

Introduction

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Cataract extraction constitutes the largest number of ophthalmologic surgical procedures performed worldwide. (Gallagher, 2007).

Cataract surgery in its simplest form is at least 4000 years old. Couching for cataract was the earliest method at about 2000 BC, and even then was evidently practiced in the Tigris/Euphrates area, as well as India and Japan. (Munton, 2001).

Cataract surgery has enjoyed continuous evolution over the past few decades. Technological advances, enhanced surgical techniques, and smaller incision sizes have led to improved outcomes, both refractive and visual, as well as reduced intraoperative and postoperative complications. (Weikert, 2006).

Manufacturers of phacoemulsification platforms continue to improve their products, and the latest generation of machines represents fabulous technology. (Guttman, 2008).

Torsional ultrasound is a revolutionary new phacoemulsification technology that produces a side-to-side motion of the phaco tip as opposed to the forward and backward motion of traditional longitudinal ultrasound. The OZil torsional technology is only available on the Infiniti Vision System (both

from Alcon Laboratories), either incorporated with all new consoles or as an upgrade to existing systems available for purchase. (Allen, 2006).

The introduction of OZIL technology has revolutionized the way cataracts are emulsified. The lateral oscillatory motion of the phaco tip at ultrasonic frequencies results in dramatically improved cutting efficiency. This side-to-side movement of the phaco tip produces minimal repulsion of the lens material from the phaco tip resulting in improved followability. OZIL torsional technology addresses drawbacks of the longitudinal ultrasound. (Prieto, 2009).

Torsional phacoemulsification reduces chatter and energy delivered to the eye. It is safer than longitudinal phaco because torsional phaco is associated with a reduced risk of wound burn, less fluid usage, better followability, less turbulence, and less second instrument manipulation. (Mackool, 2007).

The torsional mode may provide more effective lens removal than conventional ultrasound mode phacoemulsification with a lower level of phacoemulsification time and energy. (Liu, 2007).

Torsional ultrasound provides a method of efficient lens removal in all eyes, regardless of nuclear density. So that even patients with very advanced cataracts can derive all of the benefits of torsional ultrasound. (Fonseka, 2008).