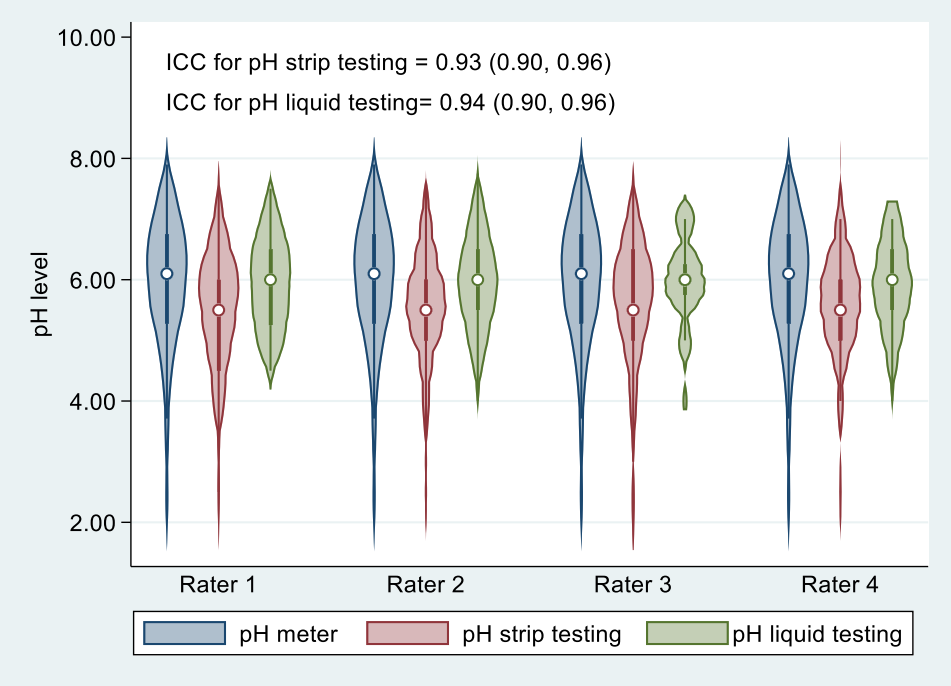
The Accuracy of pH Strip Testing and pH Liquid Testing Versus Standard pH Meter of Gastric Contents in Critically Ill Patients: A Diagnostic Accuracy Study

Supplementary Information

Supplemental Fig. 1 and Supplemental Table 1 summarize the measurement of gastric pH levels according to the independent raters' interpretations. For the pH strip testing method, there were no differences in pH level from each rater (p=0.55). Rater number 1 reported pH levels of 5.50 (IQR 4.50, 6.00), while raters' number 2 to number 4 reported the same pH levels of 5.50 (IQR 5.00, 6.00). This figure was also found in the pH liquid testing method (p=0.38). Rater number 1 and number 4 reported pH levels of 5.75 (IQR 5.25, 6.50), while rater number 2 and number 3 reported pH levels of 5.75 (IQR 5.25,6.25). The reliability tested by the intraclass correlation coefficients (ICC) of the pH strip testing and the pH liquid test method was 0.93 (95%CI, 0.90, 0.96) and 0.94 (95%CI, 0.90, 0.96), respectively, which indicates excellent performance for both techniques.



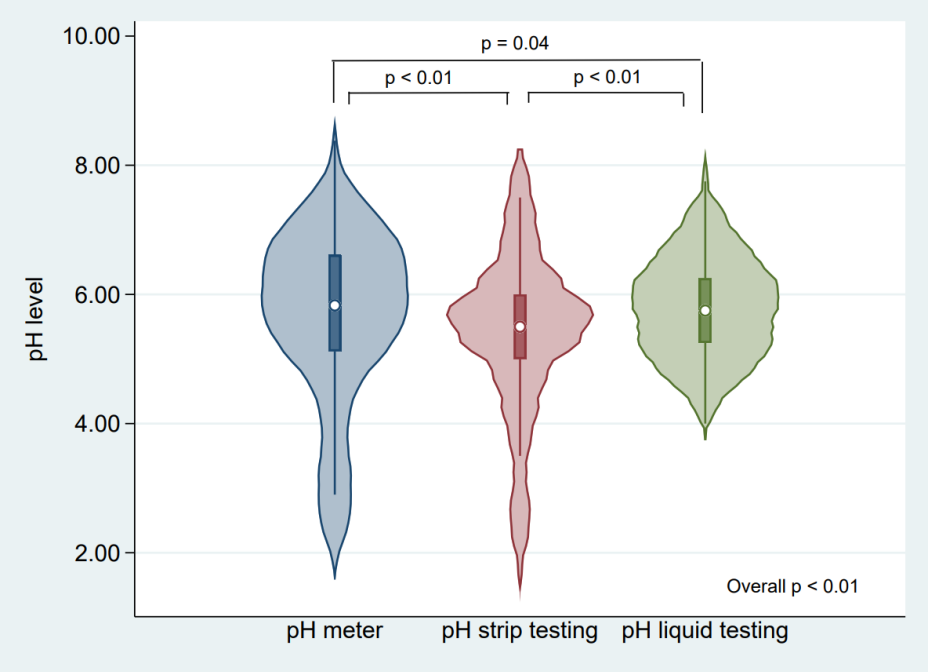
Supplementary Fig. 1 Levels of gastric pH by each method according to independent raters interpretations.

Supplementary Table 1 Measurement of gastric pH according to the independent raters' interpretations.

Measurement	Rater	pH level	p-value*
pH meter	-	5.83 (5.12, 6.61)	-
pH strip test	Rater 1	5.50 (4.50, 6.00)	0.55
	Rater 2	5.50 (5.00, 6.00)	
	Rater 3	5.50 (5.00, 6.00)	
	Rater 4	5.50 (5.00, 6.00)	
pH liquid test	Rater 1	5.75 (5.25, 6.50)	0.38
	Rater 2	5.75 (5.25,6.25)	
	Rater 3	5.75 (5.25,6.25)	
	Rater 4	5.75 (5.25, 6.50)	

*The p-value was calculated from Friedman statistics.

Supplemental Fig. 2 Distribution of gastric pH measurement comparing three methods.



Supplementary Fig. 3 Histogram of the distribution of gastric pH level according to the pHM test and the pHL test vs. the pHM test.