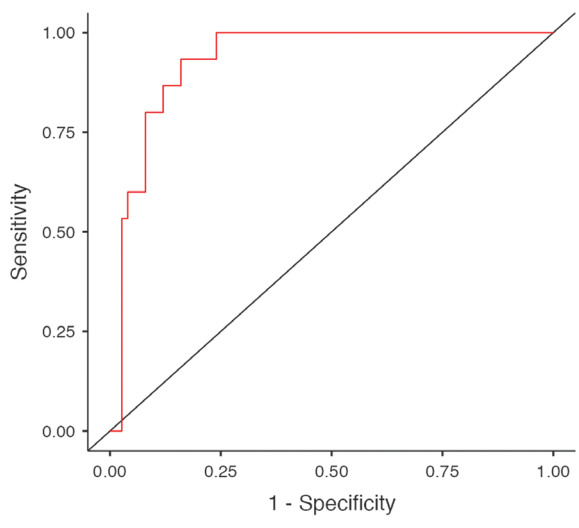


Supplementary Figure 1. ROC curve for binomial logistic regression model evaluating pre-operative variables as predictors of postoperative extubation or mechanical ventilation.

ROC, receiver operating characteristic.

Supplementary Table 1. Type of Surgeries in the Study Patients

Type of surgeries	Count (n = 90)	Percentage
Staging laparotomy	16	17.7
Radical cholecystectomy	14	15.6
Total hysterectomy with bilateral salpingo-oopherectomy	5	5.6
Exploratory laparotomy and proceed	3	3.3
Sleeve gastrectomy	2	2.2
Open extended cholecystectomy	2	2.2
Staging laparotomy	2	2.2
Whipple's procedure	8	8.9
Cytoreductive surgery	2	2.2
Open cholecystectomy with CBD exploration	7	7.8
Total hysterectomy with bilateral salpingo-oopherectomy with lymph node dissection	5	5.6
Duodeno-jejunostomy	1	1.1
Laparoscopic cholecystectomy with ventral hernia repair	1	1.1
Bilateral total extraperitoneal hernia repair	1	1.1
Radical prostectomy	1	1.1
Diagnostic hysteroscopy + ECC	1	1.1
Vaginal hysterectomy with pelvic floor repair	1	1.1
Posterior decompression + instrumented fusion	1	1.1
Abdomino- perineal resection and right adrenalectomy	1	1.1
Laparoscopic cholecystectomy	1	1.1
Radical cystectomy with ileal conduit	1	1.1
Billroth II procedure with roux-en-y gastrojejunostomy	1	1.1
Robotic hernia repair	1	1.1
Laparoscopic hernioplasty	1	1.1
Distal gastrectomy with D2 lymphadenectomy	1	1.1
Wide local excision of abdominal metastatic lesion	1	1.1
Liver resection	1	1.1
Subtotal colectomy with ileorectal anastomosis	1	1.1
Right radical nephrectomy with cholecystectomy	1	1.1
Sigmoidoscopy with closure of colostomy	2	2.2
Right hemicolectomy	1	1.1
Subtotal colectomy	1	1.1
Total gastrectomy with D2 lymphadenectomy with oesophagojejunostomy	1	1.1
Excision of CDC with roux en y hepaticojejunostomy	1	1.1

CBD, common bile duct; ECC, excision of common bile duct; CDC, choledochal cyst

Supplementary Table 2 A. Multivariate Linear Regression for TFdi (Preoperative) and Preoperative Variables (Model Fit Measures)

Model	R	R^2	Adjusted R^2	AIC	BIC	RMSE
1	0.36	0.13	0.00	768.76	801.26	14.99

TFdi, diaphragm thickening fraction; AIC, akaike information criterion; BIC, bayesian information criterion; RMSE, root mean square error

Supplementary Table 2 B. Multivariate Linear Regression for TFdi (Preoperative) and Preoperative Variables (Omnibus ANOVA Test)

	Sum of squares	df	Mean square	F	p
Age (years)	137.92	1	137.92	0.53	0.468
Gender	127.33	1	127.33	0.49	0.486
Weight (kg)	26.66	1	26.66	0.10	0.749
Height (cm)	108.19	1	108.19	0.42	0.520
BMI (kg m^{2-1})	22.58	1	22.58	0.09	0.769
ASA	129.16	2	64.58	0.25	0.780
Heart rate (bpm) (pre-operative)	359.54	1	359.54	1.39	0.243
SpO_2 (%) (pre-operative)	48.17	1	48.17	0.19	0.668
MAP (mmHg) (pre-operative)	0.25	1	0.25	0.00	0.975
MNA score (pre-operative)	1233.60	1	1233.60	4.76	0.032
Residuals	20228.38	78	259.34		

TFdi, diaphragm thickening fraction; BMI, body mass index; ASA, American Society of Anesthesiologists; MAP, mean arterial pressure; MNA, mini nutritional assessment

Supplementary Table 2 C. Multivariate Linear Regression for TFdi (Preoperative) and Preoperative Variables (Model Coefficients-pre-Oprative TFdi)

			95% Confidence Interval			
Predictor	**Estimate**	**SE**	**Lower**	**Upper**	**t**	***P***
Intercepta	298.41	509.98	-716.89	1313.72	0.59	0.560
Age (years)	-0.20	0.27	-0.74	0.34	-0.73	0.468
Gender						
Female-male	-3.94	5.62	-15.13	7.25	-0.70	0.486
Weight (kg)	0.23	0.72	-1.21	1.67	0.32	0.749
Height (cm)	-0.40	0.62	-1.63	0.83	-0.65	0.520
BMI (kg m^{2-1})	-0.55	1.85	-4.22	3.13	-0.30	0.769
ASA						
II-III	-3.74	5.30	-14.29	6.82	-0.70	0.483
I-II	-0.50	4.21	-8.89	7.89	-0.12	0.906
Heart rate (BPM) (pre-operative)	-0.16	0.14	-0.43	0.11	-1.18	0.243
SpO_2 (%) (pre-operative)	-2.16	5.01	-12.14	7.82	-0.43	0.668
MAP (mmHg) (pre-operative)	0.00	0.16	-0.31	0.32	0.03	0.975
MNA score (pre-operative)	1.76	0.81	0.15	3.36	2.18	0.032

TFdi, diaphragm thickening fraction; BMI, body mass index; ASA, American Society of Anesthesiologists; MAP, mean arterial pressure; MNA, mini nutritional assessment; BPM, beats per minute

Supplementary Table 3 A. Multivariate Linear Regression for TFdi (Before extubation) and Intraoperative Variables (Model Fit Measures)

Model	R	Adjusted R^2	AIC	BIC	RMSE
1	0.87	0.73	629.38	649.38	7.31

Models estimated using sample size of n = 90
TFdi, diaphragm thickening fraction; AIC, akaike information criterion; BIC, bayesian information criterion; RMSE, root mean square error

Supplementary Table 3 B. Multivariate Linear Regression for TFdi (Before extubation) and Intraoperative Variables (Omnibus ANOVA Test)

	Sum of squares	df	Mean square	F	P
Preoperative TFdi	12096.88	1	12096.88	208.99	<0.001
Duration of surgery	9.62	1	9.62	0.17	0.685
Estimated blood loss	91.53	1	91.53	1.58	0.212
Lung ultrasound score (before extubation)	53.79	1	53.79	0.93	0.338
Lactate (before extubation)	5.39	1	5.39	0.09	0.761
MAP (mmHg) (before extubation)	0.26	1	0.26	0.00	0.946
Residuals	4804.30	83	57.88		

Type 3 sum of squares
TFdi, diaphragm thickening fraction; MAP, mean arterial pressure

Supplementary Table 3 C. Multivariate Linear Regression for TFdi (Before extubation) and Intraoperative Variables (Model Coefficients-Postoprative TFdi)

			95% confidence interval			
Predictor	**Estimate**	**SE**	**Lower**	**Upper**	**t**	***P***
Intercept	0.55	6.48	-12.33	13.43	0.09	0.932
Preoperative TFdi	0.77	0.05	0.67	0.88	14.46	<0.001
Duration of surgery	-0.00	0.01	-0.03	0.02	-0.41	0.685
Estimated blood loss	0.01	0.00	-0.00	0.01	1.26	0.212
Lung ultrasound score (before extubation)	-1.81	1.88	-5.54	1.92	-0.96	0.338
Lactate (before extubation)	0.12	0.40	-0.67	0.91	0.31	0.761
MAP (mmHg) (before extubation)	0.00	0.07	-0.13	0.14	0.07	0.946

SE, standard error; TFdi, diaphragm thickening fraction; MAP, mean arterial pressure

Supplementary Table 4 A. Binomial logistic regression model evaluating pre-operative variables as predictors of postoperative extubation or mechanical ventilation (Model Fit Measures)

					Overall model test		
Model	**Deviance**	**AIC**	**BIC**	R^2_{McF}	χ^2	**df**	***P***
1	46.94	60.94	78.44	0.42	34.16	6	<.0001

Models estimated using sample size of n = 90
AIC, akaike information criterion; BIC, bayesian information criterion

Supplementary Table 4 B. Binomial Logistic Regression Model Evaluating Pre-operative Variables as Predictors of Postoperative Extubation or Mechanical Ventilation (Model Coefficients-Extubation)

		95% confidence interval				
Predictor	**Estimate**	**Lower**	**Upper**	**SE**	**Z**	***P***
Intercept	4.31	-4.77	13.39	4.63	0.93	0.353
Age	-0.01	-0.12	0.10	0.06	-0.12	0.901
ASA class						
I-II	2.23	-0.52	4.99	1.41	1.59	0.112
I-III	3.48	0.48	6.47	1.53	2.28	0.023
MNA score	-0.67	-1.08	-0.25	0.21	-3.17	0.002
BMI	0.47	0.17	0.76	0.15	3.11	0.002
Preoperative TFdi	-0.06	-0.13	0.00	0.04	-1.82	0.068

Estimates represent the log odds of "extubation=mechanical ventilation" vs. "extubation=extubated"
TFdi, diaphragm thickening fraction; BMI, body mass index; ASA, American Society of Anesthesiologists; MNA, mini nutritional assessment; BPM, beats per minute; SE, standard error

Supplementary Table 4 C. Binomial logistic regression model evaluating pre-operative variables as predictors of postoperative extubation or mechanical ventilation (Predictive Measures)

Accuracy	Specificity	Sensitivity	AUC
0.90	0.96	0.60	0.93

The cut-off value is set to 0.5
AUC, area under the curve