



## KEY POINT SUMMARY

### OBJECTIVES

In an ICU environment, where patient care is complex and uncertain, distractions and interruptions during medication preparation can affect medication safety. The main objective of this study was to evaluate the effect of a 'No Interruption Zone' (NIZ) on the number of interruptions that occurred during the medication administration phase in a medical ICU and a surgical ICU setting.

## No Interruptions Please: Impact of a No Interruption Zone on Medication Safety in Intensive Care Units

Anthony, K., Wiencek, C., Bauer, C., Daly, B., Anthony, M. K.  
 2010 | *Critical Care Nurse*  
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### Key Concepts/Context

The authors conducted a quasi-experimental study to study the impact of a No Interruption Zone (NIZ)

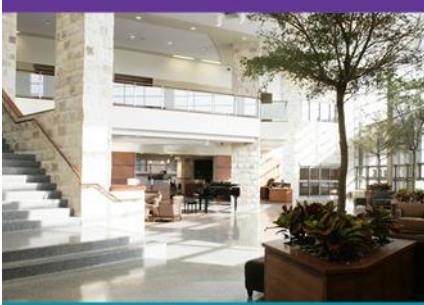
### Methods

The study used a pre-post quasi-experimental pilot design. The data collection was direct undisguised observation, conducted by a fellow ICU nurse, to look at the effect of NIZ on the number of interruptions at the centralized and decentralized medication areas in the two ICUs. The observations were carried out during the peak medication administration phase (8 a.m. – 10 a.m.; 4 p.m. -6 p.m.) and were carried out for two-hour intervals. The entire study period was four weeks, pre-post NIZ implementation.

After the baseline data collection (phase 1) a red duct tape was placed around each of the centralized and decentralized medication preparation areas (NIZ) (phase 2). During the 4<sup>th</sup> week (phase 3) the data collection-using observation method was resumed to measure and compare the incidences of interruptions pre- and post- the NIZ implementation.

### Findings

The authors observed a total of 218 occurrences (31.8%) of interruptions pre-NIZ implementation phase and 179 interruptions (18.8%) post-NIZ implementation -- for a statistically significant decrease of 40.9%. A full 100% of all the post-NIZ interruptions were initiated by external factors. The NIZ is a way to implement the policies associated with the sterile cockpit into the healthcare setting. After the



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three-week observation period, a significant decrease (40.9%) in interruptions had occurred. Though preliminary, these results suggest a beneficial effect of an NIZ on reducing the incidence of interruptions during critical tasks of medication preparation.

### Limitations

The authors list the following limitations: 1) The study was conducted in two ICU settings; hence, the findings might not be generalizable to other settings; 2) Sampling inadequacies, as the data collection was carried out only for a limited time period both pre-post NIZ implementation; 3) Effect of the observer on the observed; 4) Observer bias; the observer had knowledge of only what she observed and not about the psychological distractions of the observed staff that might affect the accuracy of the study findings.

### Design Implications

A No Interruption Zone is absolutely vital in areas of critical tasks such as medication preparation in the ICU settings. The NIZ areas help reduce the occurrences of interruptions, both from external factors and self-interruptions by the healthcare staff, thereby reducing any errors that might occur due to them. The authors in this study have likened the NIZ to the functionality of a sterile cockpit, which might prove very beneficial in other areas of the healthcare facility such as general medical surgical units.