Supplementary Table I (online only). Summary of experimental groups and complications within each group

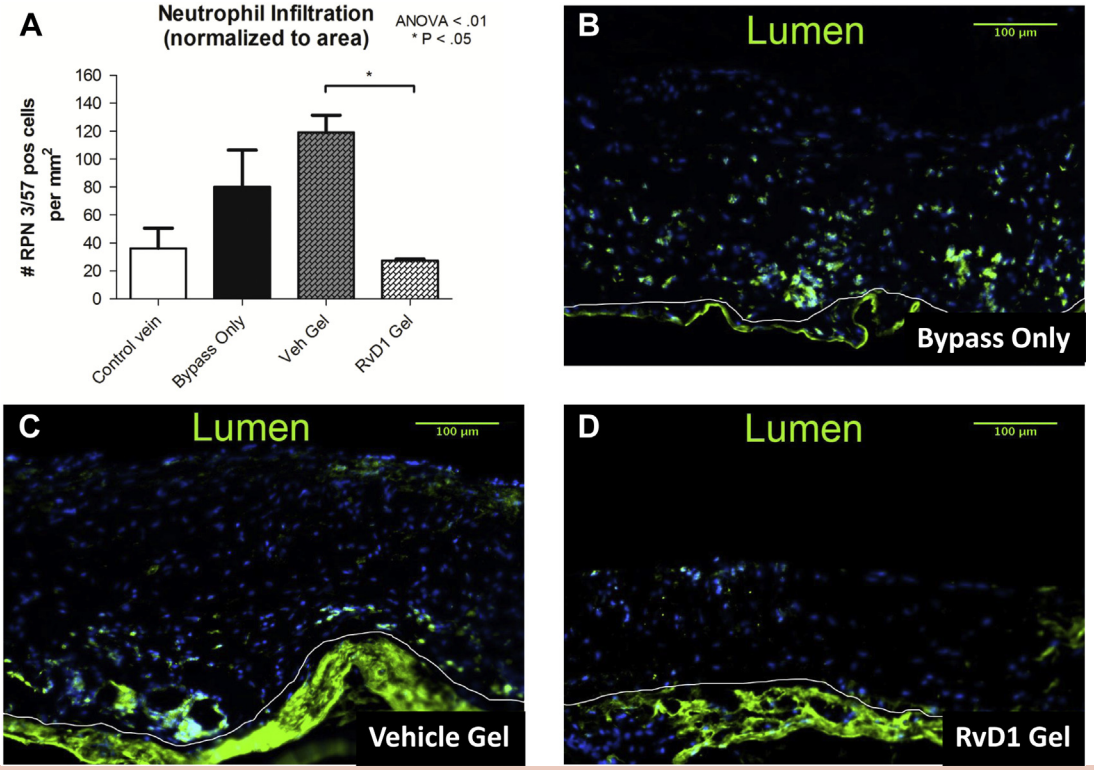
	Bypass only	Vehicle gel	RvD1 gel	Vehicle wrap	RvD1 wrap	Total
Total animals	14	14	16	18	18	80
Intraoperative mortality	0	0	0	0	0	0
Postoperative mortality	2/14[a] (14%)	0	0	0	0	2/80 (3%)
Wound complications	0	1/14 (7%)	1/16 (6%)	0	1/16 (6%)	3/80 (4%)
Thrombosis	2/14 (14%)	2/14 (14%)	4/16 (25%)	6/18 (33%)	4/16 (25%)	18/80 (23%)
Thrombosis at 3-day explantation	0/3[a] (0%)	0/5 (0%)	2/7 (29%)	4/7 (57%)	2/7 (29%)	8/29[a] (28%)
Thrombosis at 28-day explantation	2/9[a] (22%)	2/9 (22%)	2/9 (22%)	2/11 (18%)	2/11 (18%)	10/49[a] (20%)
Total grafts analyzed for 3-day cohort	3	5	5	3	5	21
Total grafts analyzed for 28-day cohort	7	7	7	9	9	39

RvD1, Resolvin D1.
[a]Two early postoperative deaths without clear cause. No evidence of hematoma, wound infection, or graft thrombosis noted during necropsy.

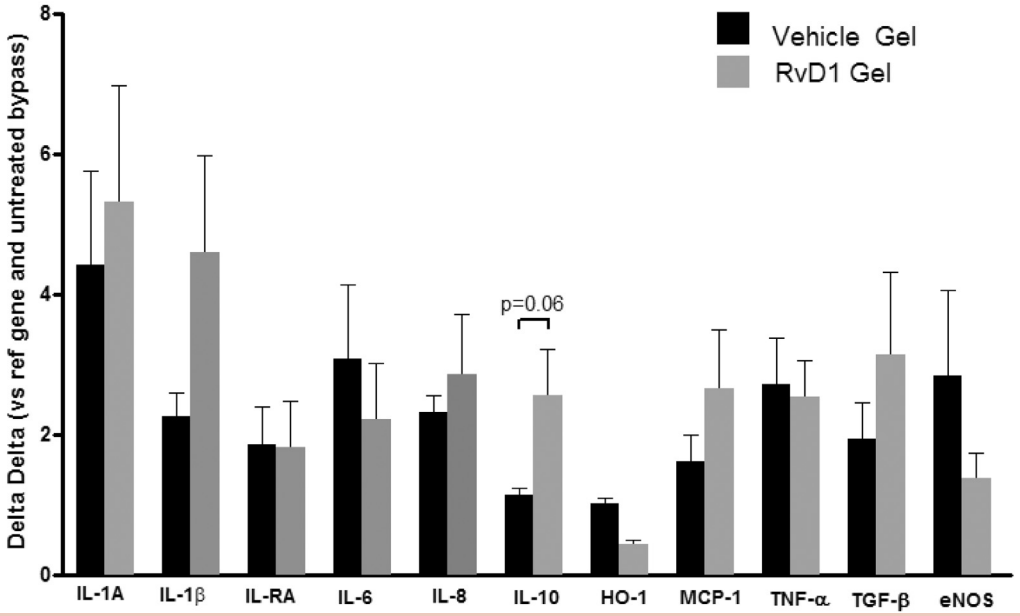
Supplementary Table II (online only). List of primers used for polymerase chain reaction (PCR)

Primer	Forward sequence	Reverse sequence	Exon
GAPDH	TCCCCGAGACACGATGGT	ACAACATCCACTTTGCCAGAGTT	S
HPRT	GTGAAAAGGACCCCTCGAAGT	TCATTATAGTCAAGGGCATATCCTACA	M
IL-1A	GAGTCGGCAAAGAAATCAAGATG	GCAGAGCTGTATTCCTCATTTTCA	G
IL-1β	TGTACCTGTCCTGCGTGATGA	TCGTTTTTCCATCTTCTTCTTTGG	M
IL-RA	AAAGACCTTGCAGGATGCAG	TCAAGGGGCACCACATCTATC	M
IL-6	ACGACCACGATCCACTTCATC	AAGGACACCCGCACTCCAT	S
IL-8	TGGACCCCAAGGAAAAGTGG	GTTTTGGCGTCTTTACTGAGGA	M
IL-10	GCAAGAGGAAGGCGTCTACAAA	TAGCTTTTTATCTTCATTGTCATGTAGGT	S
HO-1	GGTGACTGCCGAGGGTTTTA	AGCTCCTCCGGGAAGTAGAG	M
MCP-1	TGGGTCCAGGATGCCAT	AGTCGTGTGTTCTTGGGTTGTG	S
TNFa	GGAAGAGCAGTCCCCAAACA	GGGCTAGAGGCTTGTCACTCA	M
TGFB1	TGTCTTTGGGTGCCTAGCTG	TCGGTGTTTACGGGATGCAA	S
eNOS	CAACAGTCCTCCGCTAACTC	ACTGAGGGTGTCGTAGGTGAT	S

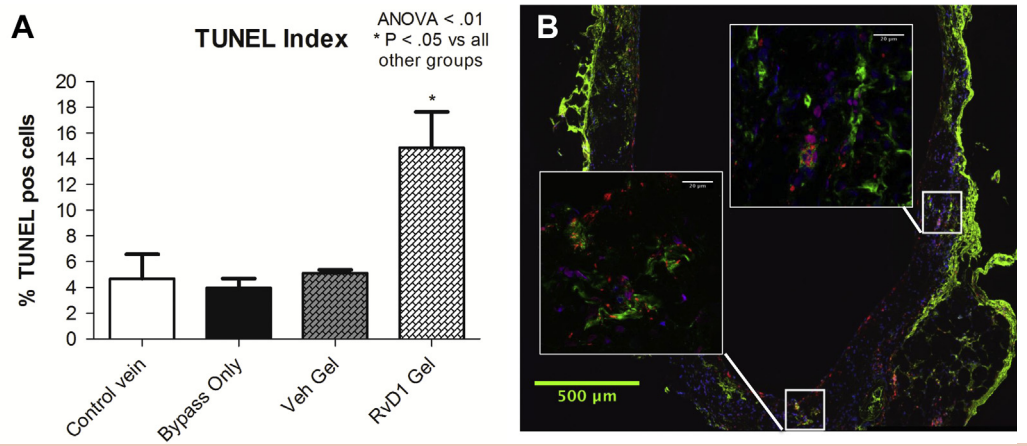
eNOS, Endothelial nitric oxide synthase; *GAPDH*, glyceraldehyde-3-phosphate dehydrogenase; *HO-1*, heme oxygenase 1; *HPRT*, hypoxanthine phosphoribosyltransferase; *IL*, interleukin; *MCP-1*, monocyte chemotactic protein 1; *TGFB1*, transforming growth factor β1; *TNFa*, tumor necrosis factor α. *GAPDH* and *HPRT* were used as housekeeping genes.



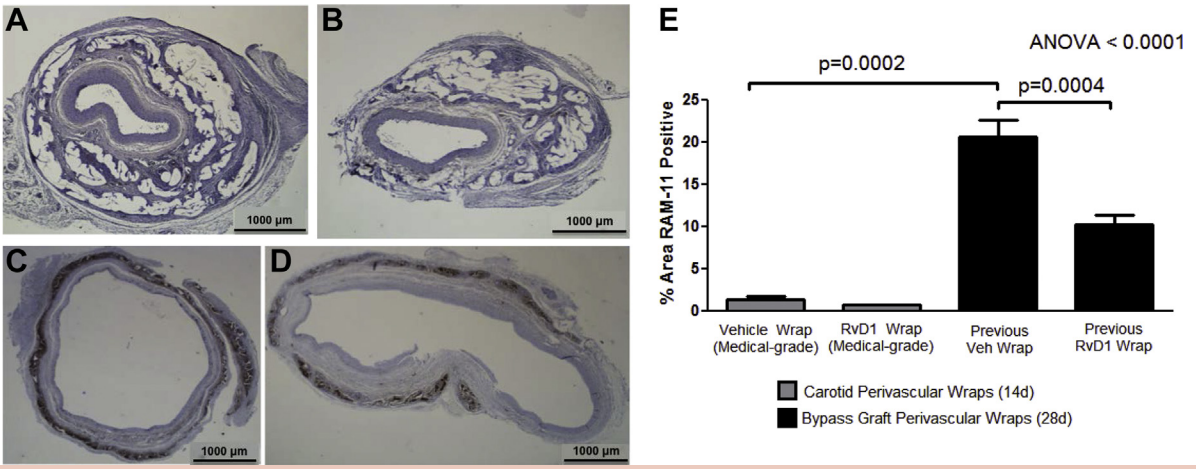
Supplementary Fig 1 (online only). Perivascular delivery of resolvin D1 (*RvD1*) decreases neutrophil infiltration into vein grafts 3 days after bypass. Treatment groups consisted of no treatment (bypass only) and perivascular application of vehicle (*Veh*) gels or RvD1 gels (n = 3-4). A total of 1 µg of RvD1 was delivered in 500 µL of 25% Pluronic F127 gel. Vein grafts were harvested at 3 days after bypass and stained for RPN 3/57 to detect neutrophil infiltration into the vessel wall. 4′,6-Diamidino-2-phenylindole (DAPI) nuclear counterstaining was also performed. **A,** Quantification was performed using three sections from each graft and normalized to wall area. **B-D,** Representative images (RPN 3/57, *green*; DAPI, *blue*). *ANOVA,* Analysis of variance.



Supplementary Fig 2 (online only). Perivascular delivery of resolvin D1 (*RvD1*) does not alter expression of proinflammatory target genes within vein grafts 3 days after bypass. Treatment groups consisted of no treatment (bypass only) and perivascular application of vehicle gels or RvD1 gels (n = 3-4). A total of 1 μg of RvD1 was delivered in 500 μL of 25% Pluronic F127 gel. Total RNA was extracted and quantitative polymerase chain reaction (PCR) analysis performed. Data were normalized to two reference genes and subsequently to untreated bypass grafts. No significant effects on target genes were noted after treatment with either vehicle gels or RvD1 gels. There was significant variability noted between specimens within each group. *eNOS*, Endothelial nitric oxide synthase; *HO-1,* heme oxygenase 1; *IL,* interleukin; *MCP-1,* monocyte chemotactic protein 1; *TGF-β,* transforming growth factor β; *TNF-α,* tumor necrosis factor α.



Supplementary Fig 3 (online only). Perivascular delivery of resolvin D1 (*RvD1*) increases apoptosis within vein grafts 3 days after bypass. Treatment groups consisted of no treatment (bypass only) and perivascular application of vehicle (*Veh*) gels or RvD1 gels (n = 3-4). A total of 1 µg of RvD1 was delivered in 500 µL of 25% Pluronic F127 gel. Vein grafts were harvested at 3 days after bypass and stained for terminal deoxynucleotidyl transferase deoxyuridine triphosphate nick end labeling (*TUNEL*) to detect apoptosis. 4′,6-Diamidino-2-phenylindole (DAPI) nuclear counterstaining was also performed. The TUNEL index was calculated by the number of TUNEL-positive cells in the vessel wall divided by the total number of nucleated (DAPI-positive) cells. **A,** Quantitative analysis was performed using three sections from each graft. **B,** Double staining with RPN 3/57 demonstrated that a significant fraction of the TUNEL-positive cells were neutrophils (TUNEL, *red*; RPN 3/57, *green*; DAPI, *blue*). *ANOVA,* Analysis of variance.



Supplementary Fig 4 (online only). Host response to perivascular polymer films is decreased with medical-grade poly(lactic-co-glycolic acid) (PLGA). Additional experiments were performed to examine host response to bilayered PLGA films made using a medical-grade supplier. For these studies, medical-grade PLGA films were implanted around rabbit carotid arteries (n = 3). Arteries were harvested at 14 days after implantation and stained for RAM11 to detect macrophage infiltration (*brown*; **A** and **B**). The macrophage response in these arteries was compared with the response seen with perivascular PLGA wraps made from nonmedical-grade polymer in vein grafts explanted at 28 days (*brown*; **C** and **D**). The percentage area of RAM11 positivity was calculated by dividing the positively stained area by the total area of the vessel wall. Quantitative analysis demonstrated significantly reduced macrophage infiltration to medical-grade polymer perivascular films compared with nonmedical-grade polymer, notably at a much earlier time point after implantation, when inflammation would tend to be greater **(E)**. *ANOVA,* Analysis of variance; *RvD1,* resolvin D1; *Veh,* vehicle.