

## Visual Outcomes after Penetrating Keratoplasty

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### ABSTRACT

*A chart review of the hospital records of all patients who underwent penetrating keratoplasty at Maharaj Nakorn Chiang Mai Hospital between January 1996 – December 1999 was retrospectively performed. Out of total 45 corneal transplants, the best-corrected visual acuity of 6/6 to 6/12 was achieved in 8.9% (4 of 45), 6/18 to 6/36 in 22.2% (10 of 45), 6/60 to 1/60 in 44.5% (20 of 45). One (2.2%) patient could not be evaluated for visual acuity.*

**Key words:** penetrating keratoplasty, visual acuity, light perception.

### INTRODUCTION

The concept of modifying diseased cornea by surgically removing opacities is more than two centuries old. When ophthalmology emerged as a separate specialty in medicine almost 200 years ago there followed, within a few years, the concept of replacing diseased cornea with a clear substitute. Von Hippel (1886) was the first person to perform a successful human corneal transplant. Lamellar keratoplasty was the technique of choice substitute (Rycroft, 1955). Later, Stocker (1952) was the first surgeon to perform successful penetrating keratoplasty for corneal edema. The way was then opened for an increase in surgery. Penetrating keratoplasty is one of the most successful tissue transplantations worldwide (Chen et al., 2001). Continued improvement in transplantation techniques, eye banking, and pharmacological advances have made it a highly successful surgery (Damji et al., 1990). Despite a clear graft occurring after penetrating keratoplasty, age-related macular degeneration, cataract, macular hole, and glaucoma may all contribute to limiting visual results (Demers et al., 2002). We performed a retrospective study to evaluate the visual outcomes after penetrating keratoplasty.

### MATERIALS AND METHODS

We reviewed the hospital charts of penetrating keratoplasty performed at Maharaj Nakorn Chiang Mai Hospital, Department of Ophthalmology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand between January 1, 1996 and December 31, 1999. Information that was reviewed included patients sex, age, date of surgery, preoperative clinical diagnosis, pre and postoperative visual acuity, graft clarity, and causes of postoperative decreased vision. Information was also obtained regarding surgical procedures associated with penetrating keratoplasty. Each graft included in this study had a minimum of 6 month of