

## For operations researchers planning to simulate a surgical suite, what hints can you recommend?

[Click here](#) to read one of our review articles. First, for scheduling, use a hierarchical process, where the primary “job” is the surgeon, and the secondary “job” are the surgeon’s list of cases for the day. Thus, you will have 1 or 2 non-preemptive jobs per machine per day. Treat the jobs as non-preemptive because most (77%) contain just 1 or 2 cases ([click here](#)). Rely on managerial epidemiology studies for parameter values: the focus of modeling generally should be the many low caseload surgeons ([click here](#)). Second, for a tactical (e.g., 1-2 year) perspective, surgical suites can be considered to have fixed hours into which cases are scheduled. Because few ORs run 24 hr a day, unlike hospital wards, intensive care units, and emergency departments, the fixed hours are for staff and specialized equipment. For simulations of operational processes (e.g., 0 to 3 months before the day of surgery), staffing is determined stochastically based on the workload, not vice-versa. Third, the objective of the simulation may be to assist clinicians in understanding why a change in how cases are scheduled would be of value to the facility, clinicians, and/or patients. Instead of using simulation, consider using the actual OR information system data to identify some real examples of what would happen. For example, to show to a surgeon how cases could be sequenced, identify some specific days providing good examples. I describe how I use such vignettes on the [second page of this downloadable file](#) and in [this paper](#).

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