


# Laser Dot Contrast Imaging Empower Perfusion Observing Of the Foremost Portion during Eye Muscle a Medical Procedure

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## Abstract

We demonstrate that laser speckle contrast imaging can be used to monitor blood perfusion noninvasively during the detachment of ocular muscles, which may be a valuable tool for reducing the risk of anterior segment ischemia as a complication of strabismus surgery [1]. During most strabismus procedures, rectus muscles and their corresponding anterior ciliary arteries are severed. Damage to multiple vessels may result in anterior segment ischemia (ASI), a rare but potentially vision-threatening complication of strabismus surgery. To minimize the risk of ASI, strabismus surgery protocols advocate manipulation of no more than two rectus muscles at a time and one more after a minimum of 6 months' healing time. However, these recommendations are based on empirical observations of clinical outcome and were developed nearly a century ago. To date, no method has proved successful in monitoring the effects of strabismus surgery on anterior segment circulation in real time [2] we report our successful use of laser speckle contrast imaging (LSCI) to map blood perfusion to the anterior segment of the eye during extraocular muscle surgery. The technique is noninvasive and has proved useful in monitoring blood perfusion in skin with high spatial and temporal resolution. LSCI has previously been used in measurements of perfusion in the retina and in reconstructive surgery [3]. A 72-year-old man was referred to the Skane University Hospital, Lund, for enucleation of the left eye after previous diagnosis and treatment of uveal melanoma. A biopsy had been taken, followed by treatment with iodine plaque radiotherapy. The patient had developed increasing inflammation, resulting in complete retinal detachment and iris bombe. Optical coherence tomography angiography (OCT-A) has recently been developed. In 2018 Velez and colleagues used OCT-A to measure iris vessel density before and after strabismus surgery. Only a small decrease of 2%-3% was observed. Although it is noninvasive, OCT-A only provides static information on iris vessel density and cannot be used to monitor perfusion in real time.

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## Biography

Cristiano facial Surgery Department, ASST Santi Paolo Carlo, University of Milan, Milan, Italy her cv include textensive clinical

and scientific experience. During this ,in parallel with her research work, he works as a psychologist. He has received two scholarships from government agencies for research.