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### Unplanned return to operating room, What can we do?

**Objective:** The aim of this study was to analyse the reasons for unplanned return to the operating room and to help improve hospital management to reach a better neurosurgical service.

**Methods:** Medical records of unplanned return to the operating room (URTOR) within 30 days of initial surgery were reviewed at a single neurosurgical center for a period of three years. 62 URTOR cases out of 4516 neurosurgeries were included to analyse patients' age, sex, initial surgery code, and seniority of the performed surgeon, the interval between the reopening procedures and initial procedures, time and type of initial surgery, the reason for reopening, prognosis and complications.

**Results:** 62 patients underwent 70 URTORs. Out of 1445 primary operations performed by junior surgeons, 40 experienced URTOR, while 22 of 3071

craniotomies initially performed by senior surgeons resulted in URTOR. Five patients died in this series. Out of the 54 patients who experienced one-time URTOR, 3 died, whereas 2 of the 8 patients who experienced two-time URTOR died. Of 22 URTOR surgeries performed by senior surgeons, 10 took place within 24 hours, compared to 26 out of 48 performed by the junior surgeon. Of 62 initial procedures, 38 took place in the daytime, the rest performed in the night time, and 44 procedures were emergency surgeries.

**Conclusion:** The main reasons for URTOR after neurosurgery are rebleeding and swelling of the brain. The junior surgeon has a higher rate of URTOR. From hospital management's point of view, senior surgeon supervising emergency surgery performed by a junior surgeon is crucial to reduce the rate of reopening operation, especially for night time surgery.

#### Biography

Rucaizhan has been a fellow scholar in Fedelico II University in Italy, Harvard University Medical School and Tufts University in the USA. She has published about 50 academic papers on international journals, such as World Neurosurgery, Archives of Disease in Childhood. She has gained 18 patents certificates associated with neurosurgical technique. She focused on endoscopic surgery for brain lesions, especially on skull base tumor since 2005, and she is a board member in many international societies, such as North American Skull Base Society, Society of America and Chinese Medicine, Society of Stroke of Shandong, et al. also she is a contributing editor in academic journals, for example, International Journal of Neurosurgery (IJN) and Academic Journal of Shandong University.

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