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Reducing the Interval Time Between Surgeries for Urological Patients

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AIM

The interval time for changing operating room setups is one of the indicators measuring operating room efficiency. Effective time management can increase the capacity of operating rooms and reduce both labor and time costs.

This study aims to shorten the interval time for urology patients in the operating room, improve the utilization of surgical team manpower, and minimize time wastage to maximize the overall productivity of operating rooms.

METHOD

The measures implemented in this study are as follows: (1) Optimizing the turnover process of urological surgeries, including the establishment of principles and sequences for instrument preparation, effective communication and handover as well as physical cleaning procedures; (2) Introducing a pre-established surgical order for outpatient cases to initiate preoperative preparations at an earlier stage; (3) Establishing a specialized and supportive surgical team, comprising of physicians, anesthesia nurses, surgical nurses, surgical assistants, and cleaning staff, with defined roles and responsibilities; (4) Providing education and training on surgical notification times, the sequence and criteria for surgical turnover, and protocols for handling unexpected events; (5) Creating time delineated visual aids reinforcing time management; (6) Adding additional cleaning support staff during peak hours in the operating rooms; (7) Implementing a time registration system to monitor delays and reasons to manage surgical turnover times.

RESULTS

The implementation of these strategies resulted significant outcomes: From January to September 2023, there were a total of 370 urology surgical turnovers with an average turnover time decreasing from 14.7 minutes to 9 minutes. The effect is still maintained until December (fig 1)；A total of 46 team members participated in training, of which 93% expressed satisfaction and benefited most from problem-solving activities for unexpected events.

Table 1 shows: (1) The delays caused by physical cleaning of the operating rooms decreased from 20.1% to 4.2%; (2) Overtime hours of operating room personnel decreased from 27 hours to 17 hours per month.

Fig 1

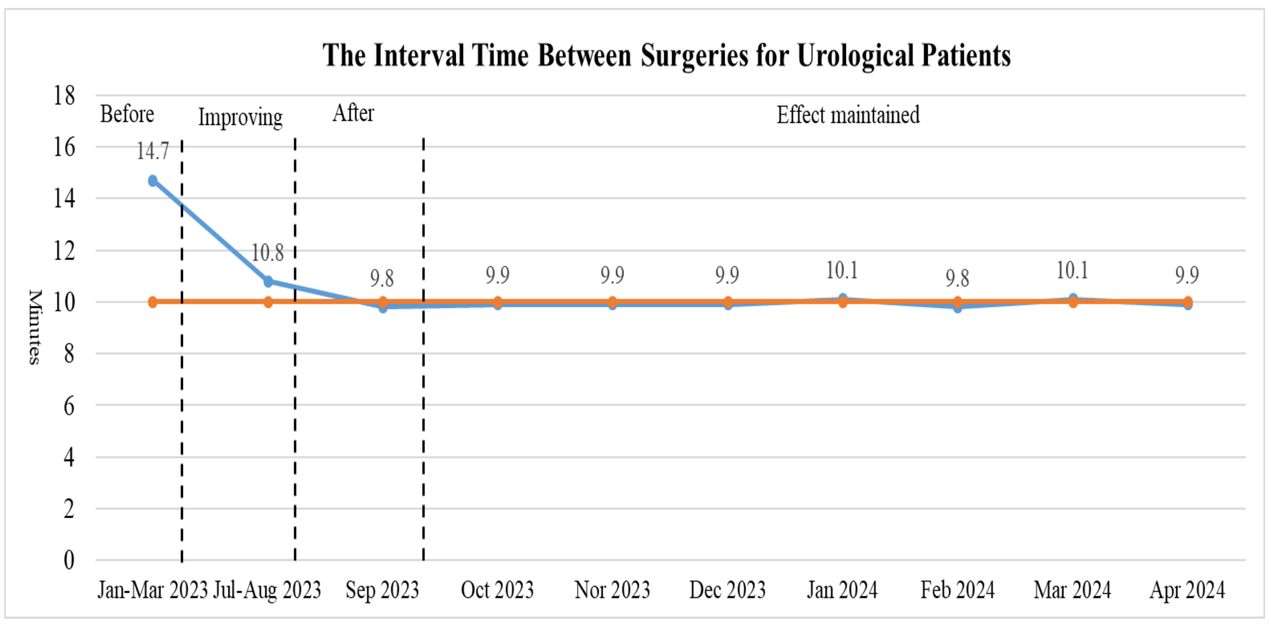

Table 1

Item	Before improvement Jan-Mar N=133	Improving Jul-Aug N=132	After improved Sep N=59
Average time to call the next surgery (standard: 30 minutes before the end of the operation)	Before 17.9min	Before 25.9min	Before 26.8min
Average waiting time for patients	Wait 4.4min	Wait 2.5min	Wait 2.3min
Average time for patients to enter the operating room	9.0min	7.1min	7.2min
Average Interval Time	14.7min	10.8min	9.8min
The delays caused by physical cleaning	20.1%	9.7%	4.2%
Overtime hours	27H	24H	17H

CONCLUSIONS

Through the collaboration of the surgical team, optimization of the surgical turnover process, and personnel education and training, it is possible to effectively reduce the turnover rate and increase efficiency of the operating room. For patients, this translates to reduced wait times; for the hospital, it means lowering manpower costs; and for nursing staff, it results in a reduction of overtime hours. Additionally, these improvements are not limited to the urology department but can be applied to other departments within the operating rooms, further enhancing surgical quality, healthcare, and increasing the overall efficiency of operating room services.

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