

Study Spotlight: Comparative performance of ZEISS QUATERA 700



Seeing beyond

ZEISS QUATERA 700 had the highest intra-operative chamber stability scoring when compared to WhiteStar Signature Pro & Centurion. Additionally, ZEISS QUATERA 700 has lesser total phaco time (TPT), fluid turnover and phaco + I/A time than Signature Pro.

Source



Title

Comparative Clinical Study of Surgical Performance of ZEISS QUATERA 700 versus Centurion and Signature Pro Phacoemulsification Systems



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Publication

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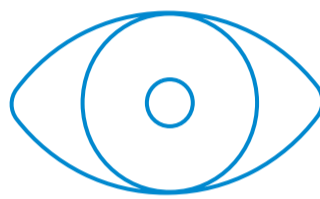
Methodology & Setup

Phaco Devices Tested



- ZEISS QUATERA 700
- Alcon Centurion Vision System (with Active sentry)
- J&J Whitestar Signature Pro

Sample Size & Procedure



A total of 180 eyes. 60 for each device which were equally subdivided into 2 groups. 30 eyes for soft cataract group (LOCS III grades 1-2) and 30 eyes for dense cataract group (LOCS III grades 3-4)

Main evaluation criteria



- Anterior Chamber stability
- Total Phaco time
- Mean Fluid turnover
- Combined Phaco and I/A time

Results and observations

Chamber stability score:

Intra-operatively, the mean chamber stability score was significantly better for the ZEISS QUATERA 700 in both the soft and dense cataract groups compared to the other two machines.

Total Phaco Time (TPT):

with ZEISS QUATERA 700 was significantly lower compared to Signature Pro in dense cataract group.

Mean fluid turnover:

was significantly lower for the ZEISS QUATERA 700 compared to Signature Pro in the dense cataract group.

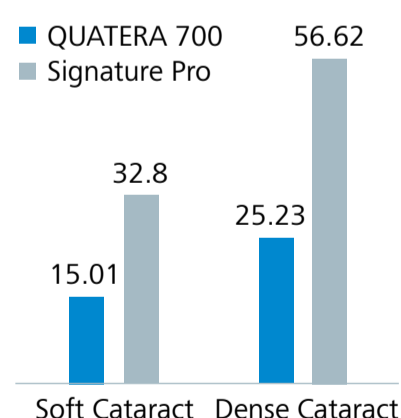
Combined phaco and I/A time:

for ZEISS QUATERA 700 was lower when compared with Signature Pro in dense cataract group.

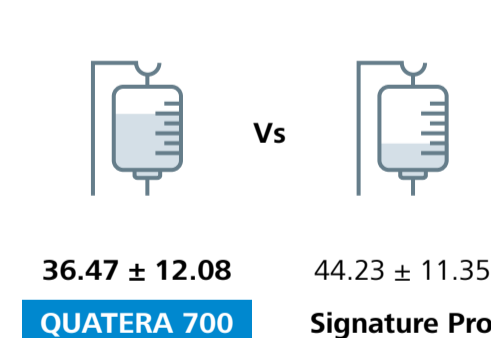
Mean chamber stability score¹

| | Soft Cataract | Defense Cataract |
|----------------------|---------------|------------------|
| QUATERA 700 | 1.10 ± 0.31 | 1.10 ± 0.31 |
| Signature Pro | 1.70 ± 0.31 | 2.03 ± 0.31 |
| Centurion | 2.23 ± 0.50 | 2.20 ± 0.55 |

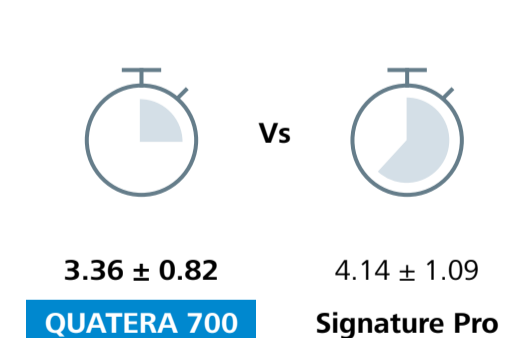
Total phaco time (TPT) (min)



Mean Fluid Turnover (cc)



Combined Phaco and I/A time (min)



Further observations from the publication

In the soft cataract group, one eye each operated with the Signature Pro and Centurion machines had posterior capsule rupture (PCR) due to inadvertent surge noted intraoperatively. On the other hand, one eye in the dense cataract group, operated with the Centurion system had PCR, again attributed to sudden intra-operative surge. No eye in the ZEISS QUATERA 700 system encountered PCR due to inadvertent chamber shallowing.

¹ Surgeon's anterior chamber stability grading: Grade 1 Excellent chamber stability with no fluctuations, Grade 2 Good chamber stability with minimal fluctuations, Grade 3 Frequent chamber fluctuations with imminent risk of collapse, Grade 4 Unstable chamber with AC collapse.

For further details see publication