Operating room preparation time (turnover) is the time between one patient leaving and another entering, including cleaning and replacing the necessary material.

Prolonged turnover times cause frustration and can thereby reduce professional satisfaction and the workload surgeons bring to a hospital.

Dexter et al. developed a statistical method to estimate the proportion of all turnovers that were prolonged (> 15 min beyond mean) and that occurred during specified hours of the day. Confidence intervals for the proportions corrected for the effect of multiple comparisons. Statistical assumptions were satisfied at the two studied hospitals. The confidence intervals achieved family-wise type I error rates accurate to within 0.5% when applied to between five and nineteen 4-week periods of data. The diurnal pattern in the proportions of all turnovers that were prolonged provided different, more managerially relevant information than the time course throughout the day in the percentage of turnovers at each hour that was prolonged.

Benchmarking sample mean turnover times among hospitals, without the use of confidence intervals, can be valid and useful. The authors successfully developed and validated a statistical method to estimate the percentage of turnover times at a surgical suite that is prolonged and occur at specified times of the day. Managers can target their quality improvement efforts on times of the day with the largest percentages of prolonged turnovers [1)]

Operating room personnel turnover, a modifiable, work flow-related factor, was an independent variable positively correlated with SSI. This study suggests that efforts to reduce operating room turnover may be effective in preventing SSI [2)]

1)
Dexter F, Epstein RH, Marcon E, Ledolter J. Estimating the incidence of prolonged turnover times and delays by time of day. Anesthesiology. 2005 Jun;102(6):1242-8; discussion 6A. doi: 10.1097/00000542-200506000-00026. PMID: 15915039.

2)
Wathen C, Kshettry VR, Krishnaney A, Gordon SM, Fraser T, Benzel EC, Modic MT, Butler S, Machado AG. The Association Between Operating Room Personnel and Turnover With Surgical Site Infection in More Than 12 000 Neurosurgical Cases. Neurosurgery. 2016 Dec;79(6):889-894. doi: 10.1227/NEU.0000000000001357. PMID: 27465846.