



Video Dataset of Cataract Surgeries

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Operation Phases in Cataract Surgeries

Eye Lens Replacement



Incision



Viscous Agent Injection



Rhexis



Hydrodissection



Phacoemulsification



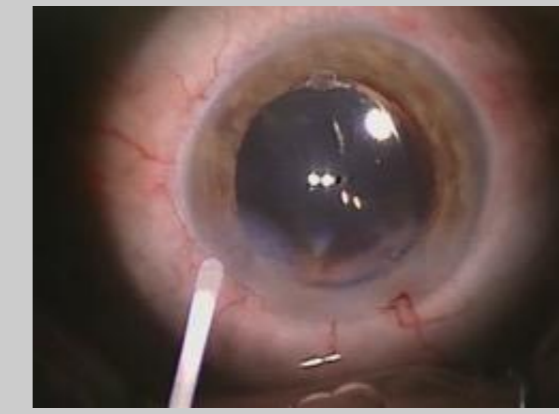
Irrigation & Aspiration



Capsule Polishing



Lens Implant Setting-Up



Viscous Agent Removal



Tonifying & Antibiotics

Dataset Details

Download: <https://doi.org/10.5281/zenodo.1220951>



General information	
Number of videos	101
Number of frames	1.26 million
Total duration	14.03 hours
Frame resolution	720 x 540 pixel
Storage size	8.4 GiB
Video encoding	H.264/AVC, 25 fps, 1.25 Mbps
Acquisition	2017-2018 at Klinikum Klagenfurt

Statistics grouped by surgeon					Total
Surgeon	1	2	3	4	
Experience level	1	2	2	1	
Operations (videos)	25	24	32	20	101
Avg. duration / OP (s)	744	354	315	667	500
Avg. phases / OP	12.2	11.3	11.3	12.0	11.6

Provided annotations

- Start of phases (frame numbers)
- Phase IDs (1-10)
- Surgeon IDs (1-4)
- Surgeon's level of experience (1-2)

Possible uses of the dataset

- Automatic video content analysis
- Training of content classifiers e.g. OP phase recognition
- Evaluation and comparison of medical multimedia systems
- Surgical quality assessment

Future annotations

- End of phases
- Operation instruments

Demo Application - Analyzing Phase Durations

