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Table 1

Data extraction

1st Author	Quality	Device	Method	N device	Predicted easy (MP 1-2)	Predicted difficult (MP 3-4)	Difficult laryngosco (C&L 3-4 or DL)
Maharaj (2006) [13]	(+)	Airtraq	Randomized, 60 subjects, Airtraq v Mac DL	30	30	0	No data
Maharaj (2007) [14]	(+)	Airtraq	Randomized, 40 subjects, Airtraq v Mac DL, Cervical spine limitation (MILS)	20	20	0	No data
Maharaj (2007) [15]	na	Airtraq	Observational, Case series, 7 subjects, failed Mac DL	7	0	7	4 C&L 4
Ndoko (2007) [16]	(-)	Airtraq	Randomized, 70 subjects, Mac DL v Airtraq, risk of difficulty	35	0	35	No data
Arslan (2009) [17]	(+)	Airtraq	Randomized, 86 subjects, Airtraq v CTrach, Cervical spine	43	42	1	No data

			limitation (collar)				
Dhonneur (2009) [18]	(+)	Airtraq	Randomized, 318 subjects, Airtraq v Mac DL v CTrach, obese	106	82	24	No data
Lange (2009) [19]	(+)	Airtraq	Randomized, 60 subjects, Mac DL then Airtraq v GlideScope	30	26	4	4 C&L 3-4
Malin (2009) [20]	na	Airtraq	Observational, Case series, 47 subjects, failed Mac DL	47	0	47	47 C&L 2b-4
Turkstra (2009) [21]	(+)	Airtraq	Randomized, cross-over,24 subjects, Airtraq v Mac, cervical spine limitation (MILS)	24	24	0	2
Chalkeidis (2010) [22]	(+)	Airtraq	Randomized, 63 subjects, Airtraq v Mac DL	35	25	10	No data
Koh (2010) [23]	(+)	Airtraq	Randomized, 50 subjects, Airtraq v Mac DL, Cervical spine limitation (collar)	25	20	5	No data
Halligan (2003) [24]	na	Bonfils	Observational, Case series, 60 subjects	60	58	2	No data
Wong (2003) [25]	na	Bonfils	Observational, Case series, 36 subjects	36	No data	No data	No data

Bein (2004) [26]	(-)	Bonfils	Randomized, 80 subjects, Bonfils v ILMA, Risk of difficulty	40	12	28	No data
Bein (2004) [27]	na	Bonfils	Observational, Case series, 25 subjects, failed Mac DL	25	0	No data	25
Wahlen (2004) [28]	(-)	Bonfils	Randomized, 48 subjects, Bonfils v Mac DL v Bullard v ILMA	12	12	0	No data
Byhahn (2008) [29]	(+)	Bonfils	Randomized, 76 subjects, Bonfils v Mac DL, Cervical spine limitation (collar)	38	38	0	Mac group 17
Corbanese (2009) [30]	na	Bonfils	Observational, Case series, 100 subjects	100	100	0	No data
Corso (2010) [31]	na	Bonfils	Observational, Case series, 10 subjects	10	No data	No data	No data
MacQuarrie (1999)[32]	na	Bullard	Observational, Case series, 80 subjects, Cervical spine limitation (collar)	40 x 2 grps	28	No data	52
Shulman (2001) [33]	(-)	Bullard	Randomized, cross-over, 50	25 x 2 grps	No data	No data	No data

			subjects, Bullard v FOI, Cervical spine limitation (MILS)				
Wahlen (2004) [28]	(+)	Bullard	Randomized, 48 subjects, Bullard v Mac v Bonfils v ILMA	12	12	0	No data
Nileshwar (2007) [34]	(+)	Bullard	Randomized, 62 subjects, Mac DL then Bullard v ILMA, cervical spine limitation (MILS)	31	19	No data	12
Teoh (2010) [35]	(+)	C-MAC	Randomized, 400 subjects GlideScope v Pentax AWS v C-MAC v MacDL	100	85	15	No data
Dhonneur (2006) [36]	(+)	CTrach	Randomized, 104 subjects, Mac DL v CTrach, obese	52	43	9	No data
Goldman (2006) [37]	na	CTrach	Observational, Case series, 328 subjects	328	No data	No data	No data
Goldman (2006) [38]	na	CTrach	Observational, Case series, 6 subjects	6	3	3	6
Liu (2006) [39]	na	CTrach	Observational, Case series, 100 subjects	100	84	26	9

Timmerman (2006) [40]	na	CTrach	Observational, Case series, 10 subjects	10	No data	No data	No data
Timmerman (2006) [41]	na	CTrach	Observational, Case series, 60 subjects	60	No data	No data	3
Cattano (2007) [42]	na	CTrach	Observational, Case series, 15 subjects, obese	15	No data	No data	No data
Dhonneur (2007) [43]	(+)	CTrach	Randomized, 120 subjects, CTrach v MacDL	60	No data	No data	No data
Ng (2007) [44]	(-)	CTrach	Randomized trial, 106 subjects, CTrach v GlideScope	54	54	0	No data
Liu (2008) [45]	(+)	CTrach	Randomized, 271 subjects, CTrach v ILMA (Fastrach)	134	118	16	13
Nickel (2008) [46]	na	CTrach	Observational, Case series, 16 subjects	16	No data	No data	No data
Arslan (2009) [17]	(+)	CTrach	Randomized, 86 subjects, Airtraq v CTrach, Cervical spine limitation (collar)	43	42	1	No data
Dhonneur (2009) [18]	(+)	CTrach	Randomized, 318 subjects, Airtraq v Mac DL v CTrach, obese	106	78	28	No data
Liu (2009)	na	CTrach	Observational,	48	18	30	26

[47]			Case series, 48 subjects				
Malik (2009) [48]	(+)	CTrach	Randomized, 90 subjects, Pentax AWS v Mac DL v CTrach, cervical spine limitation (MILS)	30	30	0	No data
Ng (2009) [49]	na	CTrach	Observational, Case series, 50 subjects, cervical spine limitation (MILS)	50	45	5	11
Swadia (2009) [50]	na	CTrach	Observational, Case series, 20 subjects	20	20	0	No data
Agro (2003) [4]	na	GlideScope	Observational, Case series, 15 subjects, C spine limitation (collar)	15	No data	No data	10
Cooper (2005) [51]	na	GlideScope	Observational, Case series, 728 subjects	728	579	148	34/133
Doyle (2005) [52]	na	GlideScope	Observational, Case series, 747 subjects	747	No data	No data	No data
Hsiao (2005) [53]	na	GlideScope	Observational, Case series, 103 subjects, Mac DL then GlideScope	103	No data	No data	22
Lim (2005) [54]	(+)	GlideScope	Randomized, 60 subjects, GlideScope v Mac DL,	30	30	0	8 in Mac DL group

			Cervical spine limitation (MILS)				
Rai (2005) [55]	na	GlideScope	Observational, Case series, 50 subjects	50	No data	No data	1
Sun (2005) [56]	(+)	GlideScope	Randomized, 200 subjects, Mac DL then Mac v GlideScope	100	88	12	15
Turkstra (2005) [57]	(+)	GlideScope	Randomized, cross-over, 36 subjects, Mac DL and GlideScope, cervical spine limitation (MILS)	18	16	2	No data
Ng (2007) [44]	(-)	GlideScope	Randomized, 106 subjects, CTrach v GlideScope	52	52	0	No data
Xue (2007) [58]	na	GlideScope	Observational, Case series, 91 subjects	91	79	12	19/27
Malik (2008) [59]	(+)	GlideScope	Randomized, 120 subjects, GlideScope v Pentax AWS v Mac DL v Truview, Cervical spine limitation (MILS)	30	30	0	No data
Tremblay (2008) [60]	na	GlideScope	Observational, Case series, 400 subjects,	400	347	53	26

			Mac DL then GlideScope				
Robitaille (2008) [61]	(+)	GlideScope	Randomized, cross over, 20 subjects, cervical spine limitation (MILS)	20	No data	No data	1
Bathory (2009) [62]	na	GlideScope	Observational, Case series, 50 subjects, Mac DL then GlideScope, Cervical spine limitation (MILS)	50	48	2	50
Stroumpoulis [63] (2009)	na	GlideScope	Observational, Case series, 112 subjects, Mac DL then GlideScope,	112	70	42	41
Lange (2009) [19]	(+)	GlideScope	Randomized, 60 subjects, Mac DL then Airtraq v GlideScope	30	27	3	5
Liu (2009) [64]	(+)	GlideScope	Randomized, 70 subjects, GlideScope v Pentax AWS), cervical spine limitation (MILS)	35	23	12	20
Maassen (2009) [65]	(+)	GlideScope	Randomized, 150 subjects, Mac DL then GlideScope v V-MAC v McGrath, Obese	50	37	13	17
Malik (2009) [66]	(+)	GlideScope	Randomized, 75 subjects,Pentax	25	0	25	No data

			AWS v GlideScope v Mac DL, Risk of difficulty				
Nouruzi-Sedeh (2009) [67]	(-)	GlideScope	Randomized, 200 subjects, Mac DL v GlideScope, untrained operators	100	No data	No data	No data
Teoh (2009) [68]	(-)	GlideScope	Randomized, 140 subjects, GlideScope v Pentax AWS	70	62	8	No data
Turkstra (2009) [69]	(+)	GlideScope	Randomized, 80 subjects, GlideScope alone (comparing stylets)	79	67	12	No data
Van Zundert (2009)[70]	(+)	GlideScope	Randomized, 450 subjects, Mac DL then GlideScope v V-MAC v McGrath	150	134	16	No data
Hirabayashi (2010) [71]	(-)	GlideScope	Randomized, 200 subjects, GlideScope v Mac DL	100	No data	No data	No data
Serocki (2010) [72]	(+)	GlideScope	Randomized, cross-over, 120 subjects GlideScope v V-MAC v Mac DL, Risk of difficulty	120	68	52	36
Siu (2010) [73]	na	GlideScope	Observational, Case series, 742 subjects	742	408	256	78
Teoh (2010)	(+)	GlideScope	Randomized,	100	71	29	No data

[35]			400 subjects, GlideScope v Pentax AWS v CMAC v Mac DL				
Aziz (2011) [74]	na	GlideScope	Observational, Case series, 2004 subjects	2004	1329	675	239 failed D
Shippey (2007) [75]	na	McGrath	Observational, Case series, 75 subjects	75	63	11	1
O'Leary (2008) [76]	na	McGrath	Observational, Case series, 30 subjects, failed DL	30	No data	No data	12
Maassen (2009) [65]	(+)	McGrath	Randomized, 150 subjects, Mac DL then GlideScope v V-MAC v McGrath, Obese	50	38	12	14
Van Zundert (2009)[70]	(+)	McGrath	Randomized, 450 subjects, Mac DL then GlideScope v V-MAC v McGrath	150	133	17	No data
Walker (2009) [77]	(+)	McGrath	Randomized, 120 subjects, McGrath v Mac DL	60	58	2	No data
Hughes (2010) [78]	na	McGrath	Observational, Case series, 6 subjects	6	No data	No data	No data
Noppens (2010) [79]	na	McGrath	Observational, Case series, 61 subjects, C&L 3-4 failed Mac DL	61	No data	No data	61 C&L 3-4
Asai (2008) [80]	na	Pentax AWS	Observational, Case series, 100	100	100	0	No data

			subjects				
Enomoto (2008) [81]	(+)	Pentax AWS	Randomized, cross-over, 203 subjects, Mac DL v Pentax AWS, cervical spine limitation (MILS)	203	194	9	22
Hirabayashi (2008) [82]	na	Pentax AWS	Observational, Case series, 405 subjects	405	No data	No data	16
Malik (2008) [59]	(+)	Pentax AWS	Randomized, 120 subjects, Pentax AWS v Mac v GS v Truview, cervical spine limitation (MILS)	30	30	0	No data
Suzuki (2008) [83]	na	Pentax AWS	Observational, Case series, 320 subjects	320	265	55	46
Asai (2009) [84]	na	Pentax AWS	Observational, Case series, 270 subjects, difficult Mac DLs	270	179	91	256
Hirabayashi (2009) [85]	(+)	Pentax AWS	Randomized, 520 subjects, Mac DL v Pentax AWS	264	No data	No data	No data
Liu (2009) [64]	(+)	Pentax AWS	Randomized, 70 subjects, Pentax AWS v GlideScope, Cervical spine limitation (MILS)	35	25	10	19

Malik (2009) [48]	(+)	Pentax AWS	Randomized, 90 subjects, Pentax AWS v Mac v CTrach, cervical spine limitation (MILS)	30	30	0	No data
Malik (2009) [66]	(+)	Pentax AWS	Randomized, 75 subjects, Pentax AWS v GlideScope v Mac, Risk of difficulty	25	1	24	No data
Teoh (2009) [68]	(+)	Pentax AWS	Randomized, 140 subjects, Pentax AWS v GlideScope	70	60	10	No data
Teoh (2010) [35]	(+)	Pentax AWS	Randomized, 400 subjects, GlideScope v Pentax AWS v C-MAC v Mac DL	100	83	17	No data
Kaplan (2006) [86]	na	V-MAC	Observational, Case series, 865 subjects, Mac DL then V-MAC	865	No data	No data	123
Cavus (2009) [87]	na	C-MAC	Observational, Case series, 60 subjects	60	42	18	No data
Jungbauer (2009) [88]	(+)	V-MAC	Randomized, 200 subjects, Mac DL v V-MAC, at risk of difficulty	100	1	99	36
Maassen (2009) [65]	(+)	V-MAC	Randomized, 150 subjects, Mac DL then GlideScope v V-MAC v McGrath, Obese	50	37	13	14

Van Zundert (2009)[70]	(+)	V-MAC	Randomized, 450 subjects, Mac DL then GlideScope v V-MAC v McGrath	150	132	18	No data
Meininger (2010) [89]	na	C-MAC	Observational, Case series, 94 subjects Mac DL then C-MAC	94	No data	No data	18
Serocki (2010) [72]	(++)	V-MAC	Randomized, cross-over, 120 subjects GlideScope v V-MAC v Mac DL, Risk of difficulty	120	68	52	36

(Refer to Table 4 for guide to quality assessment grading).