Project summary

Background

Enteral nutrition (EN) tolerance is often monitored by aspirating stomach contents by syringe at prescribed intervals. No studies have been conducted to assess the most appropriate time interval for aspirating gastric tubes. We compared gastric tube aspirations every four hours (usual care) to a variable regimen (up to every eight hours aspirations).

Methods

This randomized controlled trial (RCT) enrolled patients who stayed in ICU > 48 hours, had a gastric tube, and were likely to receive EN for 3+ days. Patients were randomized (computer-generated randomization) to either control (every four hours) or intervention group (variable regimen). The primary outcome was number of gastric tube aspirations per day from randomization until EN was ceased or up to two weeks post-randomization.

Results

Following Institutional Ethics Committee approval, 357 patients were recruited (control group n=179 and intervention group n=178). No differences were found in age, sex, worst APACHE II score or time to start of EN. In the intention to treat analysis, the intervention group had fewer tube aspirations per day (3.4 versus 5.4 in the control group, $p<0.001$). Vomiting/regurgitation was increased in the intervention group (2.1% versus 3.6%, $p=0.02$). There were no other differences in complications.

Conclusion

This is the first RCT to examine the frequency of gastric tube aspirations. The frequency of gastric tube aspirations was reduced in the variable regimen group with no increase in risk to the patient. Reducing frequency of aspirations saves nursing time, decreases risk of contamination of feeding circuit and minimises risk of body fluid exposure.

Implications for Nursing Practice

The decision to change practice in our ICU to the variable regimen will be made by the clinical leaders in the ICU. Nurses prefer the variable regimen. Reducing frequency of aspirations saves nursing time, decreases risk of contamination of feeding circuit and minimises risk of body fluid exposure. Monitoring of the incidence of vomiting/regurgitation is recommended.