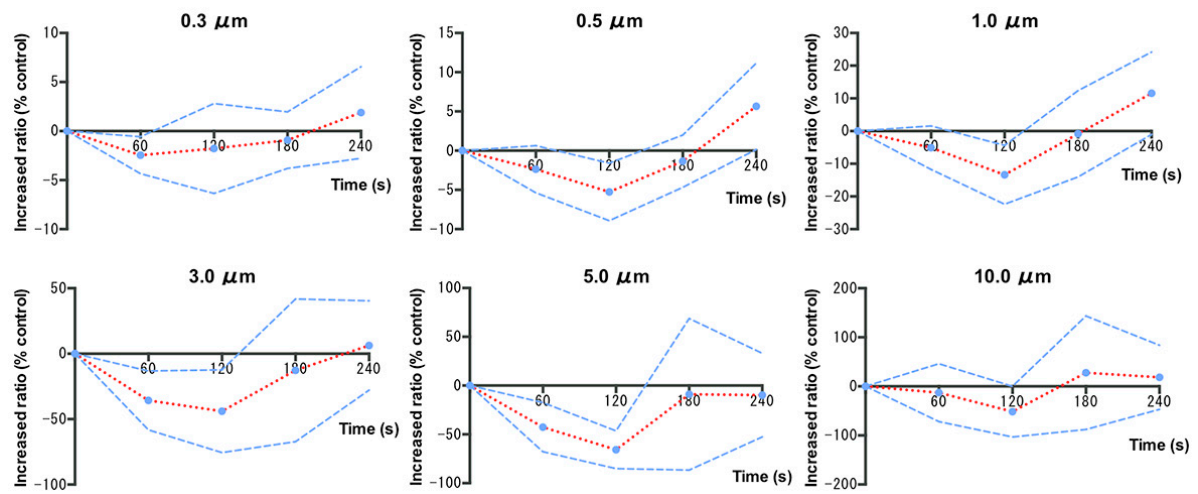**Supplemental Figure S1.** Patient enrollment. TNE, transnasal endoscopy. TOG, transoral gastroscopy

Supplemental Figure S2. Percentage increase in aerosol particles of 0.3, 0.5, 1, 3, 5, and 10 μm in size at 60, 120, 180 and 240 seconds from the start of esophagogastroduodenoscopy without an extraoral suction device (n = 8). The lines represent the mean particle count of the eight patients. The blue dotted line indicates the 95% confidence interval.

Supplemental Table S1. Comparison of baseline characteristics of nasal endoscopy (TNE) and transoral endoscopes (TOE) with extraoral suction device.

	Transnasal endoscopy n=40	Transoral endoscopy n=21	P-value
Mean age ± SD, y	61.9±15.4	71.0±16.2	0.0197
Male sex, no (%)	22 (61.6)	14 (66.7)	0.4234
Medical history, n(%)	15 (37.5)	6 (28.0)	0.5773
Mean procedure time ± SD, secs	203.1± 55.7	160.3± 66.4	0.0013
Cough, n(%)	11(27.5)	6(28.6)	1.0000
Reflex vomitting, n(%)	6(15.0)	6(28.6)	0.3093
Sneezing, n(%)	0 (0)	0 (0)	
Burping, n(%)	8(20)	11(52.4)	0.0184
Body movement, n(%)	1(2.5)	2(9.5)	0.2704
Interventions, n(%)			
No	33(82.5%)	20(95.2%)	0.2434
Biopsy	8 (13.1)	8 (13.1)	

Supplemental Table S2. Comparison of changes in aerosol counts and ATP levels between transnasal endoscopy (TNE) and transoral endoscopy (TOE) with an extraoral suction device.

	Transnasal endoscopy			Transoral endoscopy			
	Before	After	Δ(After-Before)	Before	After	Δ(After-Before)	P-value
Mean counts $(\times 10^6/m^3) \pm$ SD							
0.3 μm	25.6 ± 13.2	28.8 ± 15.5	3.2 ± 3.0	26.0 ± 16.2	29.4 ± 19.3	28.9 ± 16.1	0.5641
0.5 μm	2.5 ± 1.5	2.8 ± 1.8	0.3 ± 0.4	2.8 ± 2.2	3.1 ± 2.7	2.9 ± 2.1	0.8913
1.0 μm	0.2 ± 0.8	0.3 ± 0.1	0.01 ± 0.06	0.3 ± 1.3	2.6 ± 1.5	0.3 ± 1.2	0.7905
Mean counts $(\times 10^3/m^3) \pm$ SD							
3.0 μm	12.4 ± 11.4	9.5 ± 5.2	-2.9 ± 10.4	9.4 ± 3.6	7.8 ± 3.7	-1.7 ± 5.5	0.6818
5.0 μm	3.7 ± 4.8	2.8 ± 2.1	-0.9 ± 4.5	2.4 ± 1.5	1.9 ± 1.0	-4.5 ± 1.8	0.6703
10.0 μm	2.6 ± 3.5	1.7 ± 1.5	-0.9 ± 3.3	1.5 ± 1.0	1.2 ± 0.6	-3.2 ± 1.1	0.3165
ATP level (RLU)	8.4 ± 7.6	83.9 ± 275.9	75.5 ± 277.3	8.0 ± 7.6	26.4 ± 36.4	18.4 ± 36.6	0.0974