

SUPPLEMENTAL MATERIAL

Table S1. Coding scheme to identify interventional procedures in Medicare eligible patients diagnosed with critical limb ischemia in 2011.

Therapy Code	Description
Endovascular Revascularization *	
<i>ICD-9-CM Code</i>	
00.55	Insertion of drug eluting peripheral vessel stent
00.60	Insertion of drug-eluting stent(s) of superficial femoral artery
39.50	Angioplasty or atherectomy of non-coronary vessel
39.90	Insertion of non-drug-eluting, non-coronary artery stent
<i>CPT Code</i>	
37220	Iliac revasc
37221	Iliac revasc w/stent
37222	Iliac revasc add-on
37223	Iliac revasc w/stent add-on
37224	Fem/popl revas w/tla
37225	Fem/popl revas w/ather
37226	Fem/popl revasc w/stent
37227	Fem/popl revasc stnt & ather
37228	Tib/per revasc w/tla
37229	Tib/per revasc w/ather
37230	Tib/per revasc w/stent
37231	Tib/per revasc stent & ather
37232	Tib/per revasc add-on
37233	Tibper revasc w/ather add-on
37234	Revasc opn/prq tib/pero stent
37235	Tib/per revasc stnt & ather
37236	Open/perq place stent 1st
37237	Open/perq place stent ea add
37238	Open/perq place stent same
37239	Open/perq place stent ea add
Surgical Revascularization *	
<i>ICD-9-CM Code</i>	
38.08	Incision of lower limb arteries
38.16	Endarterectomy of abdominal arteries
38.18	Endarterectomy of lower limb arteries
38.38	Resection of vessel with anastomosis
38.40	Resection of vessel with replacement, unspecified site
38.48	Resection of vessel with replacement, lower limb arteries
38.49	Resection of vessel with replacement, lower limb veins
38.68	Other excision of vessel
38.88	Other surgical occlusion of vessels
39.25	Aorta-iliac-femoral bypass
39.29	Other (peripheral) vascular shunt or bypass

39.49	Other revision of vascular procedure
<i>CPT Code</i>	
35302	Rechanneling of artery
35303	Rechanneling of artery
35304	Rechanneling of artery
35305	Rechanneling of artery
35306	Rechanneling of artery
35331	Rechanneling of artery
35351	Rechanneling of artery
35355	Rechanneling of artery
35361	Rechanneling of artery
35363	Rechanneling of artery
35371	Rechanneling of artery
35372	Rechanneling of artery
35452	Repair arterial blockage
35472	Repair arterial blockage
35500	Harvest vein for bypass
35521	Art byp grft axill-femoral
35533	Art byp grft axill/fem/fem
35556	Art byp grft fem-popliteal
35558	Art byp grft fem-femoral
35563	Art byp grft ilioiliac
35565	Art byp grft iliofemoral
35566	Art byp fem-ant-post tib/prl
35571	Art byp pop-tibl-prl-other
35583	Vein byp grft fem-popliteal
35585	Vein byp fem-tibial peroneal
35587	Vein byp pop-tibl peroneal
35621	Art byp axillary-femoral
35623	Art byp axillary-pop-tibial
35654	Art byp axill-fem-femoral
35656	Art byp femoral-popliteal
35661	Art byp femoral-femoral
35663	Art byp ilioiliac
35665	Art byp iliofemoral
35666	Art byp fem-ant-post tib/prl
35671	Art byp pop-tibl-prl-other
35681	Composite byp grft pros&vein
35682	Composite byp grft 2 veins
35683	Composite byp grft 3/> segmt
35686	Bypass graft/av fist patency
35700	Reoperation bypass graft
35875	Removal of clot in graft
35876	Removal of clot in graft
35879	Revise graft w/vein

35881	Revise graft w/vein
35883	Revise graft w/nonauto graft
35884	Revise graft w/vein
35903	Excision graft extremity
Amputation above the ankle	
<i>ICD-9-CM Code</i>	
84.10	Lower limb amputation (NOS)
84.16	Disarticulation of knee
84.17	Amputation above knee
84.18	Disarticulation of hip
84.19	Abdominopelvic amputation
<i>CPT Code</i>	
27290	Amputation of leg at hip
27295	Amputation of leg at hip
27590	Amputate leg at thigh
27591	Amputate leg at thigh
27592	Amputate leg at thigh
27594	Amputation follow-up surgery
27596	Amputation follow-up surgery
27598	Amputate lower leg at knee
27880	Amputation of lower leg
27881	Amputation of lower leg
27882	Amputation of lower leg
27884	Amputation follow-up surgery
27886	Amputation follow-up surgery
Amputation below the ankle	
<i>ICD-9-CM Code</i>	
84.11	Amputation of toe
84.12	Amputation through foot
84.13	Disarticulation of ankle
84.14	Amputation of ankle through malleoli of tibia and fibula
84.15	Other amputation below knee
<i>CPT Code</i>	
27888	Amputation of foot at ankle
27889	Amputation of foot at ankle
28130	Removal of ankle bone
28140	Removal of metatarsal
28800	Amputation of midfoot
28805	Amputation thru metatarsal
28810	Amputation toe & metatarsal
28820	Amputation of toe
28825	Partial amputation of toe
28124	Partial removal of toe
28126	Partial removal of toe
28150	Removal of toe

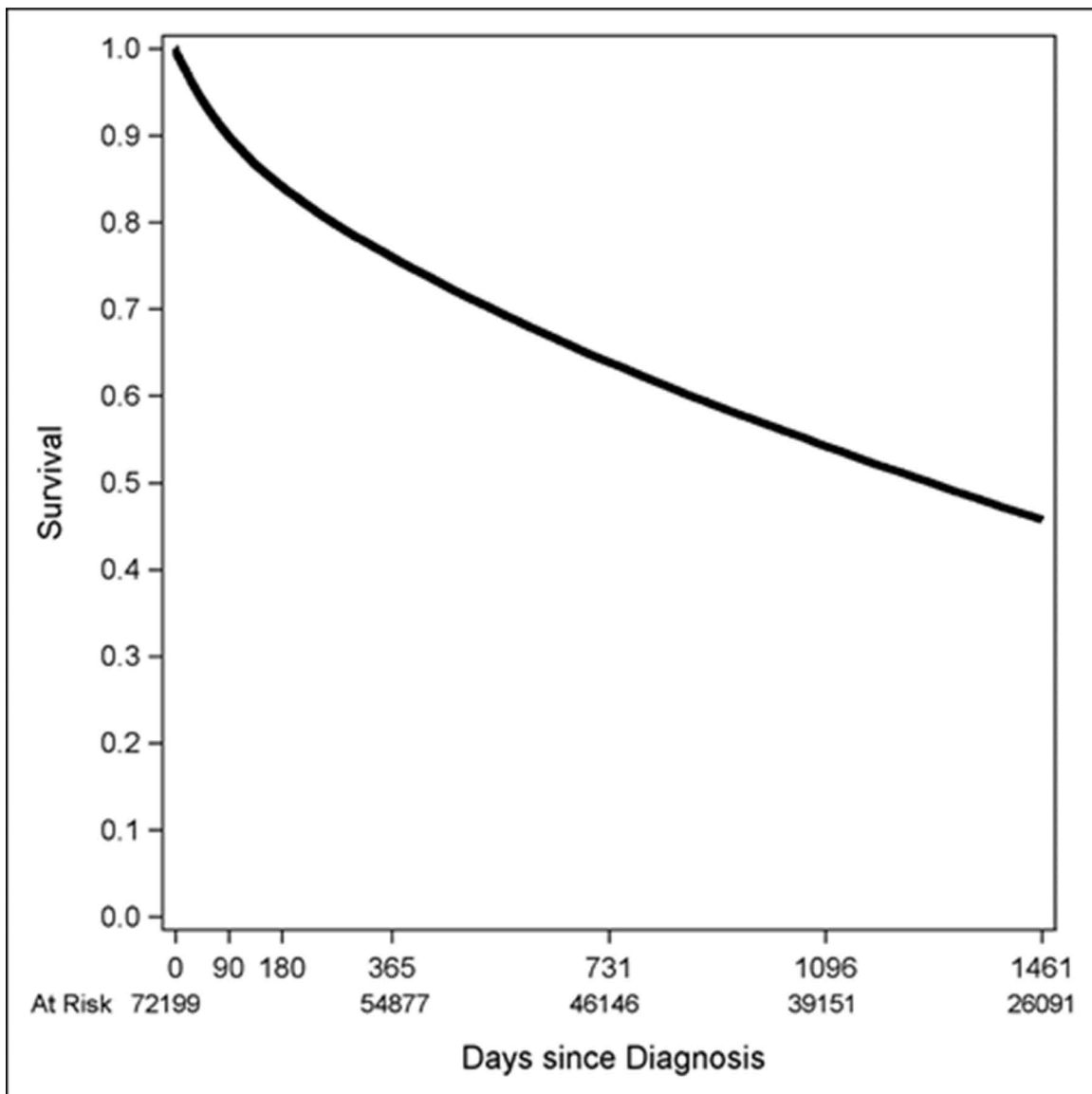
28153	Partial removal of toe
28160	Partial removal of toe

CPT indicates Current Procedural Terminology; ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification.

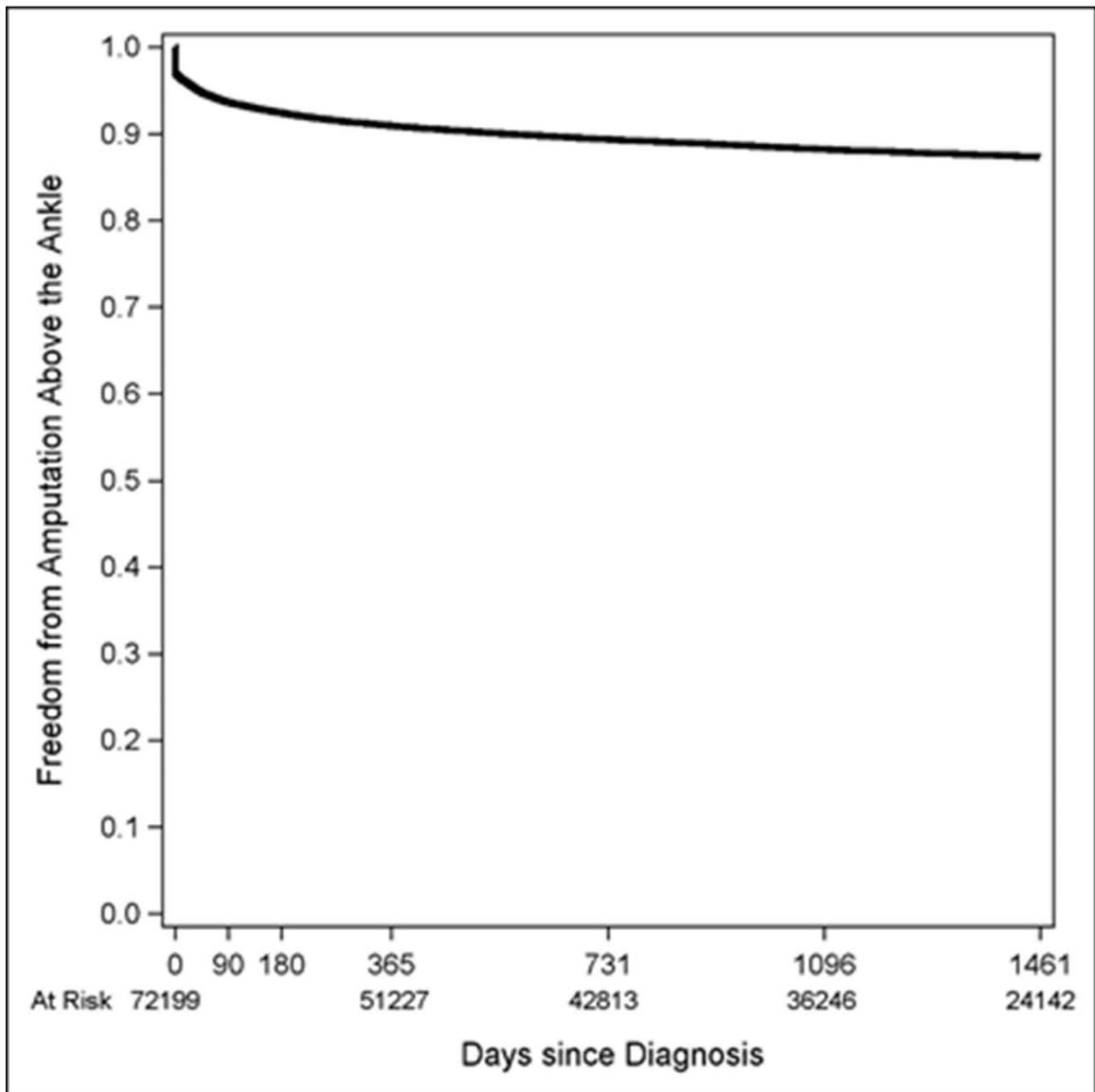
*CPT codes 35221, 35226, 35256, and 35286 (repair blood vessel lesion with or without patch angioplasty) were included in revascularization analyses, but was not included in endovascular or surgical revascularization analyses due to uncertainty in definition.

Table S2. Baseline characteristics of Medicare eligible patients diagnosed with critical limb ischemia in 2011 categorized by first major therapy in propensity-matched sample.

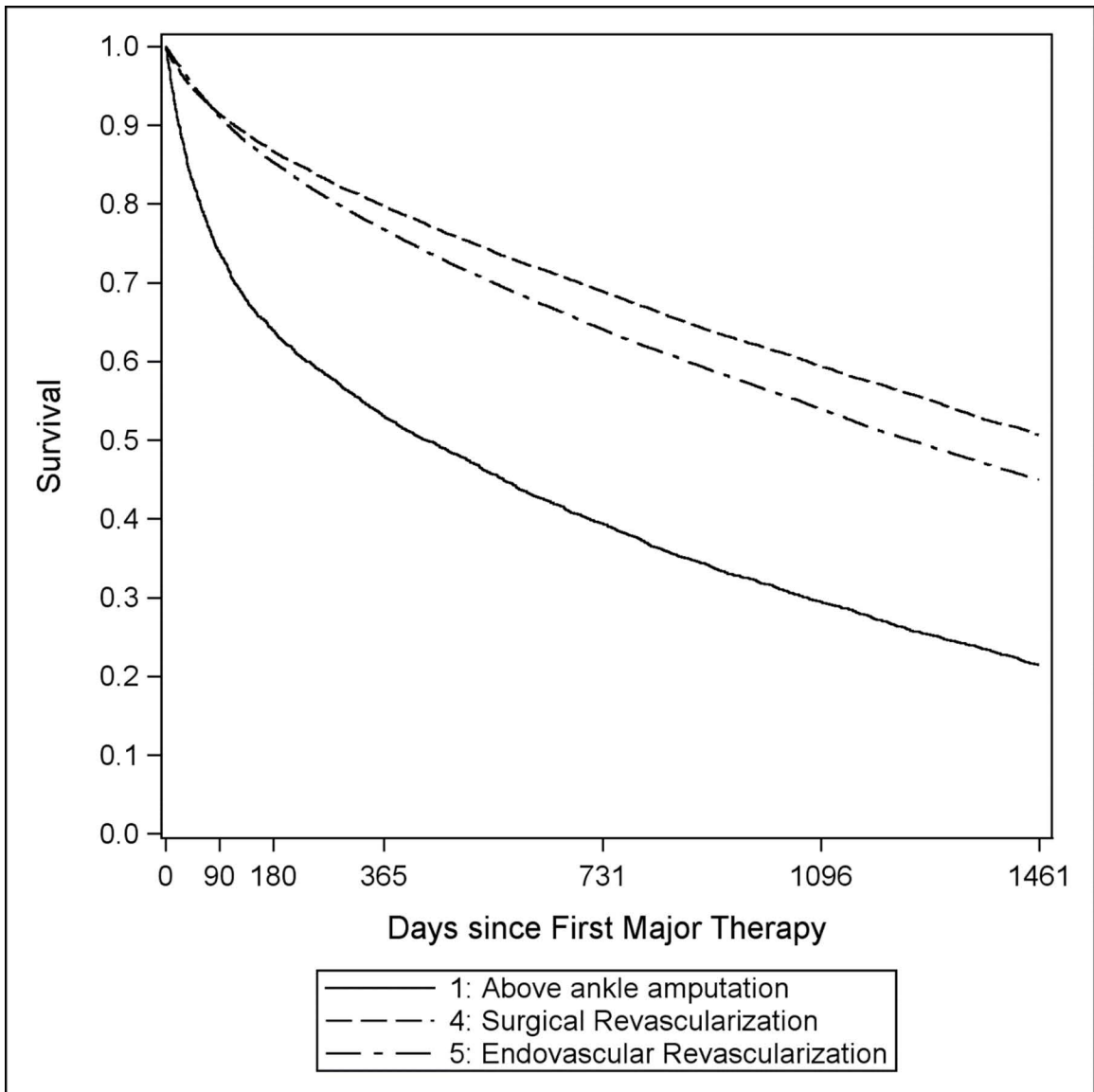
Characteristic	Unmatched Sample				Matched Sample			
	Endovascular	Surgical	Major Amputation	P-value	Endovascular	Surgical	Major Amputation	P-value
No. of patients	28 530	14 283	3982		3314	3314	3314	
<i>Geography</i>								
Region				<0.001				0.17
South	12 250 (44)	5713 (41)	2057 (53)		1666 (50)	1650 (50)	1660 (50)	
Midwest	7177 (26)	3390 (24)	703 (18)		644 (19)	704 (21)	660 (20)	
Northeast	4756 (17)	3037 (22)	653 (17)		638 (19)	576 (17)	624 (19)	
West	3795 (14)	1916 (14)	365 (9)		338 (10)	352 (11)	353 (11)	
Puerto Rico	93 (<1)	39 (<1)	90 (2)		28 (<1)	32 (<1)	17 (<1)	
Population density				<0.001				<0.01
Urban	25 339 (90)	12 715 (90)	3345 (86)		2994 (90)	2928 (88)	2921 (88)	
Rural	2732 (10)	1380 (10)	523 (14)		320 (10)	386 (12)	393 (12)	
<i>Demographics</i>								
Male sex	14 773 (52)	8281 (58)	2107 (53)	<0.001	1875 (57)	1891 (57)	1852 (56)	0.62
Age, yr	74±11	72±11	76±12	<0.001	74±11	74±10	74±12	0.95
Race				<0.001				0.21
White	21 374 (75)	11 290 (79)	2426 (61)		2253 (68)	2210 (67)	2220 (67)	
Black	5346 (19)	2352 (17)	1340 (34)		921 (28)	923 (28)	927 (28)	
Other/unknown	1723 (6)	599 (4)	209 (5)		140 (4)	181 (5)	167 (5)	
<i>Medical history</i>								
Hypertension	21 205 (74)	10 333 (72)	2937 (74)	<0.001	2451 (74)	2421 (73)	2421 (73)	0.63
Diabetes	16 776 (59)	6798 (48)	2268 (57)	<0.001	1870 (56)	1870 (56)	1889 (57)	0.86
Coronary artery disease	14 440 (51)	7027 (49)	1854 (47)	<0.001	1535 (46)	1593 (48)	1597 (48)	0.23
Chronic kidney disease	10 162 (36)	3853 (27)	1507 (38)	<0.001	1179 (36)	1158 (35)	1212 (37)	0.38
Hyperlipidemia	7775 (27)	4059 (28)	808 (20)	<0.001	682 (21)	747 (23)	723 (22)	0.15
Smoking	5754 (20)	4180 (29)	777 (20)	<0.001	642 (19)	700 (21)	721 (22)	<0.05
<i>Clinical presentation</i>								
Rest pain	8365 (29)	5977 (42)	276 (7)	<0.001	279 (8)	288 (9)	267 (8)	0.93
Ulcer	13 625 (48)	4786 (34)	906 (23)		846 (26)	841 (25)	851 (26)	
Gangrene	6540 (23)	3520 (25)	2800 (70)		2189 (66)	2185 (66)	2196 (66)	



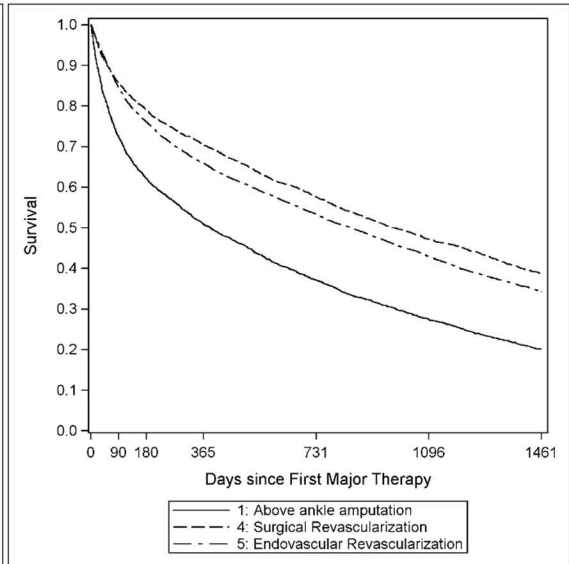
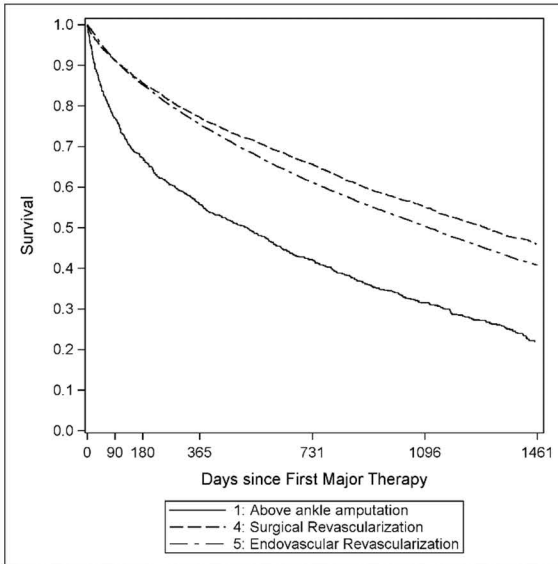
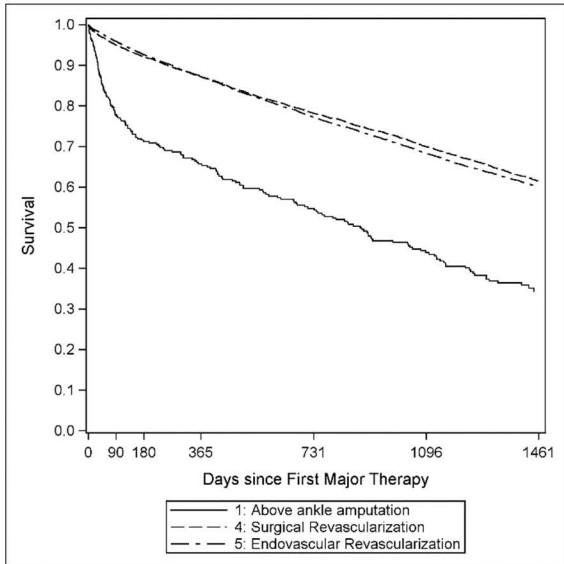
Days Since Diagnosis	Survival (95% CI)	Cumulative Number of Deaths	Number of Patients Remaining at Risk
0	99.7% (99.6, 99.7)	251	72199
30	95.7% (95.6, 95.9)	3088	69201
90	89.9% (89.6, 90.1)	7322	64925
180	84.1% (83.8, 84.3)	11511	60736
365	76.0% (75.6, 76.3)	17357	54877
731	63.9% (63.5, 64.2)	26077	46146
1096	54.2% (53.8, 54.6)	33062	39151
1461	45.7% (45.4, 46.1)	39024	26091



Days Since Diagnosis	Freedom from Amputation (95% CI)	Cumulative Number of Patients with Amputations	Number of Patients Remaining at Risk
0	97.0% (96.8, 97.1)	2185	72199
30	95.4% (95.2, 95.5)	3317	66277
90	93.7% (93.5, 93.8)	4479	61458
180	92.4% (92.2, 92.6)	5256	57128
365	90.9% (90.7, 91.2)	6139	51227
731	89.4% (89.1, 89.6)	6958	42813
1096	88.2% (88.0, 88.5)	7471	36246
1461	87.3% (87.1, 87.6)	7795	24142



Days Since Treatment	Endovascular	Surgical	Major Amputation
30	96.7%	96.0%	87.4%
90	91.1%	91.4%	73.7%
180	85.3%	86.7%	63.9%
365	76.8%	79.7%	53.0%
731	64.1%	68.9%	39.4%
1096	53.9%	59.4%	29.5%
1461	45.0%	50.6%	21.4%



Days Since Treatment	Rest Pain			Ulcer			Gangrene		
	Endo	Surg	Amp	Endo	Surg	Amp	Endo	Surg	Amp
30	98.4%	97.7%	90.2%	96.9%	96.0%	88.5%	94.2%	93.4%	86.7%
90	95.9%	95.0%	77.8%	91.3%	91.1%	76.9%	84.6%	85.6%	72.3%
180	92.6%	92.0%	71.2%	85.2%	85.7%	67.2%	76.1%	79.0%	62.1%
365	87.3%	87.2%	65.7%	75.5%	77.2%	55.8%	65.9%	70.4%	50.9%
731	77.2%	78.2%	54.8%	61.2%	65.6%	42.0%	53.3%	57.6%	37.0%
1096	68.3%	70.0%	43.9%	50.4%	55.1%	31.5%	42.9%	47.2%	27.5%
1461	60.2%	61.4%	34.2%	40.8%	45.9%	21.7%	34.2%	38.7%	20.0%