A RANDOMIZED PROSPECTIVE EVALUATION OF THE PRIMARY PHACOEMULSIFICATION INCISION WITH A FEMTOSECOND LASER 110° REVERSE SIDE CUT, 70° FORWARD SIDE CUT, AND A KERATOME

ERIC ROSENBERG, DO | New York Medical College

PURPOSE To compare the phacoemulsification primary incision self-sealing efficacy of a femtosecond laser 110° reverse and 70° forward side cut with a manual keratome incision in patients undergoing cataract surgery.

RESULTS Fifteen eyes in Group A had incision leakage at a mean IOP of 28.2 mm Hg. Fifteen eyes in Group B had incision leakage at a mean IOP of 15.1 mm Hg. Fifteen eyes in Group C had incision leakage at a mean IOP of 9.9 mm Hg. Incision leakage IOP was significant between Group A and Group B ($P = .003$) and Group A and Group C.

METHODS In a randomized prospective trial, 45 patients undergoing cataract surgery were randomly assigned to one of three treatment groups for their primary corneal incision: 110° Catalys femtosecond laser reverse side cut (Group A); 70° Catalys femtosecond laser forward side cut (Group B); multiplane corneal incision created manually with a metal blade (Group C). The stability of the incisions was evaluated at the time of surgery without pressure and at 1 day and 2 weeks postoperatively with and without incision pressure for incision leakage.

CONCLUSION The 110° reverse side cut primary incision created with a femtosecond laser provides the most effective seal for potential wound leakage, especially compared to manual incisions.