

DETHRONING THE GOLD STANDARD? PRESERFLO MICROSHUNT VS. TRABECULECTOMY



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I. Introduction & Objective

The Problem: Trabeculectomy is the "gold standard" but involves a steep learning curve and risks such as hypotony maculopathy and bleb infections.

The Innovation: The Preserflo MicroShunt is a synthetic ab-externo subconjunctival drainage device designed with the simplicity of MIGS.

Objective: To assess surgical efficacy, safety, and medication burden compared to Trabeculectomy with MMC.

II. Methodology

PRISMA Flow: Database search of MEDLINE, Embase, CENTRAL, and Web of Science until Jan 2025.

Inclusion: 8 high-quality studies (RCTs & cohorts).

Cohort: 1,245 eyes total.

IV. Safety & Medications

Safety Profile

0.18

HYPOTONY ODDS RATIO

P<0.001

SAFETY SIG.

Preserflo had significantly lower transient hypotony risk (IOP <6 mmHg) and required fewer post-op interventions (laser lysis/AC reforming).

Safety: Preserflo demonstrated superior safety with significantly lower transient hypotony risk.

Medication Count: No statistically significant difference in postoperative medication burden at 12 months.

(WMD: 0.2; p=0.15)

III. IOP & Success

IOP Efficacy (12 Months)

Absolute reduction was significantly greater in the trabeculectomy group.

Trabeculectomy

WMD: -2.1 mmHg

Preserflo

p=0.002

COMPLETE SUCCESS (IOP ≤15 mmHg med-free) favored Trabeculectomy.

-2.1 mmHg

WMD IN IOP REDUCTION (p=0.002)

IOP Efficacy: Mean reduction was greater in the Trabeculectomy group at 12 months.

Success: Trabeculectomy favored for "complete success" (med-free).

