Perfect LASIK Flaps with Different Femtosecond Platforms: A Video Symposium on Techniques in Femtosecond Flap creation and Management of Unexpected Scenarios in LASIK

29 April 2014
8.00 am to 9.30 am
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  ◦ Senior Consultant Ophthalmologist, Cornea Service, SNEC

• **Dr Damien Gatinel**
  ◦ Chef de Service
  ◦ Fondation Rothschild, Paris, France

• **Dr Lim Li**  MBBS, MMed, FRCSEd, FAMS
  ◦ Senior Consultant Ophthalmologist and Head, Cornea Service, SNEC
  ◦ Deputy Director, Singapore Eye Bank

• **Dr Mohamad Rosman**  MBBS, MMed, FRCSEd, FAMS
  ◦ Consultant Ophthalmologist, Refractive Service, SNEC
<table>
<thead>
<tr>
<th>Topic</th>
<th>Time</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>1. Intro and overview of FS platforms</td>
<td>5min</td>
<td>Dr Rosman</td>
</tr>
<tr>
<td>2. Visumax (Zeiss Meditec) Flap Creation Made Easy</td>
<td>8min</td>
<td>Dr Rosman</td>
</tr>
<tr>
<td>3. How to Create the perfect Intralase iFS (AMO) flap</td>
<td>8min</td>
<td>Dr Lim Li</td>
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<tr>
<td>4. My Experience with the Wavelight FS 200</td>
<td>8min</td>
<td>Dr Damien Gatinel</td>
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<tr>
<td>5. My Early experience with the Ziemer Femto LDV Z6</td>
<td>8min</td>
<td>Dr Cordelia Chan</td>
</tr>
<tr>
<td>6. Videos on Managing unexpected or difficult scenarios</td>
<td>60min</td>
<td>All</td>
</tr>
</tbody>
</table>
- **IntraLase** (AMO, USA)
  - 1st commercial system available in 2001
- **FEMTEC** (20/10 Perfect Vision, Germany)
- **FEMTO LDV** (Ziemer Ophthalmic Systems AG, Switzerland)
  - Late 2005
- **VisuMax** (Carl Zeiss Meditec, Germany)
  - Late 2006
- **Wavelight FS200** (Alcon, USA)
  - 2010

**FEMTOSECOND LASERS IN REFRACTIVE SURGERY**
Intralase femtosecond (AMO, USA)

- Longest history
- Good efficacy and safety record
- Some disadvantages
  - Decentered flaps
  - Subconjunctival haemorrhage
  - Difficult for patients with small palpabral apertures
# Comparison of FS platforms

<table>
<thead>
<tr>
<th>Platform</th>
<th>Intralase</th>
<th>Visumax</th>
<th>FemtoLDV</th>
<th>520F</th>
<th>FS200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company</td>
<td>Abbott Medical Optics</td>
<td>Carl-Zeiss Meditec</td>
<td>Ziemer</td>
<td>Technolas</td>
<td>Wavelight AG/Alcon</td>
</tr>
<tr>
<td>Suction</td>
<td>Scleral</td>
<td>Corneal</td>
<td>Scleral</td>
<td>Scleral</td>
<td>Corneal</td>
</tr>
<tr>
<td>Docking surface</td>
<td>Flat Applanating</td>
<td>Non-applanating curved patient interface</td>
<td>Flat Applanating</td>
<td>Non-applanating curved patient interface</td>
<td>Flat Applanating</td>
</tr>
<tr>
<td>FS pattern</td>
<td>Raster</td>
<td>Spiral</td>
<td>Meander</td>
<td>Spiral</td>
<td>Raster</td>
</tr>
<tr>
<td>Spot size</td>
<td>&lt;3µm</td>
<td>3µm¹</td>
<td>2µm</td>
<td>2-7µm²</td>
<td>5.0 +/-0.5 µm</td>
</tr>
<tr>
<td>Pulse Duration</td>
<td>600-800fs</td>
<td>220-580fs</td>
<td>200-350fs</td>
<td>400-800fs</td>
<td>350+/−50fs</td>
</tr>
<tr>
<td>Repetition Rate</td>
<td>150kHz</td>
<td>500kHz</td>
<td>&gt;20MHz</td>
<td>40/80kHz</td>
<td>200kHz</td>
</tr>
<tr>
<td>Laser Pulse</td>
<td>120 nJ</td>
<td>300nJ</td>
<td>10-20nJ</td>
<td>2300nJ</td>
<td>&lt;3000nuJ</td>
</tr>
</tbody>
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