SUPPLEMENTAL MATERIAL

Supplemental Table S1. Search strings used in literature review

PubMed	Embase	Cochrane Library	Clinicaltrials.gov
Dialyses, Renal OR Renal Dialyses OR Dialysis, Renal	renal dialysis or	renal dialysis or	renal dialysis or
OR Hemodialysis OR Hemodialyses OR Dialysis,	hemodialysis or	"hemodialysis" or	end stage renal disease or
Extracorporeal OR Dialyses, Extracorporeal OR	extracorporeal dialysis	extracorporeal dialysis	end stage renal disease on
Extracorporeal Dialyses OR Extracorporeal Dialysis			dialysis
Prostheses, Blood Vessel OR Prosthesis, Blood Vessel	"blood vessel	"blood vessel prosthesis" or	N/A
OR Vessel Prostheses, Blood OR Vessel Prosthesis,	prosthesis" or	"blood vessel prostheses" or	
Blood OR Blood Vessel Prostheses OR Vascular	"blood vessel graft"	vascular prosthesis or	
Prosthesis OR Prostheses, Vascular OR Prosthesis,		vascular prostheses	
Vascular OR Vascular Prostheses OR Blood vessel			
prosthesis implantation OR arteriovenous graft OR			
vascular graft OR AVG			
Polytetrafluoroethylene [expand]	polytetrafluoroethylene	polytetrafluoroethylene	polytetrafluoroethylene
OR PTFE, GORE-TEX, Goretex, Teflon, Polytef,			
Politef, Tarflen, Fluoroplast, Propaten, Flixene, Acuseal			
Clinical trial OR Meta-analysis OR Systematic review	N/A	N/A	N/A
OR Comparative study OR Multicenter study			
OR Observational study			
(with/without case reports, reviews)			
Humans	N/A	N/A	N/A

	Study	Country	Funding	Start Year	End Year	Mean Follow-Up	Patient n	Graft Type / Brand	Patency Parameters Reported in Text**	Patency Parameters Digitized**
1	Allemang 2014	US	Public	2008	2011	NR	265	NR	0	4
2	Anaya-Ayala 2015	US	None	2010	2011	21 mos	35	NR	6	12
3	Arhuidese 2017	US	NR	2011	2014	7 mos	68	Multiple	9	12
4	Berard 2015	France	NR	2011	2013	223.5 days	44	Flixene (Atrium)	6	12
5	Chiang 2014	New Zealand	None	2008	2011	280 days	45	Flixene (Atrium)	9	12
6	Davies 2016	US	None	2004	2014	23 mos (median)	482 *	Heparin-bonded vs. standard PTFE	3	12
7	Dixon 2009	US	Public/P rivate	2003	2007	NR	649 *	NR	1	2
8	Donati 2015	Italy	Public	2008	2011	NR	31	Gore-Tex (Gore)	2	5
9	Drouven 2019	Netherlands	None	2006	2017	29.6 mos	75	Gore-Tex (Gore)	3	12
10	Elwakeel 2013	Egypt	MR	2007	2010	19.6 mos	41	JOTEC; Atrium	4	8
11	Feldman 2013	Israel	None	2007	2010	25.1 mos	58	NR	2	2
12	Glickman 2015	US	Private	2010	2012	NR	138	Accuseal (Gore)	2	4
13	Głowiński 2014	Poland	NR	NR	NR	NR	34	Gore-Tex (Gore)	0	4
14	Jadlowiec 2015	US	None	2002	2013	NR	70	NR	4	4
15	Kakisis 2017	Greece	None	2007	2015	27 mos	61	Maxiflo (Vascutek)	2	8
16	Kakkos 2011	US	None	2004	2006	NR	125	Carboflo (Impra)	0	12
17	Keuter 2008	Netherlands	Public	2003	2006	325 days	53	Gore-Tex (Gore)	2	2
18	Khoshnevis 2013	Iran	None	2004	2010	NR	77	Gore-Tex (Gore)	4	0
19	Ko 2004	Taiwan	NR	2000	2001	NR	94 *	Exxcel (Boston Scientific); Stretch Gore-Tex (Gore)	4	4
20	Ko 2009	Taiwan	NR	2004	2005	NR	89 *	Venaflo cuffed (Bard); Gore-Tex (Gore)	8	8
21	Lee 2007	US	Public	2000	2004	13.4 mo	51	NR	0	8
22	Lioupis 2011	UK	None	2008	2009	NR	48	Flixene (Atrium)	6	9
23	Marcus 2019	US	None	2010	2017	38 mos	128	Gore-Tex (Gore); Propaten (Gore); Impra (Bard)	6	12
24	Milburn 2008	Scotland	NR	2001	2007	NR	39	Vascutek	6	8
25	Pham 2017	US	None	2009	2014	21 mos	32	NR	3	4
26	Ravari 2010	Iran	NR	2004	2006	24 mos	50?	Gore	2	2

Supplemental Table S2. Characteristics of included studies

27	Sala-Almonacil 2011	Spain	NR	2003	2007	11.9 mos	40	Gore	4	8
28	Scarritt 2014	US	Private	2008	2009	NR	143 *	Flixene (Atrium); traditional PTFE (Gore)	0	4
29	Schild 2011	US	Private	NR	NR	6 mos	33	Flixene (Atrium)	1	1
30	Shemesh 2015	Israel	NR	2007	2011	23.5 mos	160 *	Propaten (Gore); ePTFE (Gore)	9	9
31	Tozzi 2014	Italy	None	2011	2013	12 mos	30	Acuseal (Gore)	4	4
32	Weale 2007	UK	NR	2000	2005	18.1 mos	114	NR	3	8

* Studies had 2 arms included in the review. NR = not reported.

** There are 12 possible patency parameters: primary at 6, 12, 18, 24 mo., primary assisted at 6, 12, 18, 24 mo., secondary at 6, 12, 18, 24 mo. Here we list the number of patency parameters out of 12 reported in manuscript, and the number of patency parameters out of 12 that were digitized.

Supplemental Table S3. Characteristics of included patients

	Study	Patient	Age	Male	BMI	Race	Tobacco	Diabetes	Hypertension	Anticoagulant therapy
	5	n	(mean, yrs)	(%)	(mean)	(nonwhite)	use (%)	(%)	(%)	<i>C</i> 17
1	Allemang 2014	265	60.8	33	28.1	Black: 81%	31	54	97	
2	Anaya-Ayala 2015	35	67	56	NR	NR	NR	59	98	
3	Arhuidese 2017	68	59.6	54.4	30.4	Black: 73.5%	50	63.2	98.5	
4	Berard 2015	44	63.2	61	24	NR	NR	39	75	Single antiplatelet use: 41% Dual antiplatelet use: 11% Anticoagulant use: 30%
5	Chiang 2014	45	52	51	NR	Maori: 58%	42	60	78	
6	Davies 2016 (heparin-bonded)	234	59	44	NR	Black: 56%	16	64	96	
6	Davies 2016 (standard)	248	61	48	NR	Black: 58%	14	68	100	
7	Dixon 2009 (dipyridamole + Aspirin)	321	59.1	41	30.8	Black: 72%	14	66	NR	
7	Dixon 2009 (placebo)	328	57.7	38	30.5	Black: 70%	17	60	NR	
8	Donati 2015	31	63.8	61.3	NR	NR	32.3	48.5	NR	
9	Drouven 2019	75	62.6	52	28.4	NR	NR	46.7	88	
10	Elwakeel 2013	41	54.7	37	NR	NR	NR	41	NR	
11	Feldman 2013	58	67.5	50	NR	NR	42.1	62.5	NR	Aspirin: 79.7% Dipyridamole: 48.4% Coumadin: 17.2%
12	Glickman 2015	138	63	49	30	Black: 55%	23	60	97	
13	Głowiński 2014	34	68.3	61.8	Obese: 32.4%	NR	NR	23.5	NR	
14	Jadlowiec 2015	70	58.9	52.9	NR	Black: 25.7%	23.9	NR	NR	Antiplatelet use: 44.3% Warfarin use: 18.6%
15	Kakisis 2017	61	68	56	NR	NR	NR	41	43	
16	Kakkos 2011	125	66 (median)	40	NR	NR	NR	NR	NR	
17	Keuter 2008	53	66	57	NR	NR	NR	47	51	
18	Khoshnevis 2013	77	56.3	30.4	NR	NR	NR	29.8	51.9	
19	Ko 2004 (Exxcel)	49	59.8	20	NR	NR	NR	24	31	
19	Ko 2004 (Gore-Tex)	45	63.8	16	NR	NR	NR	19	24	
20	Ko 2009 (cuffed)	47	61.2	35.7	NR	NR	NR	31	54.8	
20	Ko 2009 (non-cuffed)	42	64.9	42.6	NR	NR	NR	46.8	59.6	

21	Lee 2007	51	55	41	Obese: 41%	Black: 90%	NR	59	NR	
22	Lioupis 2011	48	59	65	Obese: 15%	Black: 52%	NR	40	79	
23	Marcus 2019	128	61	51	NR	Black: 16%	17	42	73	
24	Milburn 2008	39	62.1	17	NR	NR	NR	15	NR	
25	Pham 2017	32	56	34	NR	NR	NR	63	88	
26	Ravari 2010	50	57.6	48	Obese: 34%	NR	56	70	56	
27	Sala-Almonacil 2011	40	61	50	NR	NR	15	25	65	
28	Scarritt 2014	143	NR		NR	NR	NR	NR	NR	
29	Schild 2011	33	NR	48	NR	Black: 33%	26	60	96	
30	Shemesh 2015	80	69.9	48	NR	NR	NR	66.3	16.3	Aspirin: 66.3%
	(heparin-bonded)									Aspirin + clopidogrel: 7.5%
30	Shemesh 2015	80	67.8	49	NR	NR	NR	61.3	15	Aspirin: 66.3%
	(standard)									Aspirin + clopidogrel: 2.5%
31	Tozzi 2014	30	60	60	NR	NR	60	40	56.7	
32	Weale 2007	114	66.3	43.9	NR	Black: 1.7%	NR	43.9	NR	

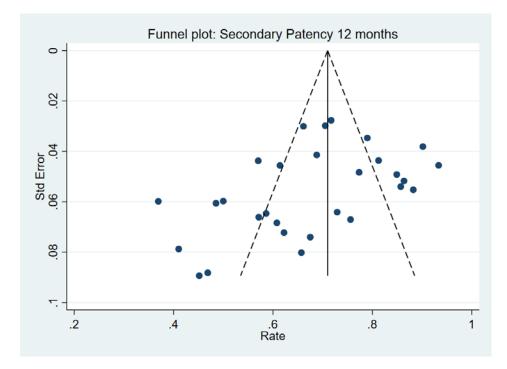
NR = not reported.

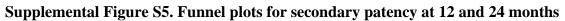
	Study	Inclusion Criteria	Exclusion Criteria	Risk of Bias*
1	Allemang 2014	Not reported	Not reported	Low
2	Anaya-Ayala 2015	Patients with compromised outflow venous anatomy	Not reported	Low
3	Arhuidese 2017	Patients who were not candidates for native AVF	Not reported	Low
4	Berard 2015	Patients who were not candidates for native AVF	Not reported	Low
5	Chiang 2014	Patients who were not candidates for native AVF or who previously failed AVF or AVG	Not reported	Low
6	Davies 2016	Patients with primary surgical creation of PTFE AVG for hemodialysis	AVF access; revision of AVF with PTFE or PTFE interposition grafts; second PTFE graft placed in same extremity; 4-7 mm tapered grafts; lower extermity or chest placement	Low
7	Dixon 2009	Patients aged 18+ with new AVG for hemodialysis	Pregnant or breastfeeding; increased bleeding risk or known bleeding disorder; esophagitis, gastritis, or peptic ulcer disease; platelet count <75000/mm ³ ; advanced liver disease; anticoagulant or antiplatelet use other than aspirin; allergy or adverse reaction to extended-release dipyridamole plus aspirin; uncontrolled hypertension	Low
8	Donati 2015	Patients with no native vessels available for AVF and who had not previously received a tunneled cuffed permanent catheter	Not reported	High
9	Drouven 2019	Patients for whom radial-cephalic or brachio-cephalic AVF failed or was not possible with a suitable elbow vein of 4 millimeters minimum	Not reported	Low
10	Elwakeel 2013	Patients who did not have suitable vein for AVF in both upper limbs and who had unsuitable brachial artery for brachial-axillary access	Not reported	Unclear
11	Feldman 2013	Patients aged 18-85 with uneventful AVG construction; successful first cannulation and extracorporeal blood flow 300mL/min	AVF access; known thrombophilia; AVG with major compications of graft surgery; AVG that underwent any intervention before successful first cannulation; "exotic" grafts	High
12	Glickman 2015	Patients currently undergoing or expected to start hemodialysis within 30 days who were not candidates for AVF and were able to have upper extremity placement	More than 2 prior vascular accesses in arm where AVG was to be implanted; known or suspected systemic infection; prior revision; bleeding disorder or coagulopathy; sensitivity to heparin; immune suppression; extended-release dipyridamole + aspirin	Low
13	Głowiński 2014	Patients with long distance between artery and vein; fibrotic elbow vein; thrombosis of previous fistula; inappropriate for simple thrombectomy; wide patent proximal cephalic vein	Not reported	Unclear

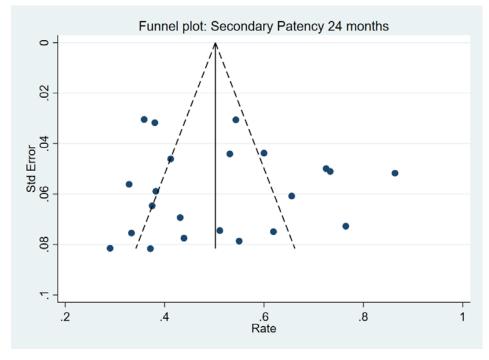
Supplemental Table S4. Inclusion and Exclusion Criteria of Included Studies

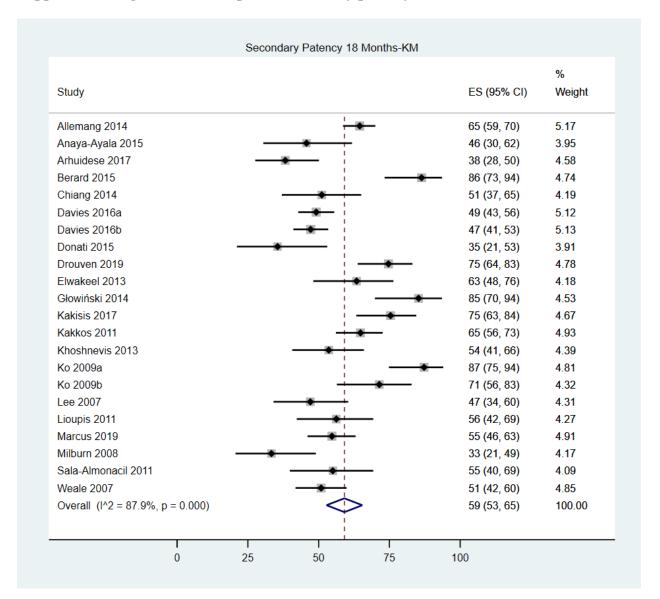
14	Jadlowiec 2015	Patients receiving upper-extremity access using the bracial artery as inflow to either cephalic or bailic vein for outflow	Not reported	High
15	Kakisis 2017	Not reported	Not reported	Low
16	Kakkos 2011	Not reported	Not reported	High
17	Keuter 2008	Patients with a previous RCAVF/BCAVF had failed or in which creation of forearm fistula was not possible	Not reported	Low
18	Khoshnevis 2013	Patients aged 18+ in whom AVF access not possible	Incomplete clinical records	High
19	Ko 2004	Patients with no suitable forearm superficial vein for AVF	Not reported	Unclear
20	Ko 2009	Patients without suitable superficial veins for AVF; who had clear consciousness and stable hemodynamically	Small vein (<3 mm); impalpable artery; low systolic pressure (<90 mmHg)	Low
21	Lee 2007	Patients who previously failed initial forearm AVF and who had minimum artery diameter of 2 mm and minimum vein diameter of 4.0 mm	Not reported	Low
22	Lioupis 2011	Patients with adequate arterial inflow and the absence of suitable forearm/upper arm veins (>2.5 mm)	Not reported	Low
23	Marcus 2019	Patients who were not suitable for AVF due to lack of available venous conduit and who had minimum inflow arterial and outflow venous diameter of 3 mm	Chest wall loop AVG; femoral AVG; AVG replacement for bleeding, aneurysm, infection; Dacron grafts	Low
24	Milburn 2008	Patients receiving transposed brachiobasilic fistula or upper arm AVG if radiocephalic or brachiocephalic fistula options exhausted	Not reported	Low
25	Pham 2017	Patients who were not candidates for AVF with poor venous anatomy (basilic vein diameter < 2.5mm)	Patients lost to follow-up	Low
26	Ravari 2010	Patients with first-time vascular access who had inappropriate vein for AVF	Not reported	High
27	Sala-Almonacil 2011	Patients undergoing first tertiary access	Not reported	Moderate
28	Scarritt 2014	Patients not appropriate for primary AVG	Not reported	High
29	Schild 2011	Patients aged 18-70 years old with history of previous AVF/AVG failure and no veins available for AVF	Not reported	High
30	Shemesh 2015	Patients with exhausted superficial veins who are unsuitable for native fistula	Thigh grafts; patients who couldn't consent or declined; warfarin use	Low
31	Tozzi 2014	Patients who were poor candidates for autogenous access including previous access failure, inadequate native vessels and urgent HD	Not reported	Low
32	Weale 2007	All patients who required access in upper arm	Patients who underwent procedure prior to 2000	Low

* Risk of bias assessment adapted from Al-Jaishi et al.²









Supplemental Figure S6. Forest plot of secondary patency at 18 months

Study		ES (95% CI)	% Weight
Black >= 55%			
Allemang 2014		72 (66, 77)	3.45
Anaya-Ayala 2015		66 (49, 79)	2.76
Arhuidese 2017		49 (37, 60)	3.06
Berard 2015	·	86 (73, 94)	3.18
Chiang 2014		62 (48, 75)	2.88
Davies 2016a		71 (64, 76)	3.43
Davies 2016b		66 (60, 72)	3.43
Donati 2015	.	45 (29, 62)	2.62
Drouven 2019		77 (67, 85)	3.23
Elwakeel 2013		- 76 (61, 86)	2.96
Feldman 2013	•	59 (46, 70)	3.00
Glickman 2015		79 (71, 85)	3.38
Głowiński 2014	i ——	88 (73, 95)	3.13
Kakisis 2017		90 (80, 95)	3.35
Kakkos 2011		69 (60, 76)	3.31
Keuter 2008		85 (73, 92)	3.22
Khoshnevis 2013		57 (44, 69)	2.98
Ko 2009a		98 (89, 100)	3.50
Ко 2009b		86 (72, 93)	3.15
Lee 2007		61 (47, 73)	2.94
Milburn 2008	*	41 (27, 57)	2.78
Pham 2017	*	47 (31, 64)	2.63
Sala-Almonacil 2011		68 (52, 80)	2.86
Scarritt 2014a		77 (66, 85)	3.23
Scarritt 2014b		37 (26, 49)	3.07
Shemesh 2015a		83 (73, 89)	3.30
Shemesh 2015b		81 (71, 88)	3.28
Tozzi 2014		93 (79, 98)	3.26
Subtotal (I^2 = 91.2%, p = 0)	\Leftrightarrow	71 (65, 77)	87.38
Black < 55%			
Jadlowiec 2015		50 (39, 61)	3.07
Lioupis 2011		73 (59, 83)	3.01
Marcus 2019	— •	57 (48, 65)	3.28
Weale 2007		61 (52, 70)	3.26
Subtotal (I^2 = 59.4%, p = 0)	\diamond	60 (52, 68)	12.62
Heterogeneity between groups: p = 0.028			
Overall (l^2 = 91%, p = 0);	\diamond	70 (64, 75)	100.00

Supplemental Figure S7. Forest Plots of Secondary Patency by Subgroup - 12 Months by Black Race

Study				ES (95% CI)	% Weight
Black >= 55%					
Allemang 2014		-		54 (48, 60)	4.53
Anaya-Ayala 2015	•			37 (23, 54)	3.81
Arhuidese 2017	•	- !		38 (28, 50)	4.18
Berard 2015				86 (73, 94)	4.29
Chiang 2014	_			51 (37, 65)	3.93
Davies 2016a		- i		38 (32, 44)	4.52
Davies 2016b				36 (30, 42)	4.54
Donati 2015	-	— i		29 (16, 47)	3.81
Drouven 2019			-	73 (62, 82)	4.29
Elwakeel 2013		•		44 (30, 59)	3.88
Głowiński 2014				76 (60, 88)	3.96
Kakisis 2017		<u> </u>		66 (53, 76)	4.15
Kakkos 2011		- -	_	60 (51, 68)	4.39
Khoshnevis 2013				38 (26, 51)	4.09
Ko 2009a		- i -		83 (70, 91)	4.24
Ko 2009b				62 (47, 75)	3.92
Lee 2007		•		43 (31, 57)	4.02
Milburn 2008		— :		33 (21, 49)	3.91
Sala-Almonacil 2011	-	•	_	55 (40, 69)	3.86
Shemesh 2015a				83 (73, 89)	4.41
Shemesh 2015b			•	73 (62, 81)	4.31
Subtotal (I^2 = 92.2%, p = 0)		\Leftrightarrow		55 (47, 63)	87.03
Black < 55%		1			
Jadlowiec 2015	-	- :		33 (23, 44)	4.22
Marcus 2019				53 (45, 62)	4.39
Weale 2007		-		41 (33, 50)	4.36
Subtotal (I^2 = .%, p = .)	<	\geq		43 (31, 54)	12.97
Heterogeneity between group	s: p = 0.075				
Overall (I^2 = 92%, p = 0);		$\langle \rangle$		54 (47, 61)	100.00

Supplemental Figure S8. Forest Plots of Secondary Patency by Subgroup - 24 Months by Black Race

Supplemental Figure S9. Forest Plots of Secondary Patency by Subgroup - 12 Months by Sex

Davies 2018a 71 Davies 2018b 66 Elwakeel 2013 76 Glickman 2015 79 Kakkos 2011 69 Khoshnevis 2013 57 Ko 2009a 98 Ko 2009b 61 Lee 2007 61 Milburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Weale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Male >= 50% 68 Arhuidese 2017 69 Berard 2015 68 Chiang 2014 62 Donati 2015 45 Drouven 2019 59 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(67, 85)	3.45 3.43 3.43 2.96 3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88 2.88 2.82
Allemang 2014 72 Davies 2018a 71 Davies 2018b 68 Elwakeel 2013 76 Glickman 2015 79 Kakkos 2011 69 Ko 2009a 98 Ko 2009a 98 Ko 2009b 98 Lee 2007 61 Milburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Weale 2007 61 Male >= 50% 66 Arhuidese 2017 67 Berard 2015 68 Chiang 2014 62 Donati 2015 45 Jadlowiec 2015 50	(64, 76) (60, 72) (61, 86) (71, 85) (60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.43 3.43 2.96 3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Davies 2018a 71 Davies 2018b 68 Elwakeel 2013 76 Glickman 2015 79 Kakkos 2011 69 Koshnevis 2013 57 Ko 2009a 98 Ko 2009b 88 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Weale 2007 61 Subtotal (l^2 = 92.6%, p = 0) 71 Male >= 50% 66 Arhuidese 2017 61 Berard 2015 66 Chiang 2014 62 Donati 2015 45 Donati 2015 45 Donati 2015 50 Głowiński 2014 88 Jadlowiec 2015 50	(64, 76) (60, 72) (61, 86) (71, 85) (60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.43 3.43 2.96 3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Davies 2018b Elwakeel 2013 Glickman 2015 Kakkos 2011 Khoshnevis 2013 Ko 2009a Ko 2009b Lee 2007 Wilburn 2008 Pham 2017 Shemesh 2015a Shemesh 2015b Weale 2007 Male >= 50% Anaya-Ayala 2015 Chiang 2014 Donati 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2014 Chiang 2015 Chiang 2015	(60, 72) (61, 86) (71, 85) (60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.43 2.96 3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Elwakeel 2013 76 Blickman 2015 79 Kakkos 2011 69 Koshnevis 2013 79 Kooshnevis 2013 79 Ko 2009a 98 Ko 2009b 98 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 81 Shemesh 2015b 81 Neale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Wale >= 50% 68 Arhuidese 2017 68 Berard 2015 68 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Showiński 2014 88 Jadlowiec 2015 50	(61, 86) (71, 85) (60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.96 3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Bilokman 2015 79 Kakkos 2011 69 Koshnevis 2013 57 Ko 2009a 98 Ko 2009b 98 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 81 Shemesh 2015b 81 Neale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Male >= 50% 68 Arhuidese 2017 68 Berard 2015 68 Chiang 2014 62 Donati 2015 45 Drouven 2019 59 Feldman 2013 59 Blowiński 2014 88 Jadlowiec 2015 50	(71, 85) (60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.38 3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Kakkos 2011 69 Kakkos 2013 57 Kakkos 2013 57 Ko 2009b 98 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Neale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Wale >= 50% 66 Anaya-Ayala 2015 66 Arhuidese 2017 66 Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Blowiński 2014 88 Jadlowiec 2015 50	(60, 76) (44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.31 2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Choshnevis 2013 57 Kooshnevis 2013 98 Kooshnevis 2014 41 Pham 2017 41 Shemesh 2015b 41 Neale 2007 81 Shemesh 2015b 81 Neale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 68 Arhuidese 2017 68 Berard 2015 68 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Showiński 2014 88 Jadlowiec 2015 50	(44, 69) (89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.98 3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Go 2009a 98 Ko 2009b 86 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Neale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Male >= 50% 66 Arhuidese 2017 66 Berard 2015 66 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Glowiński 2014 88 Jadlowiec 2015 50	(89, 100) (72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.50 3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
A 1000 88 Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Wale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 66 Anaya-Ayala 2015 66 Arhuidese 2017 66 Berard 2015 66 Chang 2014 62 Donati 2015 77 Feldman 2013 59 Głowiński 2014 88 Jadłowiec 2015 50	(72, 93) (47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.15 2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Lee 2007 61 Wilburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Wale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 66 Anaya-Ayala 2015 66 Arhuidese 2017 68 Berard 2015 68 Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadłowiec 2015 50	(47, 73) (27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.94 2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Milburn 2008 41 Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Neale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 66 Anaya-Ayala 2015 66 Arhuidese 2017 66 Berard 2015 68 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(27, 57) (31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.78 2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Pham 2017 47 Shemesh 2015a 83 Shemesh 2015b 81 Neale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 66 Anaya-Ayala 2015 66 Arhuidese 2017 49 Berard 2015 88 Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(31, 64) (73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.63 3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Shemesh 2015a 81 Shemesh 2015b 81 Weale 2007 61 Subtotal (I^2 = 92.6%, p = 0) 71 Male >= 50% 68 Anaya-Ayala 2015 68 Arhuidese 2017 68 Berard 2015 88 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(73, 89) (71, 88) (52, 70) (63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.30 3.28 3.26 47.80 2.76 3.06 3.18 2.88
Shemesh 2015b 81 Meale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Male >= 50% 68 Anaya-Ayala 2015 68 Arhuidese 2017 68 Berard 2015 88 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Showiński 2014 88 Jadlowiec 2015 50	(49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.28 3.26 47.80 2.76 3.06 3.18 2.88
Weale 2007 61 Subtotal (I*2 = 92.6%, p = 0) 71 Male >= 50% 68 Anaya-Ayala 2015 68 Arhuidese 2017 68 Berard 2015 88 Chiang 2014 62 Donati 2015 77 Feldman 2013 59 Showiński 2014 88 Jadlowiec 2015 50	(49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.26 47.80 2.76 3.06 3.18 2.88
Subtotal (I^2 = 92.6%, p = 0) Male >= 50% Anaya-Ayala 2015 Arhuidese 2017 Berard 2015 Chiang 2014 Donati 2015 Drouven 2019 Feldman 2013 Głowiński 2014 Jadlowiec 2015	(63, 78) (49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	47.80 2.76 3.06 3.18 2.88
Male >= 50% 66 Anaya-Ayala 2015 49 Arhuidese 2017 86 Berard 2015 86 Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(49, 79) (37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	2.76 3.06 3.18 2.88
Anaya-Ayala 2015 68 Arhuidese 2017 49 Berard 2015 88 Chiang 2014 82 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.06 3.18 2.88
Arhuidese 2017 49 Berard 2015 88 Chiang 2014 82 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(37, 60) (73, 94) (48, 75) (29, 62) (67, 85)	3.06 3.18 2.88
Berard 2015 88 Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadlowiec 2015 50	(73, 94) (48, 75) (29, 62) (67, 85)	3.18 2.88
Chiang 2014 62 Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Głowiński 2014 88 Jadłowiec 2015 50	(48, 75) (29, 62) (67, 85)	2.88
Donati 2015 45 Drouven 2019 77 Feldman 2013 59 Słowiński 2014 88 Jadłowiec 2015 50	(29, 62) (67, 85)	
Drouven 2019 77 Feldman 2013 59 Błowiński 2014 88 Jadlowiec 2015 50	(67, 85)	2.62
Feldman 2013 59 Głowiński 2014 88 Jadłowiec 2015 50		
Głowiński 2014		3.23
Jadlowiec 2015	(46, 70)	3.00
	(73, 95)	3.13
(akiris 2017 00	(39, 61)	3.07
	(80, 95)	3.35
	(73, 92)	3.22
.ioupis 2011 — 👘 73	(59, 83)	3.01
	(48, 65)	3.28
Sala-Almonacil 2011 68	(52, 80)	2.86
Scarritt 2014a - 77	(66, 85)	3.23
Scarritt 2014b	(26, 49)	3.07
Fozzi 2014 93	(79, 98)	3.26
Subtotal (l^2 = 90.0%, p = 0) 69	(60, 77)	52.20
Heterogeneity between groups: p = 0.749		
	(64, 75)	100.00
	-	

Study		ES (95% CI)	% Weight
Male < 50%			
Allemang 2014	_ <u>*</u> _	54 (48, 60)	4.53
Davies 2016a		38 (32, 44)	4.52
Davies 2016b		36 (30, 42)	4.54
Elwakeel 2013		44 (30, 59)	3.88
Kakkos 2011		60 (51, 68)	4.39
Khoshnevis 2013	• i	38 (26, 51)	4.09
Ko 2009a		► 83 (70, 91)	4.24
Ko 2009b		62 (47, 75)	3.92
Lee 2007		43 (31, 57)	4.02
Milburn 2008		33 (21, 49)	3.91
Shemesh 2015a		83 (73, 89)	4.41
Shemesh 2015b	_ _	73 (62, 81)	4.31
Weale 2007	— •	41 (33, 50)	4.36
Subtotal (I^2 = 93.0%, p = 0)	\Leftrightarrow	53 (43, 63)	55.12
Male >= 50%			
Anaya-Ayala 2015		37 (23, 54)	3.81
Arhuidese 2017	- •	38 (28, 50)	4.18
Berard 2015		86 (73, 94)	4.29
Chiang 2014		51 (37, 65)	3.93
Donati 2015 -	•	29 (16, 47)	3.81
Drouven 2019		73 (62, 82)	4.29
Głowiński 2014		— 76 (60, 88)	3.96
Jadlowiec 2015		33 (23, 44)	4.22
Kakisis 2017		66 (53, 76)	4.15
Marcus 2019		53 (45, 62)	4.39
Sala-Almonacil 2011	•	55 (40, 69)	3.86
Subtotal (I ² = 89.9%, p = 0)		55 (43, 66)	44.88
Heterogeneity between groups:	p = 0.827		100.00
Overall (I^2 = 92%, p = 0);	$\langle \rangle$	54 (47, 61)	100.00
	i		

Supplemental Figure S10. Forest Plots of Secondary Patency by Subgroup - 24 Months by Sex

Supplemental Figure S11. Forest	Plots of Secondary F	Patency by Subgroup -	12 Months by Diabetes
Diagnosis			

DM >= 50%		ES (95% CI)	Weight
Allemang 2014		72 (66, 77)	3.45
Anaya-Ayala 2015		66 (49, 79)	2.76
Arhuidese 2017		49 (37, 60)	3.06
Chiang 2014		 62 (48, 75) 	2.88
Davies 2016a		- 71 (64, 76)	3.43
Davies 2016b	- • ·	66 (60, 72)	3.43
Feldman 2013		59 (46, 70)	3.00
Glickman 2015	-	79 (71, 85)	3.38
Jadlowiec 2015		50 (39, 61)	3.07
Kakkos 2011		69 (60, 76)	3.31
Lee 2007		61 (47, 73)	2.94
Pham 2017		47 (31, 64)	2.63
Scarritt 2014a		77 (66, 85)	3.23
Scarritt 2014b	—	37 (26, 49)	3.07
Shemesh 2015a		83 (73, 89)	3.30
Shemesh 2015b		81 (71, 88)	3.28
Subtotal (I ² = 83.8%, p = 0)	\sim	65 (60, 71)	50.24
DM < 50%		-	
Berard 2015		88 (73, 94)	3.18
Donati 2015	•	45 (29, 62)	2.62
Drouven 2019		77 (67, 85)	3.23
Elwakeel 2013		76 (61, 86)	2.96
Głowiński 2014		88 (73, 95)	3.13
Kakisis 2017		90 (80, 95)	3.35
Keuter 2008		85 (73, 92)	3.22
Khoshnevis 2013		57 (44, 69)	2.98
Ko 2009a	1	98 (89, 100)	3.50
Ko 2009b		86 (72, 93)	3.15
Lioupis 2011		73 (59, 83)	3.01
Marcus 2019		57 (48, 65)	3.28
Milburn 2008		41 (27, 57)	2.78
Sala-Almonacil 2011		68 (52, 80)	2.86
Tozzi 2014	-	93 (79, 98)	3.26
Weale 2007		61 (52, 70)	3.26
Subtotal (I ² = 92.1%, p = 0)		75 (66, 83)	49.76
Heterogeneity between groups: p = 0.072			
Overall (l^2 = 91%, p = 0);	\Leftrightarrow	> 70 (64, 75)	100.00

Supplemental Figure S12. Forest Plots of Secondary Patency by Subgroup - 24Months by Diabetes Diagnosis

Study	ES (95% CI)	% Weight
DM >= 50%		
Allemang 2014 -	54 (48, 60)	4.53
Anaya-Ayala 2015 🛛 🔹 🔹 👘	37 (23, 54)	3.81
Arhuidese 2017	38 (28, 50)	4.18
Chiang 2014	- 51 (37, 65)	3.93
Davies 2016a	38 (32, 44)	4.52
Davies 2016b	36 (30, 42)	4.54
Jadlowiec 2015	33 (23, 44)	4.22
Kakkos 2011	- 60 (51, 68)	4.39
Lee 2007	43 (31, 57)	4.02
Shemesh 2015a		4.41
Shemesh 2015b -	— • 7 3 (62, 81)	4.31
Subtotal (I^2 = 92.8%, p = 0)	50 (40, 60)	46.85
DM < 50%		
Berard 2015	86 (73, 94)	4.29
Donati 2015	29 (16, 47)	3.81
Drouven 2019	73 (62, 82)	4.29
Elwakeel 2013	44 (30, 59)	3.88
Głowiński 2014 –	76 (60, 88)	3.96
Kakisis 2017	• 66 (53, 76)	4.15
Khoshnevis 2013	38 (26, 51)	4.09
Ko 2009a		4.24
Ko 2009b		3.92
Marcus 2019	53 (45, 62)	4.39
Milburn 2008	33 (21, 49)	3.91
Weale 2007	- 55 (40, 69)	3.86 4.36
Subtotal (I ² = 89.9%, p = 0)	 41 (33, 50) 57 (47, 68) 	4.36 53.15
Subtotal (1-2 - 89.9%, p - 0)	57 (41, 66)	55.15
Heterogeneity between groups: $p = 0.315$ Overall ($l^2 = 92\%$, $p = 0$);	54 (47, 61)	100.00
Overall (1"2 - 32 /0, p - 0),	D4 (47, 01)	100.00

Supplemental Figure S13. Forest Plots of Secondary Patency by Subgroup - 12 Months by Study Design

Study		ES (95% CI)	% Weight
Obs-Retro			
Allemang 2014	_ 	72 (66, 77)	3.45
Anaya-Ayala 2015		66 (49, 79)	2.76
Arhuidese 2017		49 (37, 60)	3.06
Davies 2016a		71 (64, 76)	3.43
Davies 2016b		66 (60, 72)	3.43
Drouven 2019		77 (67, 85)	3.23
Elwakeel 2013		76 (61, 86)	2.96
Feldman 2013		59 (46, 70)	3.00
Głowiński 2014	· · · · · · · · · · · · · · · · · · ·	88 (73, 95)	3.13
Jadlowiec 2015		50 (39, 61)	3.07
Kakisis 2017	_	90 (80, 95)	3.35
Kakkos 2011		69 (60, 76)	3.31
Lee 2007		61 (47, 73)	2.94
Lioupis 2011		- 73 (59, 83)	3.01
Marcus 2019	*	57 (48, 65)	3.28
Milburn 2008		41 (27, 57)	2.78
Pham 2017	_	47 (31, 64)	2.63
Sala-Almonacil 2011		68 (52, 80)	2.86
Scarritt 2014a		- 77 (66, 85)	3.23
Scarritt 2014b	_	37 (26, 49)	3.07
Tozzi 2014		93 (79, 98)	3.26
Weale 2007		61 (52, 70)	3.26
Subtotal (I*2 = 87.2%, p = 0)	\diamond	66 (61, 72)	68.51
Obs-Pro			
Berard 2015		86 (73, 94)	3.18
Chiang 2014		62 (48, 75)	2.88
Donati 2015		45 (29, 62)	2.62
Glickman 2015		- 79 (71, 85)	3.38
Khoshnevis 2013		57 (44, 69)	2.98
Subtotal (I ^A 2 = 85.3%, p = 0)	\sim	67 (54, 81)	15.04
RCT			
Keuter 2008	· · · · · · · · · · · · · · · · · · ·	85 (73, 92)	3.22
Ko 2009a		98 (89, 100)	3.50
Ко 2009b	i —	86 (72, 93)	3.15
Shemesh 2015a	· · · · ·	83 (73, 89)	3.30
Shemesh 2015b		81 (71, 88)	3.28
Subtotal (IA2 = 81.9%, p = 0)	<	87 (79, 95)	16.45
Heterogeneity between groups: p = 0.000			
Overall (I*2 = 91%, p = 0);	\$	70 (64, 75)	100.00

Study		ES (95% CI)	% Weight
Obs-Retro			
Allemang 2014		54 (48, 60)	4.53
Anaya-Ayala 2015 -		37 (23, 54)	3.81
Arhuidese 2017		38 (28, 50)	4.18
Davies 2016a		38 (32, 44)	4.52
Davies 2016b		36 (30, 42)	4.54
Drouven 2019		73 (62, 82)	4.29
Elwakeel 2013		44 (30, 59)	3.88
Głowiński 2014		- 76 (60, 88)	3.96
Jadlowiec 2015 -		33 (23, 44)	4.22
Kakisis 2017		66 (53, 76)	4.15
Kakkos 2011		60 (51, 68)	4.39
Lee 2007	_	43 (31, 57)	4.02
Marcus 2019	_	53 (45, 62)	4.39
Milburn 2008 -	_ 	33 (21, 49)	3.91
Sala-Almonacil 2011		55 (40, 69)	3.86
Weale 2007	_ _	41 (33, 50)	4.36
Subtotal (I ² = 85.9%, p = 0)	\sim	49 (42, 55)	67.01
Obs-Pro			
Berard 2015		86 (73, 94)	4.29
Chiang 2014		51 (37, 65)	3.93
Donati 2015	•	29 (16, 47)	3.81
Khoshnevis 2013	_	38 (26, 51)	4.09
Subtotal (I ² = 94.4%, p = 0)		51 (24, 79)	16.11
RCT			
Ko 2009a		83 (70, 91)	4.24
Ko 2009b		62 (47, 75)	3.92
Shemesh 2015a		83 (73, 89)	4.41
Shemesh 2015b	·	73 (62, 81)	4.31
Subtotal (I ² = 61.1%, p = 0)	\diamond	76 (68, 85)	16.88
Heterogeneity between groups: p = 0.000	D		
Overall (I^2 = 92%, p = 0);	\triangleleft	54 (47, 61)	100.00

Supplemental Figure S14. Forest Plots of Secondary Patency by Subgroup - 24 Months by Study Design

Supplemental Figure S15. Forest Plots of Secondary Patency by Subgroup - 12 Months by Study Country

Study		ES (95% CI)	% Weight
US			
Allemang 2014		72 (66, 77)	3.45
Anaya-Ayala 2015		66 (49, 79)	2.76
Arhuidese 2017	<u></u>	49 (37, 60)	3.06
Davies 2018a		71 (64, 76)	3.43
Davies 2018b		66 (60, 72)	3.43
Glickman 2015		79 (71, 85)	3.38
Jadlowiec 2015		50 (39, 61)	3.07
Kakkos 2011		69 (60, 76)	3.31
Lee 2007		61 (47, 73)	2.94
Marcus 2019		57 (48, 65)	3.28
Pham 2017		47 (31, 64)	2.63
Scarritt 2014a Scarritt 2014b		 77 (66, 85) 27 (28, 40) 	3.23 3.07
		37 (26, 49)	3.07 41.06
Subtotal (I^2 = 83.9%, p = 0)	\sim	63 (56, 69)	41.00
Ex-US Berard 2015		1 1 1 1 1 1 1 1 1 1	
		86 (73, 94)	3.18
Chiang 2014		62 (48, 75)	2.88
Donati 2015		45 (29, 62)	2.62
Drouven 2019		- 77 (67, 85)	3.23
Elwakeel 2013 Feldman 2013		 76 (61, 86) 50 (49, 70) 	2.96
Feloman 2013 Głowiński 2014		59 (46, 70)	3.00
Główinski 2014 Kakisis 2017		88 (73, 95)	3.13 3.35
Keuter 2008		90 (80, 95) 85 (73, 92)	3.33
Khoshnevis 2013		57 (44, 69)	2.98
Ko 2009a		98 (89, 100)	3.50
Ko 2009b	i	86 (72, 93)	3.15
Lioupis 2011		73 (59, 83)	3.01
Milburn 2008		41 (27, 57)	2.78
Sala-Almonacil 2011		68 (52, 80)	2.86
Shemesh 2015a		83 (73, 89)	3.30
Shemesh 2015b		- 81 (71, 88)	3.28
Tozzi 2014		93 (79, 98)	3.26
Weale 2007		61 (52, 70)	3.26
Subtotal (1^2 = 89.8%, p = 0)		75 (68, 82)	58.94
		10 (00, 02)	00.04
Heterogeneity between groups: p = 0.00	8	70 (94 75)	100.00
Overall (l^2 = 91%, p = 0);	$\mathbf{\varphi}$	70 (64, 75)	100.00

Supplemental Figure S16. Forest Plots of Secondary Patency by Subgroup - 24 Months by Study Country

Study		ES (95% CI)	% Weight
US	i		
Allemang 2014		54 (48, 60)	4.53
Anaya-Ayala 2015		37 (23, 54)	3.81
Arhuidese 2017		38 (28, 50)	4.18
Davies 2016a		38 (32, 44)	4.52
Davies 2016b		36 (30, 42)	4.54
Jadlowiec 2015	— •	33 (23, 44)	4.22
Kakkos 2011	-	60 (51, 68)	4.39
Lee 2007		43 (31, 57)	4.02
Marcus 2019		53 (45, 62)	4.39
Subtotal (I ² = 82.3%, p = 0)	\diamond	44 (37, 51)	38.59
Ex-US			
Berard 2015	-	86 (73, 94)	4.29
Chiang 2014		51 (37, 65)	3.93
Donati 2015		29 (16, 47)	3.81
Drouven 2019		— 73 (62, 82)	4.29
Elwakeel 2013		44 (30, 59)	3.88
Głowiński 2014		76 (60, 88)	3.96
Kakisis 2017		 66 (53, 76) 	4.15
Khoshnevis 2013		38 (26, 51)	4.09
Ko 2009a	_	83 (70, 91)	4.24
Ko 2009b		62 (47, 75)	3.92
Milburn 2008		33 (21, 49)	3.91
Sala-Almonacil 2011		55 (40, 69)	3.86
Shemesh 2015a	-	83 (73, 89)	4.41
Shemesh 2015b	-		4.31
Weale 2007		41 (33, 50)	4.36
Subtotal (I ² = 90.4%, p = 0)	$\langle \rangle$	60 (50, 70)	61.41
Heterogeneity between groups	: p = 0.010		
Overall (I^2 = 92%, p = 0);	<>	54 (47, 61)	100.00

Supplemental Figure S17. Forest Plots of Secondary Patency by Subgroup - 12 Months by Study Funder

Study		ES (95% CI)	% Weight
No industry funds			
Allemang 2014		72 (66, 77)	3.45
Anaya-Ayala 2015		66 (49, 79)	2.76
Arhuidese 2017	•	49 (37, 60)	3.06
Berard 2015	i —	86 (73, 94)	3.18
Chiang 2014		62 (48, 75)	2.88
Davies 2016a		71 (64, 76)	3.43
Davies 2016b	- * :	66 (60, 72)	3.43
Donati 2015	•	45 (29, 62)	2.62
Drouven 2019		77 (67, 85)	3.23
Elwakeel 2013		76 (61, 86)	2.96
Feldman 2013		59 (46, 70)	3.00
Głowiński 2014		88 (73, 95)	3.13
Jadlowiec 2015		50 (39, 61)	3.07
Kakisis 2017	-	90 (80, 95)	3.35
Kakkos 2011		69 (60, 76)	3.31
Keuter 2008		85 (73, 92)	3.22
Khoshnevis 2013		57 (44, 69)	2.98
Ko 2009a		98 (89, 100)	3.50
Ko 2009b		86 (72, 93)	3.15
Lioupis 2011		- 73 (59, 83)	3.01
Marcus 2019	— •	57 (48, 65)	3.28
Milburn 2008	•	41 (27, 57)	2.78
Pham 2017		47 (31, 64)	2.63
Sala-Almonacil 2011		68 (52, 80)	2.86
Shemesh 2015a		83 (73, 89)	3.30
Shemesh 2015b		81 (71, 88)	3.28
Tozzi 2014		93 (79, 98)	3.26
Weale 2007		61 (52, 70)	3.26
Subtotal (I [*] 2 = 91.2%, p = 0)	$\mathbf{\varphi}$	71 (65, 76)	87.37
Any industry funds			
Glickman 2015	-	- 79 (71, 85)	3.38
Lee 2007		61 (47, 73)	2.94
Scarritt 2014a		- 77 (66, 85)	3.23
Scarritt 2014b	-	37 (26, 49)	3.07
Subtotal (I^2 = 92.7%, p = 0)		64 (46, 82)	12.63
Heterogeneity between groups: p = 0.492			
Overall (I^2 = 91%, p = 0);	\diamond	70 (64, 75)	100.00
	i		

Supplemental Figure S18. Forest Plots of Secondary Patency by Subgroup - 24 Months by Study Funder

No industry funds Allemang 2014 Anaya-Ayala 2015 Arhuidese 2017 Berard 2015 Chiang 2014 Donati 2015 Donves 2016a Donati 2015 Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2017 Kakkos 2017 Kakkos 2017 Kakkos 2017 Kakkos 2011 Shomesh 2015a Shemesh 2015b Shemesh 2015b	Study		ES (95% CI)	% Weight
Anaya-Ayala 2015 Arhuidese 2017 Berard 2015 Chiang 2014 Davies 2016a Davies 2016b Davies 2016b Davies 2016b Davies 2016b Davies 2016b Davies 2016b Davies 2016b Davies 2017 Berard 2015 Davies 2016b Davies 2016b Davies 2016b Davies 2017 Second 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2011 Ko 2009b Ko 2009b Marcus 2019 Sala-Almonacil 2011 Shemesh 2015b Weale 2007 Any industry funds Lee 2007 Heterogeneity between groups: $p = 0.161$ 37 (23, 54) 38 (28, 50) 4.18 86 (73, 94) 4.29 86 (73, 94) 4.29 86 (73, 94) 4.29 86 (73, 94) 4.29 9 (16, 47) 38 (26, 51) 4.09 Ko 2009b Sala-Almonacil 2011 Shemesh 2015b Veale 2007 43 (31, 57) 4.02	No industry funds			
Arhuidese 2017 38 (28, 50) 4.18 Berard 2015 $66 (73, 94)$ 4.29 Chiang 2014 $51 (37, 65)$ 3.93 Davies 2016a $36 (30, 42)$ 4.54 Donati 2015 $29 (16, 47)$ 3.81 Drouven 2019 73 (62, 82) 4.29 Elwakeel 2013 44 (30, 59) 3.88 Głowiński 2014 $46 (53, 76)$ 4.15 Jadlowiec 2015 $33 (23, 44)$ 4.22 Kakisis 2017 $66 (53, 76)$ 4.15 Kakkos 2011 $60 (51, 68)$ 4.39 Khoshnevis 2013 $83 (70, 91)$ 4.24 Ko 2009a $83 (70, 91)$ 4.24 Ko 2009b $62 (47, 75)$ 3.92 Marcus 2019 $53 (45, 62)$ 4.39 Milburn 2008 $33 (21, 49)$ 3.91 Sala-Almonacil 2011 $55 (40, 69)$ 3.86 Shemesh 2015b $73 (62, 81)$ 4.31 Weale 2007 $43 (31, 57)$ 4.02 Heterogeneity between groups: $p = 0.161$ $43 (31, 57)$ 4.02				
Berard 2015 Chiang 2014 Davies 2016a Davies 2016b Donati 2015 Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2011 Khoshnevis 2013 Khoshnevis 2013 Khoshnevis 2013 Shemesh 2015b Shemesh 2015a Shemesh 2015b Shemesh				
Chiang 2014 51 (37, 65) 3.93 Davies 2016a 38 (32, 44) 4.52 Davies 2016b 36 (30, 42) 4.54 Donati 2015 29 (16, 47) 3.81 Drouven 2019 73 (62, 82) 4.29 Elwakeel 2013 44 (30, 59) 3.88 Głowiński 2014 33 (23, 44) 4.22 Kakisis 2017 66 (53, 76) 4.15 Kakkos 2011 60 (51, 68) 4.39 Khoshnevis 2013 88 (26, 51) 4.09 Ko 2009a 83 (70, 91) 4.24 Ko 2009b 62 (47, 75) 3.92 Marcus 2019 53 (45, 62) 4.39 Milburn 2008 33 (21, 49) 3.91 Sala-Almonacil 2011 55 (40, 69) 3.86 Shemesh 2015a 73 (62, 81) 4.31 Weale 2007 41 (33, 50) 4.36 Subtotal ($l^2 = 92.0\%$, p = 0) 44 Heterogeneity between groups: p = 0.161				
Davies 2016a Davies 2016b Davies 2016b Donati 2015 Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2011 Ko 2009b Milburn 2008 Sala-Almonacil 2011 Shemesh 2015b Sala-Almonacil 2011 Shemesh 2015b Subtotal ($l^2 = 92.0\%$, p = 0) Any industry funds Lee 2007 Heterogeneity between groups: p = 0.161		· · · · ·		
Davies 2016b Donati 2015 Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2017 Koshnevis 2013 Khoshnevis 2013 Ko 2009a Ko 2009a Ko 2009b Marcus 2019 Milburn 2008 Shemesh 2015a Shemesh 2015b Weale 2007 Any industry funds Lee 2007 Heterogeneity between groups: $p = 0.161$ a = 0.161 a = 0.161	<u> </u>			
Donati 2015 Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakisis 2017 Koshnevis 2013 Kooshnevis 2019 Marcus 2019 Milburn 2008 Shemesh 2015a Shemesh 2015b Miloura 2007 $Subtotal (l^2 = 92.0\%, p = 0)$ Any industry funds Lee 2007 Any industry funds Lee 2007 Any industry funds Lee 2007 Any industry funds Lee 2007 Any industry funds Lee 2007 Aig (31, 57) Aig (31, 57		-		
Drouven 2019 Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakkos 2017 Kakkos 2017 Koshnevis 2013 Kooshnevis 2013 Kooshnevis 2013 Ko 2009a Ko 2009a Ko 2009a Sala-Almonacil 2011 Shemesh 2015b Shemesh 2015b Subtotal ($h^2 = 92.0\%$, p = 0) Any industry funds Lee 2007 Heterogeneity between groups: p = 0.161 Transformation of the second state of the s				
Elwakeel 2013 Głowiński 2014 Jadlowiec 2015 Kakisis 2017 Kakkos 2011 Koshnevis 2013 Ko 2009a Ko 2009a Ko 2009b Marcus 2019 Milburn 2008 Shemesh 2015b Shemesh 2015b Subtotal ($l^2 = 92.0\%$, p = 0) Any industry funds Lee 2007 Heterogeneity between groups: p = 0.161 44 (30, 59) 3.88 76 (60, 88) 3.96 33 (23, 44) 4.22 66 (53, 76) 4.15 60 (51, 68) 4.39 83 (70, 91) 4.24 62 (47, 75) 3.92 53 (45, 62) 4.39 33 (21, 49) 3.91 55 (40, 69) 3.86 73 (62, 81) 4.31 Weale 2007 43 (31, 57) 4.02				
Głowiński 2014 76 (60, 88) 3.96 Jadlowiec 2015 33 (23, 44) 4.22 Kakisis 2017 66 (53, 76) 4.15 Kakkos 2011 60 (51, 68) 4.39 Khoshnevis 2013 $38 (26, 51)$ 4.09 Ko 2009a $83 (70, 91)$ 4.24 Ko 2009b $62 (47, 75)$ 3.92 Marcus 2019 $53 (45, 62)$ 4.39 Milburn 2008 $33 (21, 49)$ 3.91 Sala-Almonacil 2011 $55 (40, 69)$ 3.86 Shemesh 2015a $73 (62, 81)$ 4.31 Weale 2007 $41 (33, 50)$ 4.36 Subtotal (I^2 = 92.0%, p = 0) $43 (31, 57)$ 4.02 Heterogeneity between groups: $p = 0.161$ $43 (31, 57)$ 4.02		-		
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Ko 2009a 83 (70, 91) 4.24 Ko 2009b 62 (47, 75) 3.92 Marcus 2019 53 (45, 62) 4.39 Milburn 2008 33 (21, 49) 3.91 Sala-Almonacil 2011 55 (40, 69) 3.86 Shemesh 2015a 83 (73, 89) 4.41 Shemesh 2015b 73 (62, 81) 4.31 Weale 2007 41 (33, 50) 4.36 Subtotal (I^2 = 92.0%, p = 0) 54 (47, 62) 95.98 Any industry funds 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161 43 (31, 57) 4.02		` •		
Ko 2009b $62 (47, 75)$ 3.92 Marcus 2019 $53 (45, 62)$ 4.39 Milburn 2008 $33 (21, 49)$ 3.91 Sala-Almonacil 2011 $55 (40, 69)$ 3.86 Shemesh 2015a $83 (73, 89)$ 4.41 Shemesh 2015b $73 (62, 81)$ 4.31 Weale 2007 $41 (33, 50)$ 4.36 Subtotal (I^2 = 92.0%, p = 0) $54 (47, 62)$ 95.98 Any industry funds $43 (31, 57)$ 4.02 Heterogeneity between groups: $p = 0.161$ $43 (31, 57)$ 4.02		_ *		
Marcus 2019 53 (45, 62) 4.39 Milburn 2008 33 (21, 49) 3.91 Sala-Almonacil 2011 55 (40, 69) 3.86 Shemesh 2015a 83 (73, 89) 4.41 Shemesh 2015b 73 (62, 81) 4.31 Weale 2007 41 (33, 50) 4.36 Subtotal (I^2 = 92.0%, p = 0) 54 (47, 62) 95.98 Any industry funds 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161 43 (31, 57) 4.02				
Milburn 2008 $33 (21, 49)$ 3.91 Sala-Almonacil 2011 $55 (40, 69)$ 3.86 Shemesh 2015a $83 (73, 89)$ 4.41 Shemesh 2015b $73 (62, 81)$ 4.31 Weale 2007 $41 (33, 50)$ 4.36 Subtotal (I^2 = 92.0%, p = 0) $54 (47, 62)$ 95.98 Any industry funds $43 (31, 57)$ 4.02 Heterogeneity between groups: $p = 0.161$ $43 (31, 57)$ 4.02				
Sala-Almonacil 2011 $55 (40, 69)$ 3.86 Shemesh 2015a $83 (73, 89)$ 4.41 Shemesh 2015b $73 (62, 81)$ 4.31 Weale 2007 $41 (33, 50)$ 4.36 Subtotal (I^2 = 92.0%, p = 0) $54 (47, 62)$ 95.98 Any industry funds $43 (31, 57)$ 4.02 Heterogeneity between groups: $p = 0.161$ $43 (31, 57)$ 4.02				
Shemesh 2015a $33 (73, 89)$ 4.41 Shemesh 2015b 73 (62, 81) 4.31 Weale 2007 41 (33, 50) 4.36 Subtotal (l^2 = 92.0%, p = 0) 54 (47, 62) 95.98 Any industry funds 43 (31, 57) 4.02 Heterogeneity between groups: $p = 0.161$ 43 (31, 57) 4.02				
Shemesh 2015b 73 (62, 81) 4.31 Weale 2007 41 (33, 50) 4.36 Subtotal (l^2 = 92.0%, p = 0) 54 (47, 62) 95.98 Any industry funds 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161 43 (31, 57) 4.02				
Weale 2007 $41 (33, 50)$ 4.36 Subtotal (l^2 = 92.0%, p = 0) $54 (47, 62)$ 95.98 Any industry funds $43 (31, 57)$ 4.02 Heterogeneity between groups: p = 0.161 $43 (31, 57)$ 4.02				
Subtotal (I^2 = 92.0%, p = 0) 54 (47, 62) 95.98 Any industry funds 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161 43 (31, 57) 4.02		-		
Any industry funds Lee 2007 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161				
Lee 2007 43 (31, 57) 4.02 Heterogeneity between groups: p = 0.161	Subtotal $(1^2 = 92.0\%, p = 0)$	\sim	54 (47, 62)	95.98
Heterogeneity between groups: p = 0.161				
	Lee 2007	-	43 (31, 57)	4.02
	Heterogeneity between groups Overall (I^2 = 92%, p = 0);	s: p = 0.161	54 (47, 61)	100.00

Supplemental Figure S19. Forest Plots of Secondary Patency by Subgroup - 12 Months by Graft Type

Study			ES (95% CI)	% Weight
Standard PTFE				
Allemang 2014		-	72 (66, 77)	3.45
Anaya-Ayala 2015	-		66 (49, 79)	2.76
Arhuidese 2017			49 (37, 60)	3.06
Berard 2015		· · · · · ·	86 (73, 94)	3.18
Davies 2016b		-	66 (60, 72)	3.43
Donati 2015	-		45 (29, 62)	2.62
Glickman 2015		-	79 (71, 85)	3.38
Głowiński 2014			88 (73, 95)	3.13
Jadlowiec 2015		<u> </u>	50 (39, 61)	3.07
Kakisis 2017			90 (80, 95)	3.35
Kakkos 2011		-	69 (60, 76)	3.31
Keuter 2008			85 (73, 92)	3.22
Khoshnevis 2013		•	57 (44, 69)	2.98
Ko 2009b			86 (72, 93)	3.15
Lee 2007	_	•	61 (47, 73)	2.94
Marcus 2019	-		57 (48, 65)	3.28
Milburn 2008	-	- :	41 (27, 57)	2.78
Pham 2017	•		47 (31, 64)	2.63
Sala-Almonacil 2011			68 (52, 80)	2.86
Scarritt 2014b			37 (26, 49)	3.07
Shemesh 2015b		-	81 (71, 88)	3.28
Weale 2007		-	61 (52, 70)	3.26
Subtotal (I^2 = 88.5%, p = 0)		\sim	66 (60, 72)	68.20
Other PTFE		-		
Chiang 2014	-	•	62 (48, 75)	2.88
Davies 2018a			71 (64, 76)	3.43
Drouven 2019			77 (67, 85)	3.23
Elwakeel 2013			 76 (61, 86) 50 (48, 70) 	2.96
Feldman 2013	_		59 (46, 70)	3.00
Ko 2009a			98 (89, 100)	3.50
Lioupis 2011			73 (59, 83)	3.01
Scarritt 2014a Shemesh 2015a			77 (66, 85)	3.23
Snemesh 2015a Tozzi 2014		-	83 (73, 89)	3.30
			93 (79, 98)	3.26
Subtotal (I^2 = 91.1%, p = 0)			77 (68, 86)	31.80
Heterogeneity between groups: p = 0.047		i		
Overall (l^2 = 91%, p = 0);		\diamond	70 (64, 75)	100.00
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Supplemental Figure S20. Forest Plots of Secondary Patency by Subgroup - 24 Months by Graft Type

Study			ES (95% CI)	% Weight
Standard PTFE				
Allemang 2014			54 (48, 60)	4.53
Anaya-Ayala 2015			37 (23, 54)	3.81
Arhuidese 2017			38 (28, 50)	4.18
Berard 2015			86 (73, 94)	4.29
Davies 2016b			36 (30, 42)	4.54
Donati 2015 ·	.		29 (16, 47)	3.81
Głowiński 2014		•	76 (60, 88)	3.96
Jadlowiec 2015	—		33 (23, 44)	4.22
Kakisis 2017	•		66 (53, 76)	4.15
Kakkos 2011			60 (51, 68)	4.39
Khoshnevis 2013			38 (26, 51)	4.09
Ko 2009b			62 (47, 75)	3.92
Lee 2007			43 (31, 57)	4.02
Marcus 2019			53 (45, 62)	4.39
Milburn 2008	* i		33 (21, 49)	3.91
Sala-Almonacil 2011		-	55 (40, 69)	3.86
Shemesh 2015b		•	73 (62, 81)	4.31
Weale 2007	_ *		41 (33, 50)	4.36
Subtotal (I^2 = 89.2%, p = 0)	\diamond		51 (43, 58)	74.73
Other PTFE			54 (07 05)	
Chiang 2014			51 (37, 65)	3.93
Davies 2016a	-	-	38 (32, 44)	4.52
Drouven 2019			73 (62, 82)	4.29
Elwakeel 2013		-	44 (30, 59)	3.88
Ko 2009a			83 (70, 91)	4.24
Shemesh 2015a		-	83 (73, 89)	4.41
Subtotal (I ² = 95.3%, p = 0)		>	62 (44, 81)	25.27
Heterogeneity between groups Overall (I^2 = 92%, p = 0);	: p = 0.274		54 (47, 61)	100.00
Overall $(1.2 - 32.0, p - 0)$,	\rightarrow		54 (47, 01)	100.00

Supplemental Figure S21. Forest Plots of Secondary Patency by Subgroup - 12 Months by Risk of Bias

Risk=Low Allemang 2014 72 (96, 77) 3.45 Anaya-Ayala 2015 66 (49, 79) 2.76 Arhuidese 2017 49 (37, 60) 3.06 Berard 2015 86 (73, 94) 3.18 Chiang 2014 62 (48, 75) 2.88 Davies 2016b 71 (94, 76) 3.43 Davies 2017 60 (80, 72) 3.43 Kakisis 2017 90 (80, 95) 3.23 Kakisis 2017 90 (80, 95) 3.23 Ko 2009a 85 (73, 92) 3.22 Ko 2009b 86 (72, 93) 3.15 Lee 2007 61 (47, 73) 2.94 Lioupis 2011 73 (59, 83) 3.01 Marcus 2019 41 (27, 57) 2.78 Pham 2017 47 (31, 64) 2.63 Shemesh 2015a 83 (73, 98) 3.20 Shemesh 2015b 93 (79, 98) 3.26 Veale 2007 61 (52, 70) 3.26 Subtotal (1*2 = 91.7%, p = 0) 73 (96, 79) 69, 77 Risk=Not Low 77 (66, 87) 3.01	Study		ES (955	% % Cl) Weight
Anaya-Ayala 2015 Arhuidese 2017 Berard 2015 Chiang 2014 Davies 2018a Davies 2018b Davies 2017 Kakisis 2017 Kakiss 2017 Kakiss 2017 Kakiss 2017 Kakiss 2017 Kakiss 2019 Marcus 2014 Marcus 2013 Subtotal (Ir' 2 = 91.7%, p = 0) Marcus 2013 Sacht 2014 Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2014 Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2014 Marcus 2013 Scarritt 2014b Marcus 2014 Marcus 2014 Marcus 2013 Scarritt 2014b Marcus 2014 Marcus 2014 Marcus 2015 Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2015 Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 2013 Scarritt 2014b Marcus 20	Risk=Low			
Arhuidese 2017 49 (37, 60) 3.06 Berard 2015 88 (73, 94) 3.18 Chiang 2014 62 (48, 75) 2.88 Davies 2016a 71 (64, 76) 3.43 Davies 2016b 66 (60, 72) 3.43 Drouve 2019 77 (67, 85) 3.23 Glickman 2015 79 (71, 85) 3.38 Kakisis 2017 98 (89, 100) 3.50 Ko 2009a 86 (72, 93) 3.16 Lee 2007 88 (72, 93) 3.01 Lioupis 2011 73 (59, 83) 3.01 Marcus 2019 77 (47, 75) 2.78 Milbur 2008 41 (27, 57) 2.78 Pham 2017 73 (59, 83) 3.01 Shemesh 2015a 83 (73, 89) 3.20 Shemesh 2015a 83 (73, 89) 3.20 Subtotal (I*2 = 91.7%, p = 0) 73 (66, 79) 69.77 Risk=Not Low 73 (66, 79) 69.77 3.13 Jadlowice 2015 76 (61, 86) 2.80 Subtotal (I*2 = 91.7%, p = 0) 73 (66, 79) 69.70 3.13 Subtotal (I*2 = 201.7%, p = 0) 76 (61, 86)		-		·
Berard 2015 Chiang 2014 Davies 2018a Davies 2018b Davies 2018b Davies 2018b Davies 2018b Davies 2018b Davies 2018b Davies 2018b Davies 2018b Chiang 2014 Davies 2018b Chiang 2014 Davies 2018b Called Participation Realized Participation Realized Participation Realized Participation Berard 2015 Called Participation Called Participation Berard 2015 Called Participation Davies 2018b Realized Participation Davies 2018b Called Participation Davies 2018b Davies 2018b Davies 2018b Shemesh 2015b Davies 2015 Davies 2015 Dav			66 (49,	
Chiang 2014 62 (48, 75) 2.88 Davies 2016a 71 (64, 76) 3.43 Davies 2016b 66 (60, 72) 3.43 Drouven 2019 71 (76, 785) 3.23 Glickman 2015 79 (71, 85) 3.38 Kakisis 2017 90 (80, 95) 3.35 Keuter 2008 88 (73, 92) 3.22 Ko 2009a 88 (73, 92) 3.22 Ko 2009b 88 (72, 93) 3.15 Lee 2007 61 (47, 73) 2.94 Lioupis 2011 73 (59, 83) 3.01 Marcus 2019 74 (8, 65) 3.28 Pham 2017 47 (31, 64) 2.63 Shemesh 2015b 70 (48, 65) 3.28 Shemesh 2015b 70 (48, 65) 3.28 Shemesh 2015b 70 (48, 65) 3.28 Subtotal (I^2 = 91.7%, p = 0) 73 (68, 79) 69.77 Risk=Not Low Donati 2015 45 (29, 62) 2.62 Elwakeel 2013 59 (46, 70) 3.00 Glowiński 2014 50 (39, 61) 3.07 Kakkos 2011 69 (60, 76) 3.31 Khoshnevis 2013 59 (46, 70) 3.00 Slala-Almonacil 2011 68 (52, 80) 2.88 Slala-Almonacil 2011 68 (52, 80) 2.88 Slala-Almonacil 2011 68 (52, 80) 2.88 Soarritt 2014a 77 (68, 55) 3.23 Scarritt 2014b 77 (68, 50) 3.28 Scarritt 2014b 77 (68, 50) 3.28			49 (37.	
Davies 2016a 71 (64, 76) 3.43 Davies 2016b 66 (60, 72) 3.43 Drouven 2019 77 (67, 85) 3.23 Glickman 2015 79 (71, 85) 3.38 Kakisis 2017 90 (80, 96) 3.55 Keuter 2008 85 (73, 92) 3.22 Ko 2009a 88 (72, 93) 3.15 Lee 2007 61 (47, 73) 2.94 Lioupis 2011 73 (59, 83) 3.01 Marcus 2019 57 (48, 65) 3.28 Milburn 2008 41 (27, 57) 2.78 Pham 2017 47 (31, 64) 2.63 Shemesh 2015a 81 (71, 88) 3.28 Shemesh 2015b 81 (71, 88) 3.28 Tozzi 2014 93 (79, 98) 3.26 Weale 2007 61 (62, 70) 3.28 Subtotal (I*2 = 91.7%, p = 0) 73 (69, 62) 2.62 Elwaked 2013 59 (46, 70) 3.00 Feldman 2013 59 (46, 70) 3.00 Glowiński 2014 88 (73, 95) 3.13 Jadlowiec 2015 <td></td> <td></td> <td></td> <td></td>				
Davies 2018b 66 (60, 72) 3.43 Drouven 2019 77 (67, 85) 3.23 Glickman 2015 90 (80, 95) 3.35 Kakisis 2017 90 (80, 95) 3.35 Keuter 2008 98 (89, 100) 3.50 Ko 2009a 98 (89, 100) 3.50 Ko 2009b 98 (89, 100) 3.50 Marcus 2019 73 (59, 83) 3.01 Marcus 2019 57 (48, 65) 3.28 Milburn 2008 41 (27, 57) 2.78 Pham 2017 47 (31, 64) 2.63 Shemesh 2015b 81 (71, 88) 3.28 Tozzi 2014 93 (79, 98) 3.26 Weale 2007 61 (52, 70) 3.28 Subtotal (I*2 = 91.7%, p = 0) 73 (66, 78) 69, 79 Risk=Not Low 90 (60, 76) 3.13 Jadlowiec 2015 50 (39, 61) 307 Kakkos 2011	•		62 (48,	
Drouven 2019 Glickman 2015 Kakisis 2017 Kieuter 2008 Kakisis 2017 Kakis 2017 Kakis 2017 Kakis 2018 Ko 2009b Lee 2007 Lioupis 2011 Marcus 2019 Milburn 2008 Pham 2017 Shemesh 2015a Shemesh 2015b Tozzi 2014 Donat 2015 Subtotal (I*2 = 91.7%, p = 0) Risk=Not Low Donat 2015 Feldman 2013 Glowiński 2014 Jadlowiec 2015 Kakiso 2011 Khoshnevis 2013 Sala-Almonacil 2011 Sala-Almonacil 2014 Sala-Almonacil 2015 Sala-Almonacil 2015 Sala-Almonacil 2014 Sala-Almonacil 2015 Sala-Almonacil 2015 Sala Almonacil 2015 Sala Almonacil 2015 Sala Almonacil 2015 Sala Almonacil 2015 Sala Almonacil 2015 Sala Almonacil 2015				
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Heterogeneity between groups: p = 0.097				
Overall (l^2 = 91%, p = 0); 70 (64, 75) 100.0	Overall (I^2 = 91%, p = 0);	<	70 (64,	75) 100.00

Supplemental Figure S22. Forest Plots of Secondary Patency by Subgroup - 24 Months by Risk of Bias

Study				ES (95% CI)	% Weight
Risk=Low		1			
Allemang 2014				54 (48, 60)	4.53
Anaya-Ayala 2015				37 (23, 54)	3.81
Arhuidese 2017		- 1		38 (28, 50)	4.18
Berard 2015				86 (73, 94)	4.29
Chiang 2014		•		51 (37, 65)	3.93
Davies 2016a				38 (32, 44)	4.52
Davies 2016b	-	1		36 (30, 42)	4.54
Drouven 2019			-	73 (62, 82)	4.29
Kakisis 2017			_	66 (53, 76)	4.15
Ko 2009a		- i -	-	83 (70, 91)	4.24
Ko 2009b			-	62 (47, 75)	3.92
Lee 2007				43 (31, 57)	4.02
Marcus 2019	-			53 (45, 62)	4.39
Milburn 2008	-	- !		33 (21, 49)	3.91
Shemesh 2015a		- i	-	83 (73, 89)	4.41
Shemesh 2015b			<u> </u>	73 (62, 81)	4.31
Weale 2007		i		41 (33, 50)	4.36
Subtotal (I^2 = 93.2%, p = 0)		\Leftrightarrow		56 (47, 65)	71.79
Risk=Not Low					
Donati 2015	•	•		29 (16, 47)	3.81
Elwakeel 2013	-			44 (30, 59)	3.88
Głowiński 2014			•	76 (60, 88)	3.96
Jadlowiec 2015	-	1		33 (23, 44)	4.22
Kakkos 2011				60 (51, 68)	4.39
Khoshnevis 2013		-:		38 (26, 51)	4.09
Sala-Almonacil 2011				55 (40, 69)	3.86
Subtotal (I^2 = 84.6%, p = 0)	<	\rightarrow		48 (36, 60)	28.21
Heterogeneity between groups	: p = 0.291	i			
Overall (I^2 = 92%, p = 0);		\Leftrightarrow		54 (47, 61)	100.00