

**Appendix Table 8. Characteristics of Studies of Laboratory Predictors\***

Author, Year (Reference)	Study Type	Timeline	Type of Surgery	Specific PPCs Studied
Poe et al., 1982 (137)	Cohort	Retrospective	Upper abdominal, appendectomy, hernia repair, gynecologic, breast, thyroid, major orthopedic	Respiratory infection, atelectasis
Fogh et al., 1987 (28)	Cohort without comparison group	Prospective	Major abdominal	Pneumonia, atelectasis, respiratory failure
Windsor and Hill, 1988 (138)	Cohort with comparison	Prospective	Elective major gastrointestinal resection	Pneumonia
Cooper and Primrose, 1989 (139)	Cohort	Prospective	Major elective abdominal	Atelectasis, pneumonia
Gerson et al., 1990 (102)	Cohort without comparison group	Prospective	Abdominal and noncardiac thoracic	Pneumonia, noncardiogenic pulmonary edema, pulmonary embolus
Kispert et al., 1992 (52)	Cohort without comparison group	Retrospective	Major vascular	Pneumonia, respiratory failure, ARDS
Kroenke et al., 1992 (50)	Cohort without comparison group	Retrospective	All	All
Calligaro et al., 1993 (60)	Cohort without comparison group	Retrospective	AAA repair	Pneumonia, respiratory failure
Jayr et al., 1993 (57)	Cohort without comparison group	Prospective	Intra-abdominal vascular	Respiratory failure
Wong et al., 1995 (108)	Cohort without comparison group	Prospective	Noncardiothoracic	Pneumonia, respiratory failure, bronchospasm
Kocabas et al., 1996 (73)	Cohort without comparison group	Prospective	Elective upper abdominal	Pneumonia, bronchitis, atelectasis, pulmonary embolism
Barisione et al., 1997 (112)	Cohort without comparison group	Prospective	Abdominal	Pneumonia, atelectasis, respiratory failure
Mitchell et al., 1998 (115)‡	Cohort without comparison group	Prospective	Elective nonthoracic	Bronchitis, bronchospasm, atelectasis, pneumonia, ARDS, pleural effusion, pneumothorax, respiratory failure
Fuso et al., 2000 (140)	Cohort	Retrospective	Elective abdominal	Pneumonia, pneumothorax, pleural effusion, respiratory failure

\* AAA = abdominal aortic aneurysm; ARDS = acute respiratory distress syndrome; COPD = chronic obstructive pulmonary disease; NA = not available; PFT = pulmonary function test; PPC = postoperative pulmonary complication.

† Based on criteria from the U.S. Preventive Services Task Force.

‡ COPD was preoperative sputum production.

**Appendix Table 8—Continued**

Inclusion Criteria	Exclusion Criteria	Included All Patients during Study Period or Only at Discretion of Ordering Physician	Hierarchy of Research Design†	Mean Age, y	Men, %
Elective surgery, current or never smokers, negative questionnaire for respiratory symptoms or history of respiratory disease	Productive cough, preoperative diagnosis of asthma, COPD, other chronic respiratory disease, previous smoker, local or nonspinal regional anesthesia, thoracic surgery	All	II-2	NA	41
		All	II-3	NA	NA
	Preoperative intravenous nutrition not essential	No PFTs	II-2	61	46
		No PFTs	II-3/C	NA	NA
Age > 65 y		Discretion	II-2	73	49
Elective		All	II-2	65	77
Severe COPD with FEV <sub>1</sub> < 50% predicted and FEV <sub>1</sub> :FVC < 70%	Emergency surgery, concomitant nonvascular surgery, retroperitoneal incision	Discretion	II-2	66	72
		Discretion	II-3	NA	NA
Midline incision		All	II-2	NA	65
COPD, FEV <sub>1</sub> < 1.2 L, FEV <sub>1</sub> :FVC < 75%	Preexisting tracheostomy, thoracic surgery	All	II-2	68	96
		All	II-3	48	60
	None	All	II-3	64	69
	Regional anesthesia	All	II-2	61.2	NA
Increased preoperative pulmonary risk	Laparoscopy	Discretion	II-2	63	53