Operating room traffic

- Conditions for air cleanliness in a unidirectional airflow ventilation, during orthopaedic joint replacement procedures
- Enhancing Trauma Care in Tertiary Hospitals: Addressing Gaps and Pathways to Improvement
- A prospective observational study of operating room traffic during shunt surgery: who comes in and why?
- Severe head injury in children: Management of a traumatic craniotomy case in a resource-constrained hospital
- Profile of Patients Receiving Computed Tomography Scans for Mild Traumatic Brain Injury in a Tertiary Care Hospital in Ethiopia
- Automated traffic monitoring of neurosurgical operating room
- Quality of in-hospital care in traumatic spinal column and cord injuries (TSC/SCI) in I.R Iran
- Epidemiological pattern of trauma patients based on the mechanisms of trauma: trends of a regional trauma center in Midwest of Iran

Operating room (OR) traffic disrupts airflow and increases particle count, which predisposes patients to surgical site infections (SSIs), particularly in longer surgeries with hardware placement. This study aims to evaluate the rate of traffic during neurosurgical procedures, as well as reasons for and perceptions of OR traffic.

This is a single-center, multi-method study monitoring neurosurgical OR traffic through direct observation, automated monitoring, and interviews. Traffic was observed between the skin incision and closure. Personal interviews with OR teams including surgeons, anesthesia, and nurses were conducted to evaluate their perceptions of the frequency of OR traffic and reasons for OR traffic.

Direct observation reported OR door opening an average of 18 times, with 20 people entering or exiting per hour. The exact reason for traffic was not verified in all traffic cases and was able to be confirmed in only a third of the cases. Automated monitoring resulted in an average of 31 people entering or exiting the OR per hour. The procedure length was significantly associated with the number of people entering or exiting the OR per hour ($p < 0.0001$). Interviews highlighted that OR teams reported traffic to be significantly lower than observed and automated monitoring results, with approximately < 6 people entering or exiting per hour.

OR traffic is higher than staff expected, and updated processes are required to reduce the number of times the OR door opens. Implementing automated observation of OR traffic could reduce the OR traffic and the risk for surgical site infection [1].

1)
Schafer M, Dixon H, Palladino K, Baumann S, Martinson J, Bolland M, Lakdawala M, Yassin M. Automated traffic monitoring of Neurosurgical Operating Room. Am J Infect Control. 2024 Jan 26:S0196-6553(24)00055-5. doi: 10.1016/j.ajic.2024.01.016. Epub ahead of print. PMID: 38281684.