.11	1252	120	1.42 (1.17, 1.67)	0.0003	1246	111	1.18 (0.97, 1.39)	0.1
G2/ G2	519	72	0.89 (0.7, 1.08)	0.33	564	46	1.19 (0.89, 1.5)	0.25	553	43	1.02 (0.75, 1.29)	0.88
G1/ G2	1590	273	1.16 (1.02, 1.3)	0.02	1726	123	1.03 (0.86, 1.2)	0.69	1726	153	1.17 (0.98, 1.35)	0.09
G1/ Ref	7712	1251	1.03 (0.96, 1.11)	0.36	8378	634	1.04 (0.94, 1.14)	0.43	8314	653	0.98 (0.88, 1.07)	0.65
G2/ Ref	4684	776	1.05 (0.96, 1.13)	0.31	5136	381	1.02 (0.9, 1.13)	0.8	5093	454	1.1 (0.99, 1.22)	0.09
Ref/ Ref	10836	1707	Ref	-	11732	857	Ref	-	11677	943	Ref	-

Supplemental Table 4. Association of *APOL1* genotype and Incident CAD, Stroke and PAD

P for fully adjusted cox proportional model with analysis covariates age, gender, LDL, diabetes, smoking,

systolic blood pressure.

Supplemental Table 5. Progressive covariate adjustment for association of *APOL1* genotype and incident CAD in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period

CAD								
	Cova	riates	Basic Model		CAD risk adjuste model	d	Fully adjusted model	
	Age/s	ex / PCs	+		+		+	
		CAD *			+		+	
		eGFR					+	
	Ν	events	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р
2 Risk	3254	539	1.1 (1, 1.2)	0.06	1.11 (1.01,	0.04	1.11 (1.01,	0.04
alleles			())		1.21)		1.21)	
1 Risk	12396	2027	1.04 (0.98,	0.51	1.03 (0.97, 1.1)	0.37	1.04 (0.97,	0.25
Allele			1.11)		1.03 (0.57, 1.1)		1.1)	
0 Risk	10836	1707	Ref	-	Ref	-	Ref	-
alleles								

* CAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

Supplemental Table 6. Progressive covariate adjustment for association of *APOL1* genotype and incident PAD in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period

	Covariates		Basic Model	Basic Model		ted	PAD & kidney risk adjusted model	
	Age/s	ex / PCs	+		+		+	
	PAD *				+		+	
eGFR		eGFR					+	
	Ν	events	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р
2 Risk alleles	3525	307	1.13 (0.99 <i>,</i> 1.28)	0.07	1.15 (1.01, 1.29)	0.03	1.17 (1.01, 1.32)	0.04
1 Risk Allele	13407	1107	1.03 (0.94, 1.12)	0.54	1.02 (0.93, 1.1)	0.68	1.03 (0.94, 1.12)	0.63
0 Risk alleles	11677	943	Ref	-	Ref	-	Ref	-

* PAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

Supplemental Table 7. Progressive covariate adjustment for association of *APOL1* genotype and incident Stroke in individuals without kidney disease at baseline and censoring for CKD/ESRD in the follow up period

	Covariates		Basic Model		Stroke risk adj model	usted	Stroke & kidney risk adjusted model	
	Age/s	ex / PCs	+		+		+	
	Stroke *				+	+		
eGFR		eGFR					+	
	Ν	events	HR (95% CI)	Ρ	HR (95% CI)	Р	HR (95% CI)	Р
2 Risk alleles	3542	289	1.19 (1.03, 1.35)	0.01	1.2 (1.05 <i>,</i> 1.36)	0.01	1.21 (1.05, 1.37)	0.01
1 Risk Allele	13514	1015	1.04 (0.95, 1.14)	0.41	1.03 (0.94 <i>,</i> 1.12)	0.48	1.04 (0.94, 1.13)	0.52
0 Risk alleles	11732	857	Ref	-	Ref	-	Ref	-

* Stroke covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

Supplemental Table 8. Progressive covariate adjustment for association of *APOL1* genotype and incident CAD in all individuals irrespective of kidney disease status

Covariates	Basic Model		imputed model		CAD and eGFR risk adjusted imputed model		CAD, eGFR and CKD risk adjusted imputed model	
Age/sex / PCs	+		+		+		+	
CAD covariates*			+		+		+	
eGFR					+		+	
Incident CKD in follow up							+	
APOL1	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р
2 Risk alleles	1.09 (1 <i>,</i> 1.19)	0.058	1.09 (0.99 <i>,</i> 1.19)	0.064	1.06 (0.97 <i>,</i> 1.16)	0.18	1.07 (0.98, 1.17)	0.15
1 Risk Allele	1.04 (0.98, 1.1)	0.20	1.03 (0.97, 1.1)	0.30	1.03 (0.97 <i>,</i> 1.09)	0.33	1.03 (0.97, 1.09)	0.36
0 Risk alleles	Ref	-	Ref	-	Ref	-	Ref	-

* CAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

Supplemental Table 9. Progressive covariate adjustment for association of *APOL1* genotype and incident PAD in all individuals irrespective of kidney disease status

Covariates			PAD risk adjusted imputed model		PAD, eGFR and CKD risk adjusted imputed model		
Age/sex / PCs	+		+		+		
PAD covariates*			+		+		
eGFR					+		
Incident CKD in follow up					+		
APOL1	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р	
2 Risk alleles	1.16 (1.02, 1.3)	0.02	1.17 (1.03, 1.31)	0.02	1.02 (0.93, 1.1)	0.07	
1 Risk Allele	1.03 (0.95, 1.12)	0.49	1.02 (0.94, 1.11)	0.63	1.13 (0.99, 1.26)	0.71	
0 Risk alleles	Ref	-	Ref	-	Ref	-	

* PAD covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

Supplemental Table 10. Progressive covariate adjustment for association of *APOL1* genotype and incident Stroke in all individuals irrespective of kidney disease status

Covariates	Basic Model		Stroke risk adjust imputed model	ed	Stroke, eGFR and CKD risk adjusted imputed model	
Age/sex / PCs	+		+		+	
Stroke covariates*			+		+	
eGFR					+	
Incident CKD in follow up					+	
APOL1	HR (95% CI)	Р	HR (95% CI)	Р	HR (95% CI)	Р
2 Risk alleles	1.16 (1.01, 1.30)	0.04	1.16 (1.01, 1.31)	0.04	1.17 (1.02, 1.32)	0.03
1 Risk Allele	1.03 (0.94, 1.12)	0.52	1.03 (0.94, 1.12)	0.63	1.03 (0.93, 1.12)	0.64
0 Risk alleles	Ref	-	Ref	-	Ref	-

* Stroke covariates: diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use

	Minimally adjusted Fine-Grey SDH analysis*		Fully adjusted Fine-Grey SDI analysis**	
	HR	Р	HR	Р
CAD				
Fine-Grey SDH				
CAD	1.02 (0.97, 1.08)	0.41	1.05 (0.97, 1.14)	0.19
Cause specific Cox				
Main outcome: CAD	1.02 (0.97, 1.08)	0.40	1.05 (0.97, 1.14)	0.48
Main outcome and competing event (CAD or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.05 (1, 1.09) 0.03	
PAD				
Fine-Grey SDH				
PAD	0.99 (0.92, 1.06)	0.76	0.99 (0.88, 1.11)	0.89
Cause specific Cox				
Main outcome: PAD	0.99 (0.91, 1.07)	0.86	1.01 (0.90, 1.13)	0.90
Main outcome and competing event (PAD or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.03 (0.99, 1.08	0.10
Stroke				
Fine-Grey SDH				
Stroke	1.03 (0.95, 1.11)	0.53	1.01 (0.90, 1.13)	0.83
Cause specific Cox				
Main outcome: Stroke	0.99 (0.92, 1.07)	0.86	0.99 (0.89, 1.11)	0.89
Main outcome and competing event (Stroke or CKD/ESRD)	1.04 (1.01, 1.07)	0.01	1.03 (0.99, 1.08)	0.10

Supplemental Table 11. Competing Risks Analysis of APOL1 association with CAD, PAD and Stroke

* covariates age, sex, PC1-5; ** covariates: age, sex, PC1-5, diabetes, SBP, DBP, BMI, LDL, HDL, TG, statin, anti-hypertensive medication, aspirin, tobacco use, eGFR

Supplemental Table 12. Association of *APOL1* genotype and Incident CAD stratified by Sex

		Ν	Лаle		Female			
APOL1	Ν	events	HR (95% CI)	Р	Ν	events	HR (95% CI)	Р
2 Risk	2818	506	1.11 (1,	0.051	436	33	1.09 (0.73,	0.67
alleles			1.21)				1.45)	
1 Risk	10857	1931	1.05 (0.98,	0.16	1539	96	0.9 (0.68,	0.48
Allele			1.12)				1.13)	
0 Risk	9489	1614	Ref	-	1347	93	Ref	-
alleles								

			No Diabetes	Diabetes				
APOL1	N	events	HR (95% CI)	Р	Ν	events	HR (95% CI)	Р
2 Risk alleles	2558	352	1.06 (0.94, 1.18)	0.34	696	187	1.19 (1, 1.37)	0.05
1 Risk Allele	9688	1354	1.03 (0.95, 1.11)	0.43	2708	673	1.06 (0.94, 1.17)	0.34
0 Risk alleles	8546	1167	Ref	-	2290	540	Ref	-

Supplemental Table 13. Association of *APOL1* genotype and Incident CAD stratified by baseline diabetes status

Supplemental Table 14. Association of APOL1 risk alleles with prevalent lipid traits

	Log2[HDL-C] (mg/dL)		Log2[LDL-C] (m	Log2[Triglycerides] (mg/dL)					
	Beta (95% CI)	Р	Beta (95% CI)	Р	Beta (95% CI)	Р			
Number of APOL1 risk alleles									
2 Risk alleles	0.021 (0.005, 0.038)	0.012	0.020 (0.005, 0.035)	0.008	0.01 (-0.01, 0.03)	0.56			
1 Risk Allele	0.01 (-0.01, 0.02)	0.31	0 (0, 0.01)	0.6	0.0 (-0.02, 0.04)	0.54			
0 Risk alleles	Ref	-	Ref	-	Ref	-			
APOL1 genoty	pe composition								
G1/G1	0.02 (0.00, 0.05)	0.11	0.03 (0.01, 0.05)	0.02	0.01 (-0.04, 0.06)	0.64			
G2/G2	0.03 (0.01, 0.09)	0.009	-0.01 (-0.04, 0.03)	0.10	-0.02 (-0.08, 0.05)	0.67			
G1/G2	0.02 (-0.01, 0.04)	0.17	0.02 (0.003, 0.04)	0.03	0.01 (-0.03, 0.04)	0.72			
G1/Ref	0.01 (0, 0.02)	0.14	0 (-0.01, 0.01)	0.84	0.00 (-0.02, 0.03)	0.88			
G2/Ref	0.01 (-0.01, 0.02)	0.97	0.01 (-0.01, 0.02)	0.21	0.01 (-0.02, 0.04)	0.38			
0 risk alleles	Ref	-	Ref	-	Ref	-			

Analysis covariates include age, gender, diabetes, smoking, and chronic kidney disease. HDL-C, high-density lipoprotein cholesterol. LDL-C, low-density lipoprotein cholesterol.

Supplemental Table 15. Nominally significant cardiovascular phenome wide association of APOL1 2-risk allele status adjusted for age, gender, baseline eGFR and ancestry principal components

PheWAS	Phenotype Description	N Cases	OR	р
phecode				
444	Arterial embolism and thrombosis	47	2.27	0.02
396	Abnormal heart sounds	405	0.70	0.05
451	Phlebitis and thrombophlebitis	178	0.53	0.04
454	Varicose Veins	537	0.72	0.04

phecode	Phenotype Description	N Cases	OR	Ρ
394	Rheumatic disease of the heart valves	126	1.26	0.37
395	Heart valve disorders	516	0.97	0.82
395.1	Nonrheumatic mitral valve disorders	242	1.00	0.99
395.2	Nonrheumatic aortic valve disorders	181	0.85	0.52
395.6	Heart valve replaced	63	0.79	0.58
396	Abnormal heart sounds	405	0.70	0.05
401	Hypertension	12265	1.00	0.97
401.1	Essential hypertension	12247	1.00	0.98
401.2	Hypertensive heart and/or renal disease	754	0.84	0.22
401.21	Hypertensive heart disease	564	0.82	0.22
401.22	Hypertensive chronic kidney disease	147	0.85	0.57
401.3	Other hypertensive complications	111	0.94	0.83
411	Ischemic Heart Disease	2980	0.95	0.45
411.1	Unstable angina (intermediate coronary syndrome)	307	0.70	0.10
411.2	Myocardial infarction	611	1.01	0.96
411.3	Angina pectoris	638	0.98	0.86
411.4	Coronary atherosclerosis	2146	0.95	0.51
411.8	Other chronic ischemic heart disease, unspecified	1306	0.99	0.88
414	Other forms of chronic heart disease	456	1.19	0.22
414.2	ASCVD	46	1.76	0.15
415	Pulmonary heart disease	505	0.74	0.06
415.1	Acute pulmonary heart disease	317	0.77	0.20
415.11	Pulmonary embolism and infarction, acute	317	0.77	0.20
415.2	Chronic pulmonary heart disease	187	0.64	0.11
415.21	Primary pulmonary hypertension	51	0.88	0.80
416	Cardiomegaly	272	0.82	0.35
418	Nonspecific chest pain	5852	1.03	0.61
418.1	Precordial pain	46	0.72	0.54
420	Carditis	196	1.05	0.84
420.2	Pericarditis	120	1.14	0.63
420.3	Endocarditis	69	0.98	0.97
425	Cardiomyopathy	512	0.83	0.22
425.1	Primary/intrinsic cardiomyopathies	473	0.80	0.18
425.2	Secondary/extrinsic cardiomyopathies	78	0.65	0.31
426	Cardiac conduction disorders	1622	1.05	0.54
426.2	Atrioventricular [AV] block	227	1.16	0.48
426.21	First degree AV block	97	1.53	0.13
426.24	Atrioventricular block, complete	79	1.42	0.27
426.3	Bundle branch block	144	1.30	0.30
426.31	Right bundle branch block	82	1.65	0.11

Supplemental Table 16. Phenome wide association of APOL1 2-risk allele status on CVD phenotypes

426.32	Left bundle branch block	46	0.78	0.64
426.7	Abnormal electrocardiogram [ECG] [EKG]	1060	1.05	0.62
426.9	Cardiac pacemaker/device in situ	285	1.00	0.99
426.91	Cardiac pacemaker in situ	157	1.04	0.89
426.92	Cardiac defibrillator in situ	174	0.96	0.87
427	Cardiac dysrhythmias	3619	0.98	0.81
427.1	Paroxysmal tachycardia, unspecified	283	0.91	0.63
427.11	Paroxysmal supraventricular tachycardia	138	0.94	0.83
427.12	Paroxysmal ventricular tachycardia	137	0.93	0.80
427.2	Atrial fibrillation and flutter	699	0.94	0.65
427.21	Atrial fibrillation	632	1.00	0.98
427.22	Atrial flutter	218	0.74	0.24
427.3	Other specified cardiac dysrhythmias	986	1.03	0.81
427.4	Cardiac arrest and ventricular fibrillation	40	0.73	0.60
427.5	Arrhythmia (cardiac) NOS	1054	0.97	0.76
427.6	Premature beats	176	1.34	0.18
427.7	Tachycardia NOS	442	1.01	0.92
427.8	Sinoatrial node dysfunction (Bradycardia)	50	1.09	0.84
427.9	Palpitations	709	1.01	0.97
428	Congestive heart failure; nonhypertensive	1074	0.82	0.07
428.1	Congestive heart failure (CHF) NOS	769	0.89	0.35
428.2	Heart failure NOS	242	0.74	0.20
428.3	Heart failure with reduced EF [Systolic or combined heart failure]	409	0.87	0.41
428.4	Heart failure with preserved EF [Diastolic heart failure]	215	0.66	0.10
429	Ill-defined descriptions and complications of heart disease	251	1.01	0.96
429.1	Heart transplant/surgery	42	0.62	0.42
429.2	Abnormal function study of cardiovascular system	116	0.92	0.79
429.3	Symptoms involving cardiovascular system	93	1.22	0.52
430	Intracranial hemorrhage	127	0.51	0.07
430.2	Intracerebral hemorrhage	48	0.48	0.22
430.3	Subdural hemorrhage	46	0.74	0.57
433	Cerebrovascular disease	1675	1.03	0.73
433.1	Occlusion and stenosis of precerebral arteries	308	0.84	0.38
433.12	Cerebral atherosclerosis	42	0.61	0.41
433.2	Occlusion of cerebral arteries	608	1.05	0.73
433.21	Cerebral artery occlusion, with cerebral infarction	595	1.07	0.60
433.3	Cerebral ischemia	671	0.96	0.76
433.31	Transient cerebral ischemia	656	0.93	0.57
433.5	Cerebral aneurysm	51	0.67	0.44
433.6	Acute, but ill-defined cerebrovascular disease	631	1.02	0.89
433.8	Late effects of cerebrovascular disease	539	0.86	0.31
440	Atherosclerosis	445	0.83	0.26
440.2	Atherosclerosis of the extremities	381	0.83	0.29

440.21	Atherosclerosis of native arteries of the extremities with ulceration or gangrene Atherosclerosis of native arteries of the extremities with intermittent	59	0.74	0.53
440.22	claudication	284	0.77	0.21
442	Other aneurysm	308	1.13	0.48
442.1	Aortic aneurysm	238	1.18	0.41
442.11	Abdominal aortic aneurysm	150	0.94	0.83
443	Peripheral vascular disease	998	0.82	0.08
443.1	Raynaud's syndrome	52	0.80	0.63
443.8	Other specified peripheral vascular diseases	58	0.40	0.13
443.9	Peripheral vascular disease, unspecified	912	0.80	0.07
444	Arterial embolism and thrombosis	82	1.66	0.09
444.1	Arterial embolism and thrombosis of lower extremity artery	47	2.27	0.02
446	Polyarteritis nodosa and allied conditions	43	0.79	0.66
447	Other disorders of arteries and arterioles	46	1.17	0.72
450	Noninfectious disorders of lymphatic channels	106	1.05	0.87
451	Phlebitis and thrombophlebitis	178	0.53	0.04
451.2	Phlebitis and thrombophlebitis of lower extremities	69	0.61	0.29
452	Other venous embolism and thrombosis	684	0.95	0.72
452.2	Deep vein thrombosis [DVT]	364	0.97	0.86
453	Chronic venous hypertension	49	0.34	0.13
454	Varicose veins	537	0.72	0.04
454.1	Varicose veins of lower extremity	424	0.73	0.08
454.11	Varicose veins of lower extremity, symptomtic	209	0.60	0.06
455	Hemorrhoids	2834	1.06	0.40
456	Chronic venous insufficiency [CVI]	555	0.92	0.58
457	Encounter for long-term (current) use of anticoagulants, antithrombotics, aspirin	429	0.89	0.47
457.2	Encounter for long-term (current) use of antiplatelets/antithrombotics	74	0.70	0.41
457.3	Encounter for long-term (current) use of aspirin	346	0.98	0.92
458	Hypotension	736	1.19	0.13
458.1	Orthostatic hypotension	224	1.12	0.58
458.9	Hypotension NOS	403	1.21	0.22
459	Other disorders of circulatory system	375	1.11	0.51
459.9	Circulatory disease NEC	326	1.14	0.45

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