Primary open angle glaucoma is an insidious disease that causes progressive vision loss and characteristic optic nerve changes. Although ocular hypertension is the most well known risk factor for glaucoma, vascular risk factors may also play a key role in glaucoma pathogenesis.

Nailfold capillary abnormalities are systemic markers of vascular dysfunction that have been shown to occur in glaucoma. This study aims to identify which nailfold capillary abnormalities occur in glaucoma and to establish whether nailfold capillaroscopy can be used to predict glaucoma severity and the risk of central vision loss.

Our research suggests that glaucoma patients tend to have disorganized nailfold capillaries with reduced capillary density and more avascular zones. The presence of disorganized nailfold capillaries, avascular zones and hemorrhages are also associated with increased glaucoma severity and central vision loss. This shows that vascular abnormalities in glaucoma extend beyond the eye and that nailfold capillaroscopy is a potential adjunct that can be used clinically for glaucoma screening and assessment.