Do We Need Phakic IOLs?

YES!

- The range of LASIK is limited
- LASIK in high myopia causes halos etc.
- No expensive lasers required
- Phakic IOLs are reversible
ISO 11979-10:2006
- Ophthalmic implants – intraocular lenses
  Part 10: phakic intraocular lenses
  - Assumes annual loss of 2%, which means less than 2% per year should be acceptable

Nuvita IOL
- Sizing very difficult
  - Pupil ovalization in 50%
  - IOL exchanged in many cases
  - Unacceptable results

Vivarte / GBR
- Sizing very difficult
  - Decentration frequent
  - Pupil ovalization occurs frequently
  - Significant endothelial cell loss
  - Unacceptable results

ICARE®
- HEMA 26%
- Large vault, close to endothelium
- Progressive endothelial cell loss
  - Unacceptable results
Artisan / Verisyse IOL
- FDA approved for myopia
- Outside US
  - Hyperopia
  - Toric design
- Surgery
  - Large incision, causing astigmatism
  - Iridectomy
  - Difficult

Long-term follow up of endothelial cell change after Artisan phakic intraocular lens implantation. Ophthalmology 2008; 115:608-613
- 82 eyes at 1 year, 13 eyes at 7 years
  - Endothelial cell loss 8.3% at 5 years (1.7% per year)

Tahzib NG, Nuijts RM, Wu WY, Budo CJ
Long-term study of Artisan phakic intraocular lens implantation for the correction of moderate to high myopia: ten-year follow up results Ophthalmology 2007; 114:1133-1142
- 89 eyes
  - Endothelial cell loss 8.9% at 10 years (0.9% per year)

Summary Artisan / Verisyse IOL
- Long-term safety established
- Difficult to implant
- Iridectomy required
- Large incision causes astigmatism
- Prolonged visual rehabilitation

Artiflex / Veriflex IOL
Summary Artiflex / Veriflex
- not FDA approved; no long-term data
- Advantages
  - Small incision
  - No suture
- Disadvantages:
  - Difficult surgery
  - Iridectomy required
  - Uveitis frequent

AcrySof CACHET Phakic IOL
- not FDA approved (but CE marked)
- Single piece, AcrySof® material, angle supported
- Foldable

AcrySof CACHET Phakic IOL


Cachet IOL Position in vivo
(no iridectomy/iridotomy required)

- 190 eyes, 161 at one year
- endothelial cell loss from preop to one year 4.8% (includes surgical loss)

Knorz MC, Lane SS, Holland S
Acrysof angle-supported phakic IOL for the correction of moderate to high myopia: Three-year interim results of an international multicenter study (*JCRS* 2011; 37: 469-480)

- 360 eyes
  - *Surgical ECC loss*: (pre-op to 6 months) 3.31% centrally and 2.98% peripherally
  - *Chronic ECC loss*: (annualized from 6 months to 3 years) 0.4% centrally and 1.1% peripherally

**Summary Acrysof Cachet IOL**
- Not FDA approved, CE marked
- Long-term safety established
- Easy to implant
- No iridectomy required
- Fast visual rehabilitation

**Summary Phakic IOLs**
- Long-term proved phakic IOLs today
  - ICL (FDA approved)
  - Verisyse IOL (FDA approved)
  - Acrysof Cachet Phakic IOL (CE marked, investigational use only in US)
- AcrySof Cachet Phakic IOL my favorite
  - Extremely easy to implant
  - No iridectomy required
  - No chronic ECC loss, no pupil ovalisation

**THANK YOU!**