



OPTIMISING GLAUCOMA SURGICAL TECHNIQUE – LARGER ANTIMETABOLITE TREATMENT AREAS, POSTERIOR AQUEOUS DRAINAGE AND ADJUSTABLE SUTURES

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Background: Recent large scale randomised control trials have resulted in the setting of new lower target pressures to prevent further progression of glaucomatous optic nerve damage. Recent multi-center trials and surveys suggest that the incidence of complications associated with glaucoma surgery is still significant, especially early hypotony and over filtration and late failure due to scarring. The use of adjunctive antimetabolites has increased the success rate and allowed lower target pressures, but has been associated with a variety of complications, particularly bleb leaks and infection.

Design of various studies: Experimental laboratory studies, case series, retrospective case controlled series

Participants: Patients undergoing trabeculectomy at Moorfields Eye Hospital

Intervention: Trabeculectomy with different surgical techniques

Main Outcome Measures: Postoperative complications and IOP control.

Results: We have studied variations of trabeculectomy including enlargement of the surface area treated with antimetabolites during surgery, and adjustable sutures.

Conclusions: Simple modifications of surgical technique during trabeculectomy appear to decrease complications. The use of refined surgical techniques based on laboratory research, such as the use of different surface areas of antimetabolites and more diffuse areas of aqueous flow together with adjustable sutures are favorable modifications of standard technique, resulting in dramatic reduction (15% to 0%) in long-term bleb-related complications.