

type	etiology	mort. (%)	year	name	centers	months	n	period	study
o	1	39	2014	Zielinski MD, trauma, 2010-2011, Maryland, USA	14	24	77	C	POSs
o	1	80	2013	Weng CH, paraquat, 2000-2010, Taiwan	1	120	50	C	POSs
i	2	56	2014	Roch A, ECMO, 2009-2013, France	1	48	85	C	POSs
icu		56							POSs
28	2	56,5	2013	Sharif N, Pakistan, 2011	1	6	46	C	POSs
28	1	41	2013	Boissier F, cor pulmonale, 2004-2009, France	1	64	226	C	POSs
o	1	22	2013	Sharpe JP, plasma transfusion, 5.5 year, ARDS, Tennessee, USA	1	54	199	C	POSs
icu	1	77	2013	Türkoğlu M, hematologic malignancy, 2009-2010, Turkey	1	12	68	C	POSs
o	1	36	2013	Pham T, H1N1, 2008-2011, France	104	36	127	C	POSs
60	2	40	2012	Rivara MB, troponin T, 1999-2005, Massachusetts, USA	1	69	177	C	POSs
28	1	63	2012	Mokart D, neutropenia, 6 years, 2002-2008, France	1	72	70	C	POSs
icu	2	42,7	2011	Villar J, ALIEN, 13 centers, 2008-2009, Spain	17	12	255	C	POSs
i	2	46	2011	Damluji A, 2004-2007, Maryland, USA	4	48	508	C	POSs
60	2	38,5	2011	Charron C, prone, 1997-2009, France	1	156	218	C	POSs
60	2	36,5	2010	Sheu CC, sepsis, non-sepsis, 1999-2009, Massachusetts, USA	1	108	736	C	POSs
i	1	16	2009	Davies A, H1N1, ECMO, 2009, Australia	16	3	68	C	POSs
icu		13,4							POSs
i	2	70	2009	Liao KM, early ARDS, 2004-2006, Taiwan	1	18	172	C	POSs
90	2	47	2009	Linko R, FINNALI, 2007, Finland	5	2	100	C	POSs
90	2	12	2009	Quartin AA, general ward, 2003, Miami, USA	1	12	62	C	POSs
o	1	72,2	2008	Tang SS, pulmonary resection, 1991-1997, UK	1	108	36	B	POSs
o	1	45,5	2008	Tang SS, pulmonary resection, 2000-2005, UK	1	60	22	C	POSs
i	2	41	2008	Seeley E, 2002-2003, California, USA	1	13	149	C	POSs
icu	2	32,3	2008	Sheridan M, 10 week, 2006, Ireland	9	2	196	C	POSs
o	2	25	2007	Ferguson ND, 4 mnth, 2003, Spanish	3	4	53	C	POSs
o	2	42	2007	Eachempati SR, elderly patients >65, 1993-2000, USA	1	120	277	B	POSs
o	2	58	2007	Eachempati SR, elderly patients >65, 2001-2003, USA	1	120	66	C	POSs
i	2	47,8	2006	Agarwal R, 2001-2005, North India	1	54	180	C	POSs

o	2	32,7	2006	Beiderlinden M, ECLS, Germany, 1998-2003	1	69	150	B	POSSs
icu	2	43,6	2006	Luecke T, 1995-2000, Germany	1	69	94	B	POSSs
o	1	26,6	2005	Martin M, trauma, 5 years, 2000-2004, USA	1	60	274	C	POSSs
icu	2	38,9	2005	Sakr Y, fluid balance, 2002, Belgium	198	0,5	393	C	POSSs
i	2	66	2005	Manzano F, 2001, Spain	4	6	61	B	POSSs
i	2	38,5	2005	Rubinfeld GD, 1999-2000, USA	21	15	1113	B	POSSs
o	2	61	2005	Burnham EL, endothelial progenitor cells, low colony, Atlanta, 2002-2004, USA	1	24	45	C	POSSs
i	2	68,5	2004	Lu Y, Shanghai, 2001-2002, China	12	12	108	C	POSSs
90		70,4							POSSs
30	2	41	2004	Moran JL, 1996-1998, South Australia	1	36	106	B	POSSs
icu	2	22,6	2004	Brun-Buisson C, 10 countries, 78 ICU, 1999, 2 months	8	2	463	B	POSSs
icu	2	53,1	2003	Hughes M, 1999, Scotland	4	8	367	B	POSSs
i	2	58	2002	Estenssoro E, 1 year 1999-2000, Argentina	4	12	235	B	POSSs
icu	2	45	2002	Fialkow L, 1999-2000, Brazil	1	12	50	B	POSSs
i		48							POSSs
28	2	32,9	2002	Bersten AD, 1999, ALI, Australia	21	2	168	B	POSSs
i	2	32,1	2001	Sunthralingam G, direct + indirect, >1994, UK	1	12	177	B	POSSs
icu		37							POSSs
icu	2	45	2001	Rocco Jr TR, 1990-1998, 9 years, USA	1	98	111	B	POSSs
o		52							POSSs
30		48							POSSs
i	1	29,2	2001	Navarrete-Navarro P, 1985-1987, trauma, Spain	1	36	486	A	POSSs
i	1	21,4	2001	Navarrete-Navarro P, 1993-1995, trauma, Spain	1	36	552	A	POSSs
icu	2	29,2	2000	Navarrete-Navarro P, trauma, 1994-1997, Spain	1	48	59	B	POSSs
i	2	87	2000	Jerng JS, >1994 <2000, Taiwan	1	30	145	B	POSSs
icu		74							POSSs
90	2	46,7	2000	Antonsen K, ALI < 2000, Denmark	48	1,5	212	B	POSSs
o	1	64,4	2000	Kutlu CA, pulmonary resection, 1991-1997, England	1	84	45	A	POSSs

i	2	64	1999	Jardin F, 1978-1996, 78-81, France	1	34	33	A	POSs
i	2	32	1999	Jardin F, 1978-1996, 93-96, France	1	33	37	B	POSs
28	2	41	1999	Roupie E, 36 icus, 14 days, 1996, France	36	0,5	213	B	POSs
90	2	41	1999	Luhr OR, 1997, Denmark	127	1,5	508	B	POSs
i	1	27,7	1998	Kaul TK, cardiopulmonary bypass, 1988-1995, Alabama, USA	1	96	108	A	POSs
i	2	66	1998	Abel SJ, 1990-1993, UK	1	36	41	A	POSs
i	2	34	1998	Abel SJ, 1993-1997, UK	1	46	78	A	POSs
icu	2	70	1998	Masclans Enviz JR, 1996, Spain	1	12	57	B	POSs
i	2	58	1998	Zilberberg MD, > 1994 < 2000, Massachusetts, USA	1	36	107	B	POSs
o	2	54	1997	Suchyta MR, 1987-1990, Utah, USA	1	44	256	A	POSs
i	1	65	1996	Moss M, alcohol abuse, Atlanta, 1985-1993, USA	1	96	102	A	POSs
o	2	60,8	1995	Kiatboonsri S, < 1994, Thai	1	39	46	A	POSs
o	2	62	1995	Hudson LD, 1983-1985, Seattle USA	1	36	179	A	POSs
i	2	26,4	1994	Hickling KG, 1992, LV, PL ventilation vs. APACHE II, < 1994, New Zealand	1	12	53	A	POSs
60	2	38,6	2014	Choi WI, ARDS vs. AHRF, South Korea, 2010-2011	15	7	163	C	POSs
28	2	38,5	2014	Caser EB, Brazil, 2006-2007	13	15	130	C	POSs
i		49,2							POSs
28	2	35	2013	Hernu R, France, 2012	1	6	278	C	POSs
i	1	40	2013	Michaels A, ECMO, 2009-2012 Portland, USA	1	46	36	C	POSs
icu	1	62	2011	Kao KC, HFOV, 1999-2005, Taiwan	1	27	34	C	POSs
icu	1	20	2012	Azoulay E, dexamethasone, hematologic malignity, 2005-2008, France	1	48	20	C	POSs
i	2	38,9	2010	Lakhey S, Nepal, 2006-2008	1	24	36	C	POSs
30	1	53	2011	Stöhr F, ECMO, 2006-2008	1	36	30	C	POSs
30	2	20,4	2010	Endo S,> 2001, Japan	34	6	152	C	POSs
14	1	22,7	2008	Tseng JS. CAP, 2002-2003	1	16	22	C	POSs
o	1	50	2008	Salim A, TBI, 2000-2004, California, USA	1	60	28	C	POSs
28	2	48	2006	Roca O, 1998-2003, Spain	1	62	191	B	POSs
i		58							POSs
o	2	52,4	2005	Türe M, Turkey, jan 1998- Jul 2002	1	55	206	B	POSs

60	2	39,6	2008	Bajwa EK, 1999-2005, Massachusetts, USA	1	69	177	B	POSSs
i	2	50,9	2005	Stapleton RD, Washington, 1990, Seattle, USA	1	12	112	A	POSSs
i	2	32,3	2005	Stapleton RD, Washington, 1994, Seattle, USA	1	12	99	B	POSSs
i	2	37,1	2005	Stapleton RD, Washington, 1998, Seattle, USA	1	12	205	B	POSSs
o	1	14	2005	Liffner G, burns, 1993-1999, Sweeden	1	84	36	B	POSSs
o	2	22,3	1999	Höltermann W 1992-1994, Germany	1	36	469	A	POSSs
o	2	42,9	1999	Villar J, <2000, >1994, . Spain	1	22	56	B	POSSs
o	2	65	1999	Monchi M, 1992 -1995, France	1	35	259	A	POSSs
o	2	45	1998	Madtes DK, BAL, 1988-1991, Seattle, WA, USA	1	40	74	A	POSSs
i	2	58	1995	Doyle RL, <1994, California, USA	1	11	123	A	POSSs
icu	2	52	1995	Meduri GU, 1992-1993, Tennessee, USA	1	17	27	A	POSSs
i	1	55,5	2014	Hsiao CC, ECMO, 2006-2011, Taiwan	1	68	81	C	ROSSs
icu	2	34,5	2014	Weig T, obesity, 2008-2010, Germany	1	36	82	C	ROSSs
icu	1	16,5	2014	Belenkiy SM, military, burn, 2003-2011, USA	1	228	95	C	ROSSs
i	1	40,5	2014	Kogan A, cardiac surgery, 2005-2013, Israel	1	159	36	C	ROSSs
o	1	38	2013	Weber-Carstens S, H1N1, 2009-2010, Germany	40	14	116	C	ROSSs
i	1	60	2013	Mikkelsen ME, sepsis, 1 center, 2005-2006, Pennsylvania, USA	1	24	48	C	ROSSs
28		62							ROSSs
60		65							ROSSs
28	1	48.1	2013	Oh DK, H1N1, 2009 - 2010, South Korea	28	6	104	C	ROSSs
i	2	50	2013	Sigurdsson MI, incidence a mortality, 23 years, 1988-1992, Island	1	156	345	A	ROSSs
icu		33							ROSSs
30		27							ROSSs
90		38							ROSSs
o		37							ROSSs
28	2	25,4	2012	Hofstra JJ, 2004-2007 Netherlands	1	36	723	C	ROSSs
90		33,9							ROSSs
90	2	53,2	2012	Ando K, comorbidity, 2004-2009, Japan	1	64	47	C	ROSSs
60	2	33	2012	Soto GJ, obesity, AKI, 1999-2000, Massachusetts, NY, USA	2	110,5	751	B	ROSSs

o	2	56	2012	Pierrakos C, two periods, 1993-1995 Belgium	1	26	129	A	ROsS
o	2	46	2012	Pierrakos C, two periods, 2006-2009 Belgium	1	40	210	C	ROsS
i	1	20	2011	Paul DJ, oesophagectomy, 2003-2006, Australia	1	36	15	C	ROsS
365		40							ROsS
30	1	43	2010	Lubnow M, HFOV, iLA, 2002-2006, Germany	1	60	21	C	ROsS
i		57							ROsS
60	2	47,2	2007	Bajwa EK, myocardial injury, 1999-2005, Massachusetts USA	1	69	248	B	ROsS
i	1	25	2007	Alam N, lung cancer, 2001-2004, NY, USA	1	42	44	C	ROsS
i	2	55,7	2007	Li JB, trauma, 1994-2003 China	1	153	115	B	ROsS
i	2	34.1	2007	Villar 2007, PEEP/FIO2, 2004-2005, Spain	15	18	170	B	ROsS
icu		33,5							ROsS
i	2	39,5	2007	Netzer G, tranfusion, 1999-2002, Maryland, USA	1	48	248	B	ROsS
o	1	27,8	2006	Salim A, trauma, 2000-2003, California, USA	1	48	216	C	ROsS
i	1	40	2006	Dulu A, lung resection, 2002-2004, NY, USA	1	24	50	C	ROsS
icu		32							ROsS
i	2	37	2006	O'Brien JM Jr., BMI, 1995-2001, Ohio, USA	84	70	1488	B	ROsS
icu									ROsS
28	2	47,7	2006	Manocha S, b2 agonists, doses, 2001-2003, Canada	1	24	86	C	ROsS
i	2	54	2003	Suchyta MR, 1987-1990, P/F \leq 105, UT, Salt Lake City, USA	1	56	256	A	ROsS
i	2	35	2003	Suchyta MR, 1994-1999 P/F \leq 105, UT, USA	1	72	548	B	ROsS
28	2	21,6	2003	Venet C, 1995-2002, France	1	96	125	B	ROsS
60		32							ROsS
180		44							ROsS
i	2	38	2003	Page B, 1993- 2001, France	1	156	150	B	ROsS
icu	2	47	2002	Arroliga AC, Ohio, 1996-1999, USA	1	37	66	B	ROsS
28		48,5							ROsS
i	1	52	2001	Ruffini E, lung resection, cancer, 1993-1999, ALI/ARDS Italy	1	84	27	B	ROsS
o	1	15	2001	Milot J, cardiac surgery, 1995-1998, Canada	1	36	13	B	ROsS
o	2	43,5	2000	Pola MD, 1985, Spain	1	12	45	A	ROsS

o	2	38,5	2000	Pola MD, 1995, Spain	1	12	61	B	ROsS
i	1	41,8	1999	Dancey DR, thermal injury, 1991-1995	1	50	67	A	ROsS
i	2	39,3	2000	Iribarren C, 1979-1985, USA	23	180	56	A	ROsS
icu	2	37	1999	Valta P, 1993-1995, Finland	1	36	59	A	ROsS
80		42							ROsS
icu	2	74	1999	Dupont H, INO, 2 years, >1994 <2000, France	4	26	93	B	ROsS
i	2	59	1997	Luhr O, INO, 1991-1994, Sweden	9	48	56	A	ROsS
180		62							ROsS
o	2	52	1997	Ferring M, 1993-1995, Belgium	1	26	129	B	ROsS
i	2	59	1997	Nolan S, 4 years, 1986-1991, Australia	3	48	32	A	ROsS
icu		47							ROsS
o	2	36	1994	Willms D, 2 year, California, <1994, USA	1	48	47	A	ROsS
o	2	66	1994	Lee J, UK, 1993-1996	1	36	41	A	ROsS
o	1	43,8	2014	Du H, hemorrhagic fever with renal syndrome, 2008-2012, China	1	60	48	C	ROsS
icu	2	30	2013	Gunnarsson TS, 2004-2008, Iceland	1	60	120	C	ROsS
90		39							ROsS
i	1	47,1	2012	Deng W, miliary TB, 2006-2010, China	4	60	85	C	ROsS
icu	1	58,2	2011	Lee K, miliary TB, 1999-2008, South Korea	1	120	67	C	ROsS
i		61,2							ROsS
icu	2	50	2009	Liu L, APRV vs. SIMV, 2003-2009, Japan	1	106	58	C	ROsS
28	1	56,3	2010	Lee K, prologed prone, 2000-2006, South Korea	1	79	96	C	ROsS
icu	2	39,2	2007	Badin S, West Virginia, 1998-2002 USA	2	60	97	B	ROsS
o	2	52	2007	Ge QG, 1998-2003, Japan	8	60	383	B	ROsS
i	2	40	2006	Sigvaldason K, 1988-1997	1	120	155	A	ROsS
i	2	32	2005	Kallet RH, California, 2000-2003, USA	1	48	200	C	ROsS
30	1	61,7	2004	Mehta S, HFV, 1999-2002, Toronto, Canada	3	48	156	B	ROsS
30	1	67	2001	Mehta S, HFV, 1997-1999, Toronto, Canada	2	27	24	B	ROsS
o	2	49,3	2000	Rouby JJ, different lung morphology, <2000, > 1994, France	1	53	71	B	ROsS
o	1	39,3	2001	Catanzarite V, pregnant ,San Diego, 1988-2000, California	1	156	28	A	ROsS

o	2	57,8	2000	Pola MD, mix, 1985, Spain	1	12	45	A	ROsS
o	2	63,9	2000	Pola MD mix, 1995, Spain	1	12	61	B	ROsS
o	1	67	2000	Ruhnau BK, 1994-1998, NO, Denmark	1	48	33	B	ROsS
o	2	12	1997	Stocker R, prone + low volume, pressure limited, 1992-1994, Germany	1	36	25	A	ROsS
30	1	40	1996	Baughman RP, SILI, Ohio, USA	1	24	58	A	ROsS
o	2	30	1995	DiRusso SM, high PEEP, < 1994, Tennessee, USA	1	34	67	A	ROsS
o	1	71,7	2001	Rocco Jr. TR, Trauma and surgical, 1990-1994, Rhode Island, USA	1	60	46	A	ROsS
30		63							ROsS
o	1	38,5	2001	Rocco Jr. TR, Trauma and surgical, 1995-1998 Rhode Island, USA	1	48	65	B	ROsS
30		36,9							ROsS
o	1	32,5	1997	Hernández-Gutiérrez P, trauma, 1990-1993, Mexico	1	48	80	A	ROsS
60	2	24,9	2014	Truwit JD, NHLBI, rosuvastatin, 2004-2009	44	72	366	C	RCTs
28	2	32	2014	Bellingan S, FP-1201, 2009-2011, UK, Finland	17	50	59	C	RCTs
28	2	23,2	2013	Gates S, BALTI-2, 46 ICUs, UK, 2006-2010	46	41	164	C	RCTs
icu		27,4							RCTs
i		32,3							RCTs
28	2	32,8	2013	Guerin C, PROSEVA, France, 2008-2011	21	42	236	C	RCTs
90		41							RCTs
28	2	36,9	2013	Pintado MC, individualized PEEP, 2003-2008, Spain	1	60	36	C	RCTs
i	2	35	2013	Ferguson ND, HFOV, OSCILLATE Canada, 2007-2012	39	50	273	C	RCTs
icu	2	42,1	2013	Young D, HFOV, OSCAR, UK, 2007-2012	29	56	397	C	RCTs
i		48,4							RCTs
60	2	22,2	2012	Rice TW, EDEN trial. Full, ARDS net, 2008-2011	44	39	492	C	RCTs
28	2	33,3	2010	Papazian L, ACURASYS NMBA, France, 2006-2008	19	24	162	C	RCTs
90		40,7							RCTs
i		41,4							RCTs
icu		38,9							RCTs
28	2	32,8	2010	Taccone P, prone, Italy, 2004-2008	25	53	175	C	RCTs
icu		42							RCTs

180		52,3							RCTs
28	2	24,5	2009	Kesecioglu J, exogenous surfactant, 2003-2004	67	17	210	C	RCTs
60	2	13	2008	Liu KD, activated protein C, 2005-2007	8	28	38	C	RCTs
60	2	53	2008	Fernandez R, prone, 2013-2014, Spain	17	12	19	C	RCTs
7	2	19	2007	Meduri GU, MP, USA, Tennessee, 1997-2002	5	61	28	B	RCTs
28		23,6							RCTs
60		28,6							RCTs
180		42,9							RCTs
365		42,9							RCTs
icu		42,9							RCTs
icu	2	53	2007	Antonelli M, NIPPV, 2002-2004, intubated, Italy	2	26	68	C	RCTs
i		54							RCTs
60	2	27,2	2006	Wheeler, NHLBI, PAC vs. CVP, PAC, USA, 2000-2005	20	65	1000	C	RCTs
60	2	28,6	2006	Steinberg KP, NHLBI, corticoids, USA, 1997-2003	25	76	91	B	RCTs
icu	2	53,3	2006	Villar J, high PEEP, low Vt, Canary Islands, Spain, 1999-2001	8	25	45	B	RCTs
i		55,5							RCTs
icu	2	58	2006	Mancebo J, prone, Spain, 1998-2002	13	46	60	B	RCTs
28	2	15	2006	Kacmarek RM, partial liquid ventilation, 1998-2000	56	36	107	B	RCTs
28	1	67	2006	Annane D, KST, France, 1995-1999	19	41	92	B	RCTs
28	2	26	2004	Zeiher BG, STRIVE study, sivelestat, USA, 2001-2003	105	18	246	C	RCTs
i	2	24,9	2004	Brower RG, higher vs. lower, lower PEEP, USA, 1999-2002	20	29	273	B	RCTs
30	2	52	2002	Derdak S, HFOV, 1997-2000, USA	13	39	73	B	RCTs
60		59							RCTs
10	2	25	2001	Gattinoni L, prone-supine, Italy, 1996-1999	30	35	152	B	RCTs
i		48							RCTs
180		58,6							RCTs
i	2	39,8	2000	ARMA, ARDS net, 12ml, 1996-1999	10	37	429	B	RCTs
30	2	40	1999	Lundin S, INO, Sweden, 1994-1996	43	29	87	B	RCTs
i	2	50	1999	Brower RG, traditional, vs. lower Vt, 10,2ml, USA, 1994-1996	4	22	26	B	RCTs

28	2	38	1998	Amato MB, protective, dec 1990-jul1995, Brazil	2	56	53	A	RCTs
28	2	43,8	1997	Gregory TJ, surfactant, 1990-1993, Ohio, USA	5	28	16	A	RCTs
icu	2	25	1997	Domenighetti G, NAC, >1994 <2000, Switzerland	4	16	20	B	RCTs
30	2	40	1996	Anzueto A, surfactant, 1992-1993, USA	63	20	361	A	RCTs
i	2	42,9	1995	Amato MB, protective, 1992-1995, Brazil	1	36	13	A	RCTs
30	2	58	1994	Morris AH, IRV a ECCO2R, 1987-1991	13	32	19	A	RCTs
o	2	36	2013	Agarwal R, APRV vs. VCV, VCV, 2009-2011, India	1	24	25	C	RCTs
i	2	35,9	2012	Mentzelopoulos SD, HFV + TGI vs. CMV, CMV, 2006-2009, Greece	2	30	64	C	RCTs
28	2	28	1999	Abraham E, prostaglandin E1, Denver USA, <2000, >1994	47	1	171	B	RCTs
o	2	11	1997	Lewandowski K, ECMO vs. advanced treatment, 1989-1995, Germany	1	74	73	A	RCTs

Online supplement I: The list of all eligible articles retrieved web search; type of mortality: i – in-hospital; icu – intensive care unit; o – overall; time periods: A, < 1994, B, 1995-2000, C, >2001; ROSs, retrospective observational studies; POSs, prospective observational studies; RCTs, randomized controlled trials.