

Supplementary Material

We have data on six pairs of human donor eyes for which we measured the ONH/PPS inflation response of both eyes of the same donor. The inflation tests and strain analyses followed the same protocols as described in the manuscript. The order of testing was randomized for OD (right eye) and OS (left eye). The comparisons of shear strains of ONH and PPS in OS and OD at 30 mmHg are shown in Table S1 and Figure S1 below.

Table S1: ONH and PPS shear strains at 30 mmHg from 6 pairs of human donor eyes.

ID	ONH Shear strain		PPS Shear strain	
	OD	OS	OD	OS
Hu_0534	1.11%	1.37%	0.92%	0.93%
Hu_0140	2.35%	2.30%	2.57%	2.28%
Hu_0228	1.96%	1.15%	0.99%	0.90%
Hu_0252	1.67%	1.33%	1.42%	0.86%
Hu_0365	1.17%	0.76%	1.64%	1.23%
Hu_0392	1.88%	1.61%	1.37%	1.55%

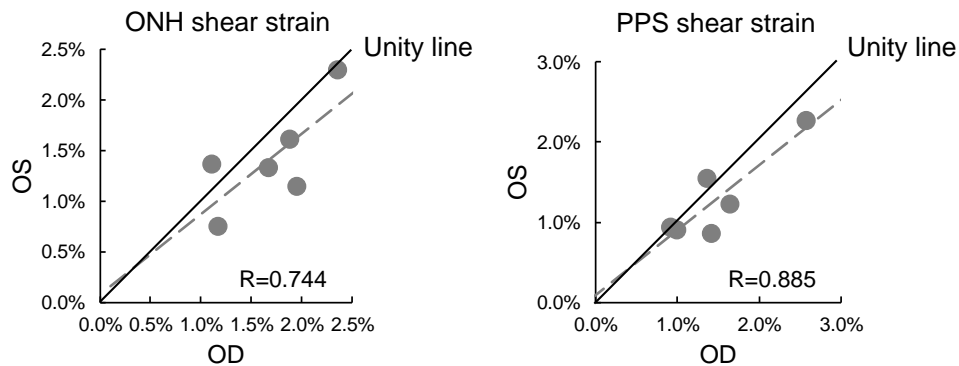


Figure S1: Scatter plots showing a general correlation between the left (OS) and right (OD) eye shear responses in ONH and PPS. The unity line (OD=OS) is shown for reference.