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Diarrhea During Critical Illness

**Background:** Research characterizing the frequency of diarrhea in the ICU is sparse, and many definitions exist. Our objective was to describe the bowel movements (BMs) of mechanically ventilated patients expected to need life support for at least 72 hours.

**Methods:** Bedside nurses prospectively maintained stool charts daily, recording the number, frequency, and Bristol stool type of all BMs in 150 patients in 12 centers, as well as antibiotics and aperients. Diarrhea was defined as either  $\geq 3$  BMs or  $> 1$  Bristol type 6 or 7 stool. Antibiotic-associated diarrhea (AAD) was defined as occurring the day of or within 24 hours of antibiotics.

**Results:** The median (IQR) number of BMs/day was 1 (0-3); 110 (73%) patients had  $\geq 3$  BMs/day and 133 (89%) had  $\geq 1$  Bristol type 6-7 stool. Aperients were used in 98% of patients for 85% of ICU-days. The median (IQR) number of days with  $\geq 3$  BMs/day was 2 (0-4); for 5 (2-10) days there were  $\geq 1$  Bristol type 6-7 stool. Over 2098 ICU-days for 150 patients, no BMs were passed on 641 (31%) days,  $\geq 3$  BMs were passed on 555 (27%) days, and  $\geq 1$  Bristol type 6-7 stool were passed on 1187 (57%) of days. The median (IQR) number of days/patient with  $\geq 3$  BMs/day was 2 (0-4); days with  $\geq 1$  Bristol type 6-7 stool were 5 (2-10). Of 3535 BMs in 150 patients, the median (IQR) Bristol stool type was 6 (6-7). AAD occurred in 95 (63%) of patients using the  $\geq 3$  BMs/day definition and in 118 (79%) of patients using the  $> 1$  Bristol type 6-7/day definition. *Clostridium difficile* developed in 5 (3%) patients. Fecal management devices were inserted in 56 (37%) of patients for an average of 3 days, typically 6 days after ICU admission.

**Conclusions:** Defined as  $\geq 3$  BMs/day, the diarrhea incidence was 73%, reflecting 27% of ICU days. Defined as  $\geq 1$  Bristol stool type of 6/7, the diarrhea incidence was 89%, reflecting 57% of ICU days. AAD developed in 63% or 33% of critically ill patients using these 2 definitions, respectively. Aperients were universal and fecal management devices were common.