

O-04

## DIGITAL OPERATING ROOM ASSISTANT – TRACKING SURGICAL PATIENTS IN AN EYE HOSPITAL

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**Introduction:** Each year 14,000 patients are treated at the six operating rooms (OR) of the Rotterdam Eye Hospital. Most patients are admitted in day-care. The total day-care surgical track consists of many steps, involving many professionals. The patient flow is mainly adjusted to the OR-schedule and not adapted to e.g., the ward staffing. Also, the OR-planning is static and the scheduling of patient flows is not automated (e.g., it depends entirely on requests of ward and recovery/holding nurses to bring/collect patient). A **Digital Operating Room Assistant**, supporting staff with accurate information about the patient's location in the surgical track (*DORA-Patient*) could reduce waiting times and improve patient and employee satisfaction. This study's objective is to investigate surgical patient flows in order to determine the viability of DORA for patient scheduling.

**Methods:** Observations and time recording of patient flows were performed during eight random days. In total 31 moments were manually recorded by four researchers. Duration of actions and waiting times for patients at several stages were calculated.

**Results:** In total 222 adults were tracked. Analysed data showed that 157 patients (71%) arrived earlier than necessarily at the ward (average: 19min, STDEV: 15min, maximum: 1h14min), and 37 patients arrived late (average: 11min, STDEV: 13min, maximum: 1h8min). Patients spend an average of 5h38min in the hospital (STDEV: 1h47min, maximum 12h37min).

At the Holding, patients had to wait an average of 22min (STDEV: 19min, maximum: 1h34min) between final preparations for surgery and transportation to OR. The response time of ward nurses to requests for picking up patients at the Recovery was 7min (STDEV: 8min, maximum: 1h8min). Twenty-four patients were picked up immediately after bringing another patient to the Holding.

### Discussion

The results show that the waiting times make up a considerable part of the duration of the entire surgical track and show that the waiting times are highly variable. Supporting technologies that track patients (i.e. RFID technology) and provide professionals with 'real

time' information about the patient's location and the anticipated time for e.g., leaving the ward, start of surgery, can improve patient scheduling, patient satisfaction and the efficiency of patient transport.