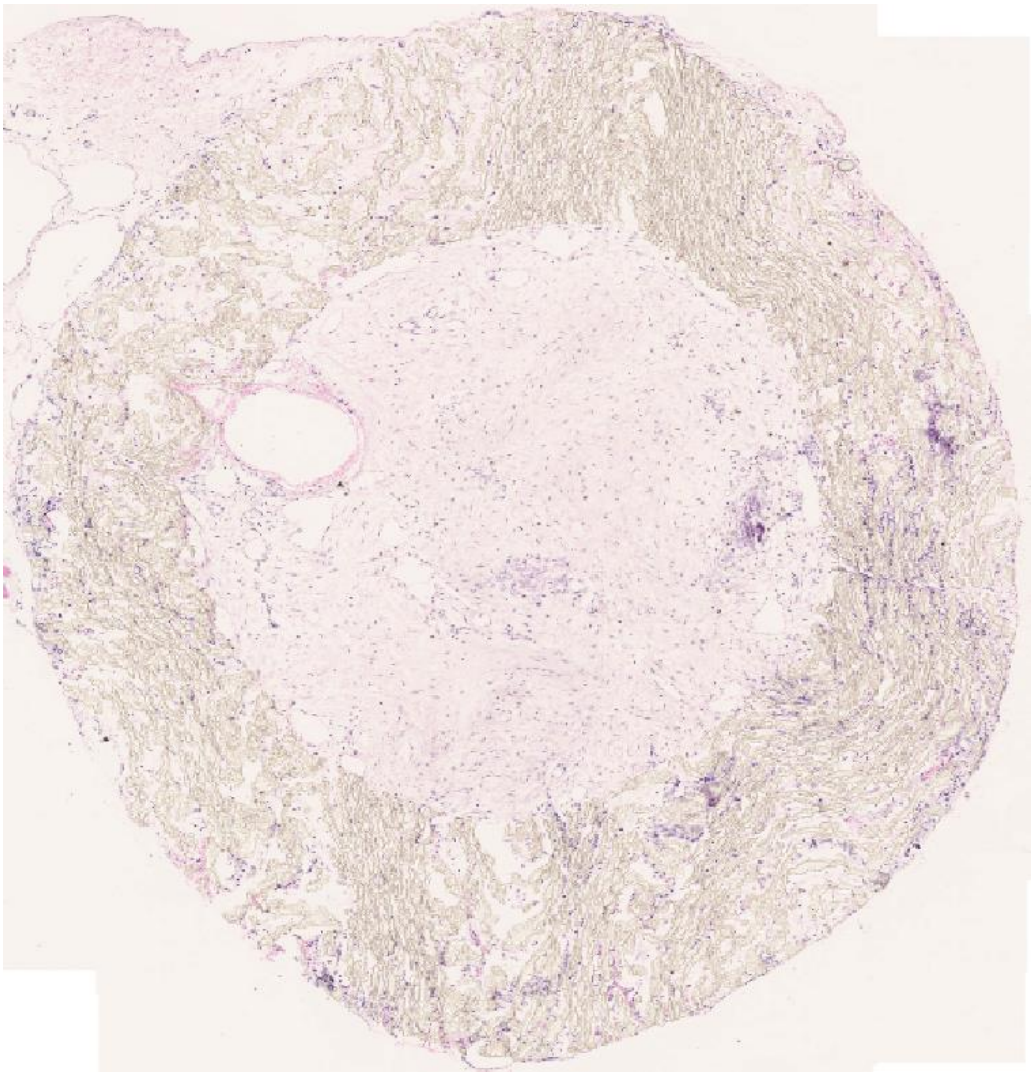
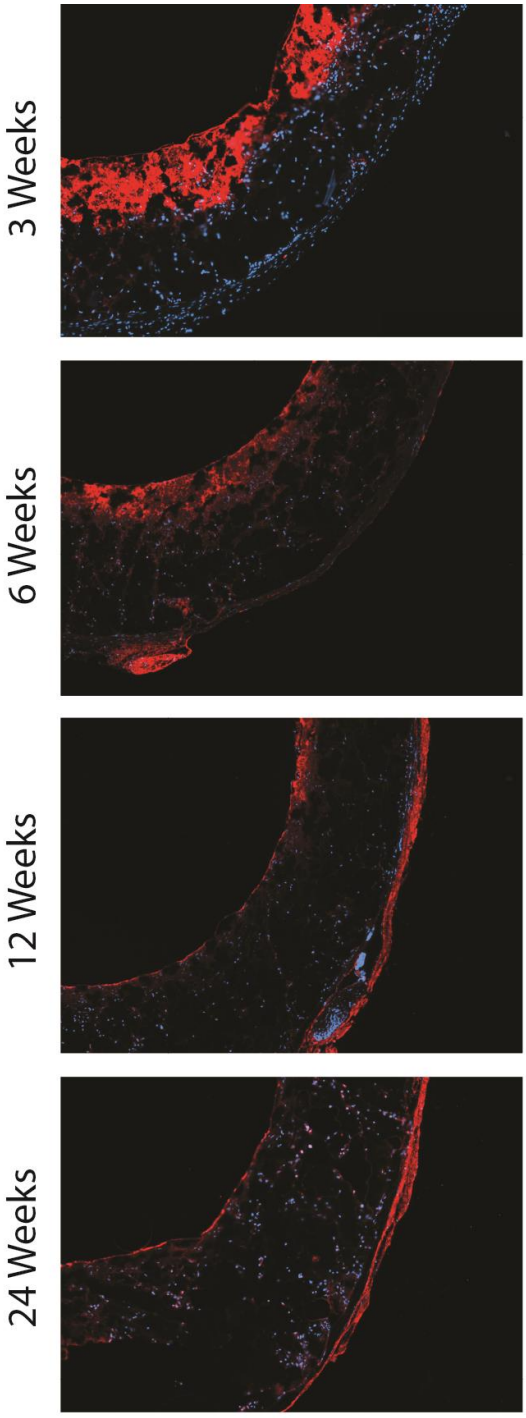
Supplemental Figure 1. 3-week ePTFE explanted graft.
Hematoxylin and Eosin staining of a ePTFE graft demonstrated exacerbated extracellular matrix production within the lumen of the graft, greatly restricting the flow of blood through the abdominal aorta.



Supplemental Figure 2. vWF immunohistochemistry on ePTFE grafts.
Positive staining for vWF in ePTFE grafts is visible at all time points, however results are confounded by non-specific staining, particularly at early time points.
vWF = red, DAPI = Blue.



Supplemental Figure 3. CD34 immunohistochemistry on Silk grafts.
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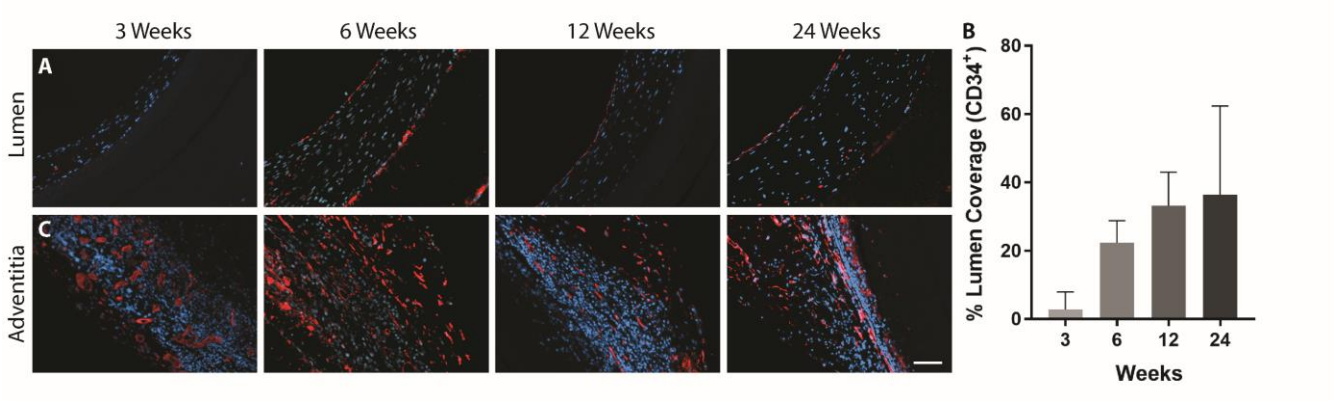
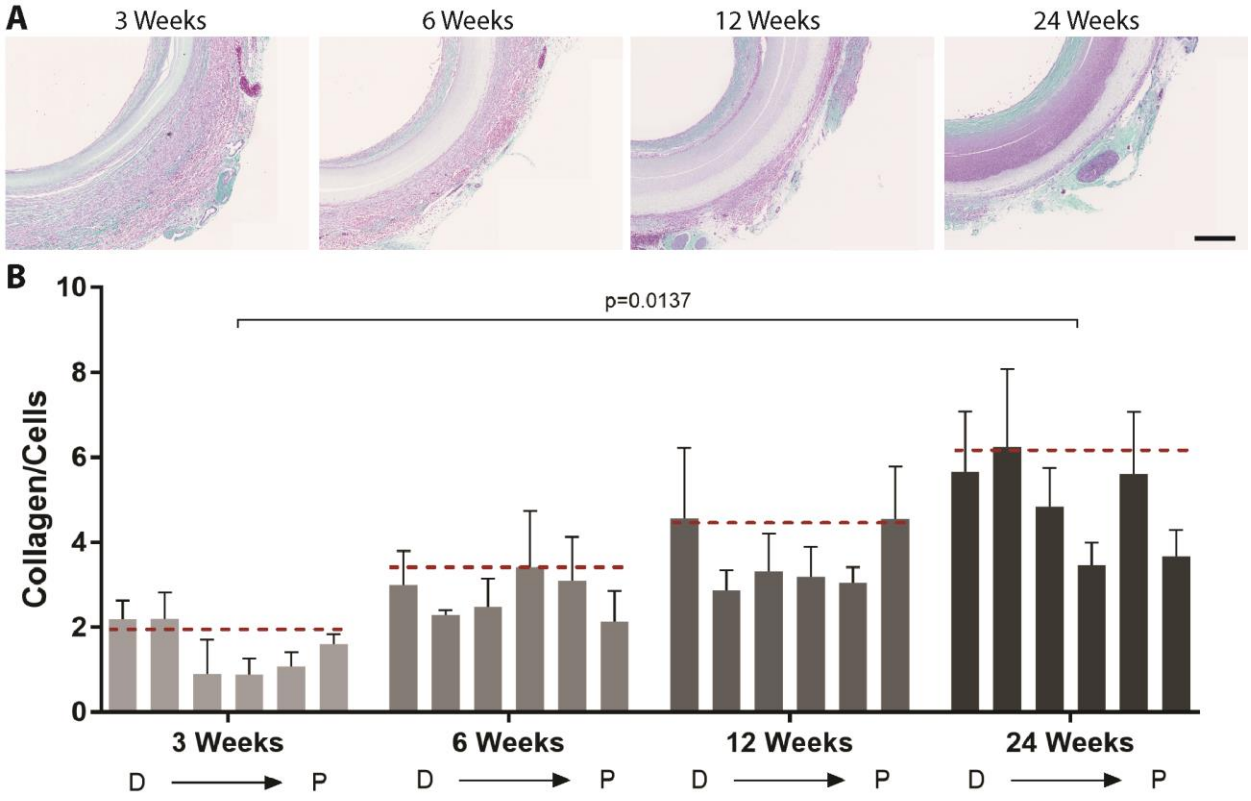
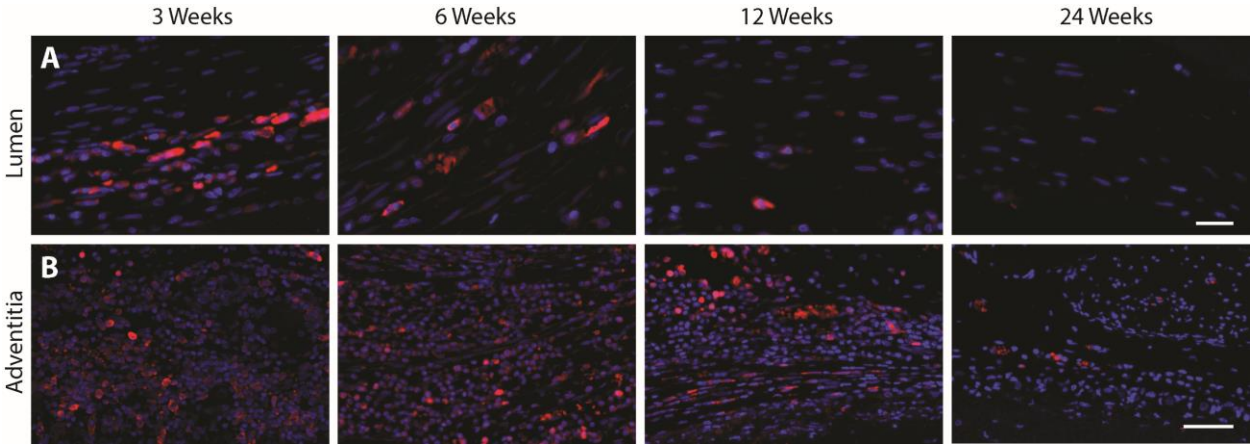
A) Representative micrographs of CD34 immunohistochemistry staining for progenitor endothelial cells in the neointima of silk grafts, at all time points. B) Quantification of the CD34+ staining in the lumen. C) Representative micrograph images of CD34 immunohistochemistry staining in the adventitia of silk grafts, at all time points. B). CD34 = red, DAPI = Blue. Scale bar = 50μm.



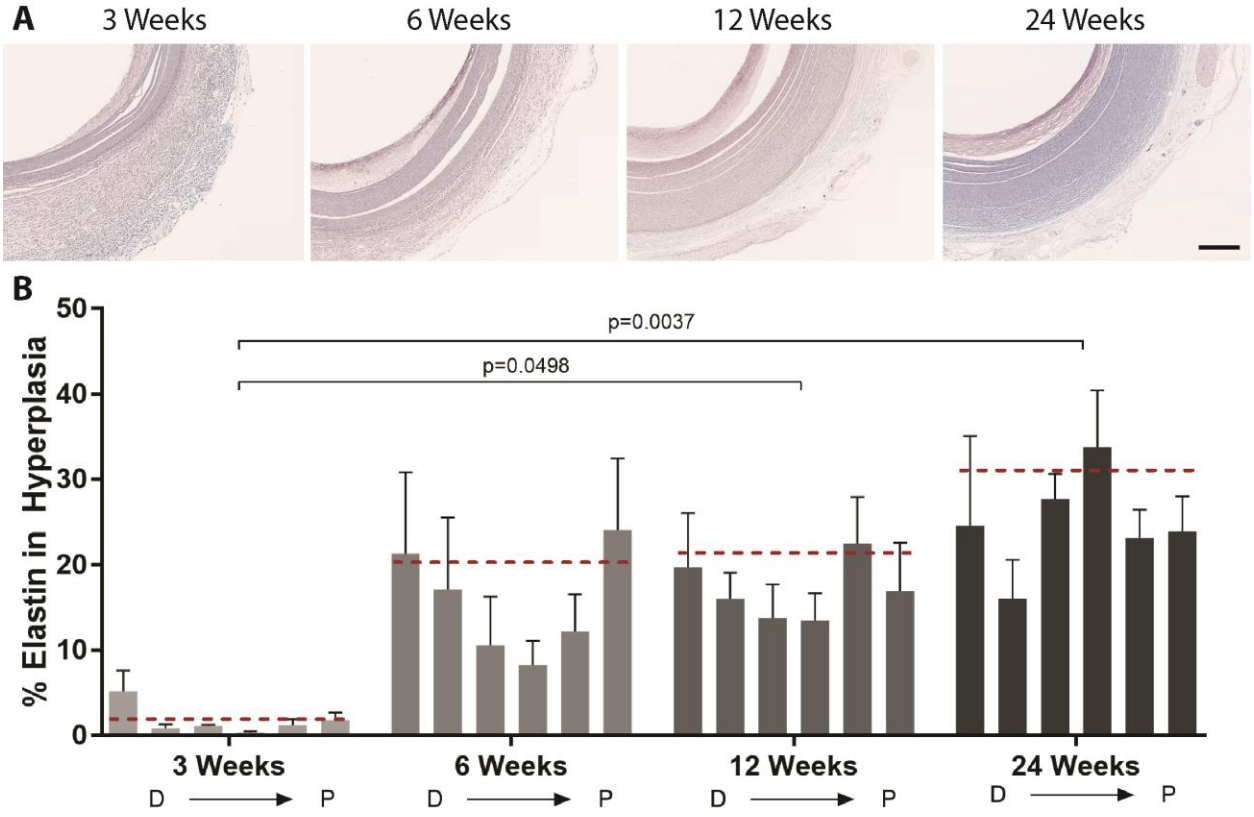
Supplemental Figure 4. Collagen staining and quantification in neointima of graft. A) Representative micrographs of Milligan's Trichrome staining at all explant timepoints. Collagen = Blue, Cells = Purple. Scale bar = 200 μm. B) Quantification of collagen content relative to cells in the neointima of the grafts. n = 4 animals per time point, 3 images analyzed per region, per graft. The red dashed line indicates the average collagen staining for each time point. Statistical analysis was performed on these values. D → P indicates selected equidistant regions within the graft, from distal to proximal.



Supplemental Figure 5. Caspase-3 immunohistochemistry on Silk grafts.
Representative micrographs of caspase-3 immunohistochemistry staining in the A) neotintima (Scale bar = 20 μm) and B) adventitia (Scale bar = 50 μm) of silk grafts, at all time points. Caspase-3 = red, DAPI = Blue.

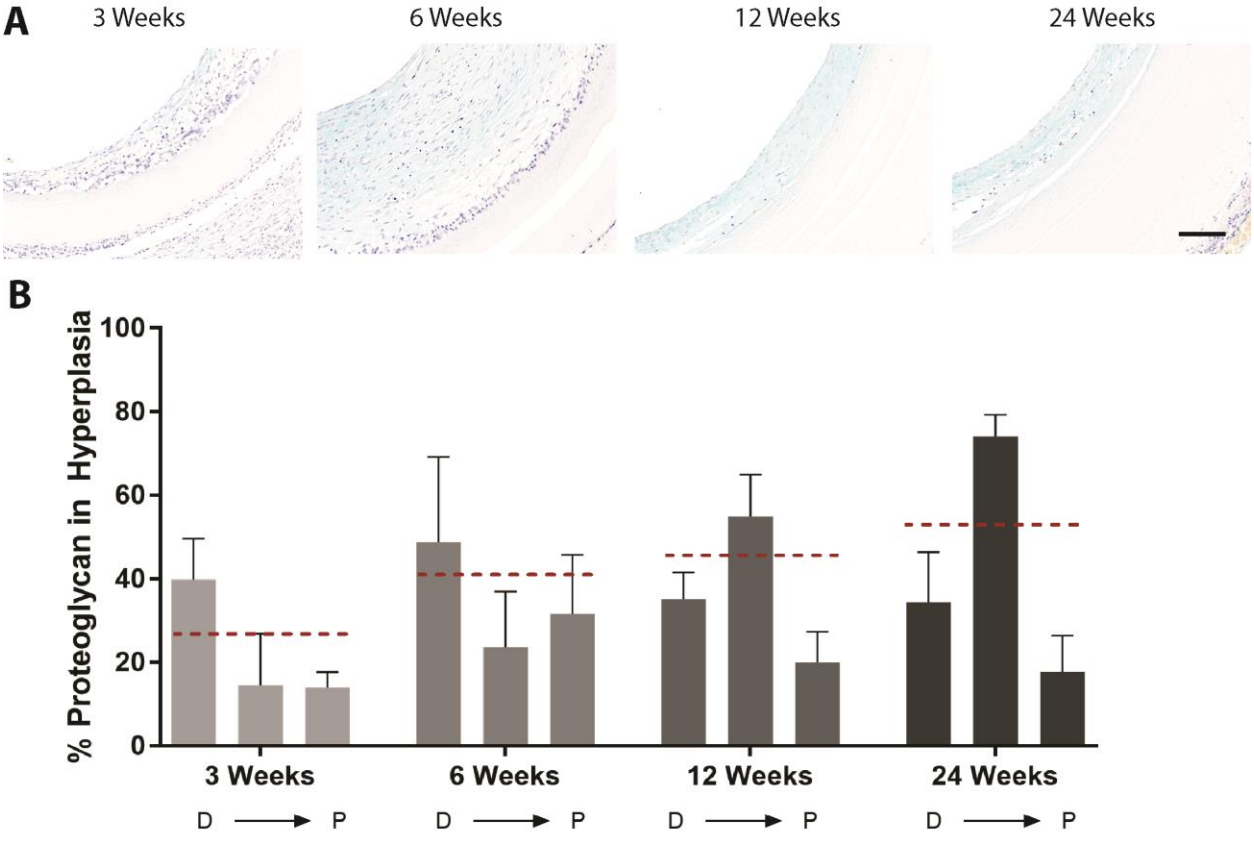


Supplemental Figure 6. Elastin staining and quantification in neointima of graft
A) Representative micrographs of Orcein Stain at all explant timepoints. Elastin = Purple, Cells = Blue. Scale bar = 200 μm. B) Quantification of elastin content, represented as a percentage of the total neointimal area of the grafts section. n = 4 animals per time point, 3 images analyzed per region, per graft. The red dashed line indicates the average elastin staining for each time point. Statistical analysis was performed on these values. D → P indicates selected equidistant regions within the graft, from distal to proximal.



Supplemental Figure 7. Proteoglycan staining and quantification in neointima of graft

A) Representative micrographs of Alcian Blue Stain at all explant timepoints. Proteoglycans = Blue. Scale bar = 200 μm. B) Quantification of proteoglycan content, represented as a percentage of the total neointimal area of the grafts section. n = 4 animals per time point, 3 images analyzed per region, per graft. The red dashed line indicates the average proteoglycan staining for each time point. Statistical analysis was performed on these values. D → P indicates selected equidistant regions within the graft, from distal to proximal.



Supplemental Figure 8 – Vimentin immunohistochemistry on Silk grafts.
Representative micrographs of vimentin immunohistochemistry staining in the adventitia of silk grafts, at all time points. Vimentin = red, DAPI = Blue. (Scale bar = 50 μm)