S3 Leitlinie Invasive Beatmung und Einsatz extrakorporaler Verfahren bei akuter respiratorischer Insuffizienz – Evidenzbericht Teil 1 Literaturrecherche, Literaturselektion, Bewertung Meta-Analysen (SIGN-Checklisten)

Erläuterung:

Der Evidenzbericht ist aufgrund seines Umfangs sowie aufgrund unterschiedlicher verwendeter Tabellenformate in der Evidenzbewertung in 3 Teile aufgeteilt.

1. Teil (fortlaufend):
    - PICO Fragen Kapitelweise
    - Dokumentation Leitlinien-Recherche
    - Dokumentation Leitlinienselektion
    - Literaturrecherche Filteralgorithmen
    - Literaturselektion Übersicht
    - Literaturanalyse/bewertung_Meta-Analysen_externe Bewertung nach SIGN Standard
    -
2. Teil (fortlaufend):

    Leitlinienbewertung, Evidenztabellen und – profile in der Abfolge der Unterkapitel der Langversion

3. Teil (fortlaufend):

    Leitlinienbewertung, Evidenztabellen und – profile ausgewählter Unterkapitel:

    3.5 Adaptive Beatmungsverfahren
    4.5 Inspiration-Expirations-Verhältnis
    5.1 Sedierung, Analgesie, Delirmanagement und neuromuskuläre Blockade
    5.6.4 Transfusion von Erythrozytenkonzentraten
    7.1 Definition von Weaning-Kategorien
    7.2 Weaning-Protokolle
    7.3 Prädiktion für die Entwöhnbarkeit vom Beatmungsgerät
    8.x Spezifische Langzeitfolgen

140425 **S3-LL"Invasive Beatmung und Einsatz extrakorporaler Verfahren bei akuter respir. Insuffizienz"**

Fragestellungen für die Literaturrecherche

PICO - Struktur

Variable: Outcome

Kategorien:

1	Überleben	1.a) Sterblichkeit 1.b) Überleben 1.c) Langzeitüberleben
2	Lebensqualität	2. Lebensqualität (Health Related Quality of Life)
3	Neurologie	3.a) Neurol. Funktion (inkl. Fatigue, kogn. Dysfunktion) 3.b) Integration in Arbeitsalltag, Functional Independence
4	Intensivtherapiedauer	4.) Intensivstationsverweildauer (ICU- LOS)
5	Dauer Invas. Beatmung	5.a) Beatmungsdauer/Beatmungsfreie Tage 5.b)Weaningerfolg/Weaningversagen 5.c) Erforderliche Langzeitbeatmung
6	Krankenhausverweildauer	6. Krankenhausverweildauer (H-LOS)
7	Ausmaß pulm. Dysfunktion	7.a) Oxygenierung 7.b) Decarboxylierung 7.c) Korrektur Azidose 7.d) Lungenfunktion (Compliance/Resistance) 7.e)Reduktion ECMO Inzidenz 7.f) Pneumonie 7.g) bleibende Lungenschäden 7.h) bei PAH Reduktion PAP
8	Organdysfunktion akut/chron.	8. (Multi-) Organdysfunktion (-versagen)/Morbidität
9	Stress	9.a) Sedierungs/Katecholaminbedarf 9.b) Patientenkomfort am Beatmungsgerät
10	Komplikationen	10.) Häufigkeit und Schwere von Komplikationen
11	Ökonomie	11.) Ökonom. Bewertung

	A	B	C	D	E	F
1	Thema	Population/Patient	Intervention	Comparison	Outcome/Ziele	Bemerkung
2	1. Hypoxämisch akutes respir. Versagen	akutes hypoxäm. Respir. Versagen	1. invasive Beatmung	1. NIV 2. Sauerstoff	1. a Sterblichkeit 1.b Langzeitüberleben 2. Lebensqualität 3.a neurol. Funktion 4. ICU-LOS 6. KH-LOS 5.b) weaning-Versagen 7.a) Gasaustausch 7.f) Pneumonie 8. Organversagen	
12			2. Intubation	1. NIV 2. Sauerstoff 3. Nicht Intubation	s. o.	
15		Untergruppen für jede Hauptfrage ~ + Pneumonie ~ + Schock ~ + kardiogener Schock ~ + Akute Herzinsuffizienz ~ + kardiogenes Lungenödem ~ + Trauma ~ + SHT ~ + Adipositas ~ + Kinder ~ + Säugling ~ + Neugeborene akut auf chron. Hypoxämie				
28	2. Hyperkapnisch akutes respir. Versagen	akute Hyperkapnie	1. invasive Beatmung	1. NIV 2. CPAP 3. Kürassbeatmung	1. a Sterblichkeit 1.b Langzeitüberleben 2. Lebensqualität 3.a neurol. Funktion 4. ICU-LOS 6. KH-LOS 5.b) weaning-Versagen 7.a) Gasaustausch 7.f) Pneumonie 8. Organversagen	
32		Untergruppen für jede Hauptfrage akute Hyperkapnie + COPD akute Hyperkapnie + neuromuskuläre Erkrankungen akute Hyperkapnie + Adipositas akute Hyperkapnie + Kinder akute Hyperkapnie + Säuglinge				
38			2. Intubation	1. NIV 2. CPAP 3. Kürassbeatmung 4. Nicht Intubation	s.o.	
43	3. Andere Indikationen	Vigilanzminderung/Koma	1. Invasive Beatmung 2. Intubation	1. NIV 2. Nicht Intubation 3. Sauerstoff	1. Sterblichkeit 2. Lebensqualität 3.a) Neurolog. Funktion 7.f) Pneumonie	
49		Vigilanzminderung/Koma + Kinder	s.1./2.	s.1.-3.	s.o. 1.)/2.)/3.a)/7.f)	
51		Trauma/Polytrauma	s.1./2.	s.1.-3.	s.o. 1/2/3/7f	
52		Trauma/Polytrauma + Kinder	s.1./2.	s.1.-3.	s.o. 1/2/3/7f	
54	4. Zielkriterien in der BGA /SaO2	ARDS	SaO2< 90% oder paO2<60 mmHg	SaO2> 90 oder > 60 mmHg	1.a)Sterblichkeit, 4. ICU-LOS, 5.a) VFD	
55		ARDS mit PaO2/FIO2 <100	SaO2< 90% oder paO2<60 mmHg	SaO2> 90 oder > 60 mmHg	1.a)Sterblichkeit, 4. ICU-LOS, 5.a) VFD	
56		ARDS	pH < 7,30 oder pCO2 > 60 mmHg	pH > 7,30 oder pCO2 < 60 mmHg	1.a)Sterblichkeit, 4. ICU-LOS, 5.a) VFD	
57		ARDS mit PaO2/FIO2 <100	pH < 7,30 oder pCO2 > 60 mmHg	pH > 7,30 oder pCO2 < 60 mmHg	1.a)Sterblichkeit, 4. ICU-LOS, 5.a) VFD	
58					**Initial gefasste freie Fragen, welche die Grundaussaugen des Kapitels beantworten sollten.**	1. Welche Ziele verfolgt die invasive Beatmung?
59						2. Welche Gefahren der Beeinflussung der Indikationsstellung zur invasiven Beatmung gibt es?
60						3. Welche Patienten benötigen unmittelbare Intubation und invas. Beatmung zur Sicherung des Überlebens und Vermeidung von Komplikation?
61						4. Welche Patientin können initial mit nicht-invasiven Verfahren versorgt werden?
62						5. Wann sollte ein initial mit nicht-invasivem Verfahren behandelter Patient invasiv beatmet werden?
63						6. Bei welchen Patienten sollte eine IN und invasive Beatmung vermieden werden?
64						7. Wann und wie sollte eine invasive Beatmungstherapie beendet werden?

Thema	Population/Patient	Intervention	Comparison	Outcome/Ziele	Bemerkung
1) Kontrollierte Beatmungsmodi	1. Hypoxämisches Lungenversagen 2. Hyperkapnisches Lungenversagen 3. kombin. Gasaustauschstörung 4. Trauma- Patienten	Kontrollierte Modi	alle Modi	1.a). Mortalität, eventuell: 28, 30, 90, 180 Tage Mortalität 2. Health related QoL 3.b) Integration in Arbeitsalltag oder functional independence 4. ICU LOS 5.a) Tage invasiver Beatmung oder Ventilator free days 7.a) Oxygenierung 7.b) Dekarboxygenierung 7.d) Lungenfunktion: Vitalkapazität und FEV1 9.a) Sedierung und Katecholamine Vergleich kontrolliert zu assistiert 9.b) Patientenkomfort am Beatmungsgerät	**Jegliche Vergleiche der Beatmungs-modi zulassen!**
2) Assistierte Beatmungsmodi	s. Thema 1 (1-4)	Assis. Modi	s. Thema 1	s.o.	
3) BIPAP APRV	s. Thema 1 (1-4)	APRV/BIPAP/BILevel/BiVent	s. Thema 1	s.o.	
4)Adaptiv/Automatisiert	s. Thema 1 (1-4)	SmartCare/ASV/Intellivent/ PAV/NAVA/ ATC	s. Thema 1	s.o.	
5) HFOV	s. Thema 1 (1-4)	HFOV/HFO/Jet-Ventilation	s. Thema 1	s.o.	

Thema	Population/Patient	Intervention	Comparison	Outcome	Bemerkung
1. PEEP	Akutes respiratorisches Versagen Untergruppen für Hauptfrage ~ + Erwachsener+Hypoxämisch ~ + Erwachsener+Hyperkapnisch ~ + Kinder ab Neugeboren+Hypoxämisch ~ + kinder ab Neugeboren+Hyperkapnisch ~ + erhöhter ICP ~ + angeborene Herzfehler ~ + Adipositas ~ + erhöhterIAP ~ + verminderte Thoraxcompliance	PEEP	PEEP Niveau?	1.a) Überleben 2.) Lebensqualität 4.) ICU-LOS 5.a) Beatmungsdauer 7.g) bleibender pulm. Schaden	Evidenz optim. Niveau? Beste Kriterien indiv. Dosisfindung
		ggf. PEEP - Trial/Titration (Übernahme von AG VI)		s.o. 10. Komplikationen	
2. FiO2	s.1. Thema + Untergruppen s.1.	FiO2		s.o. 3.a) kognitive Schäden 7.g) pulmon. Hypertonie	Optim. Niveau ? Beste Kriterien?
3. Vt	s.1. Thema ' + Untergruppen s.1.	Tidalvolumen	Tidalvolumen	s.1. Thema	Optim. Volumen? Berechnungsgrundlage?
4. I:E inkl. IRV	s.1. Thema ' + Untergruppen s.1.	Atemzeitverhältnis (Inspirations- zu Exspirationszeit)		s.1. Thema	s.1.
5. permiss. Hyperkapnie	s.1. Thema ' + Untergruppen s.1.	normokapnisch	hyperkapnisch	s.1. Thema	s.1.
6. permiss. Hypoxämie	s.1. Thema ' + Untergruppen s.1.			s.1. Thema	
7. PAW	s.1. Thema ' + Untergruppen s.1.	Höhe PAW		s.1. Thema	s.1.
8. Beatmungsfrequenz	s.1. Thema ' + Untergruppen s.1.	Frequenz		s.1. Thema	s.1. Kinder altersabhängig
9.Gewichtung von Beatmungskriterien	s.1. Thema ' + Untergruppen s.1.	Kriterien: PEEP, FiO2, Vt, PAW, RR, pH		s.1. Thema	
10. Monitoring	Akutes respiratorisches Versagen Untergruppen für Hauptfrage: ~ + Erwachsener ~ + Kind	BGA während SpO2 und etCO2	BGA Häufigkeit	1.a Mortalität 8.) Morbidität	Optimale Häufigkeit BGA?
11. Welche MessParameter sind entscheidend?	s.1. Thema + Untergruppen s.1.	pH, Cardiac Output, Spo2, pO2, pCO2, nicht suchen: "good clinical practice"		s.1. Thema	

Thema	Population/Patient	Intervention	Comparison	Outcome	Bemerkung
Sedierung invas. Beatmeter Patienten	ALI / ARDS	Analgosedierung		1.a) Sterblichkeit	
				2.) Qual. of life	
				5.b) Weaningerfolg	
				6.) KH Entlassung	
				9.b) Patientenkomfort – Symptomkontrolle	hohe Relevanz aus Sicht der Patientenvertreter
ARDS spez. AS	ALI / ARDS	Spezifische Analgosedierung	Vergleichgruppe	s.o.	
Muskelrelaxantien	ALI / ARDS	Relaxierung	Keine Relaxierung	s.o.	
Muskelrelaxantien	ALI / ARDS P/F <150	Muskelrelaxantien	Keine Relaxierung	s..o.	
Delirrate	ALI / ARDS	Delirmonitoring CAM-ICU	kein Monitoring	s.o.	
Delirrate	ALI / ARDS	Spezifische Delirtherapie	kein Therapie	s.o.	
			keine		
Ernährung	ALI / ARDS	spezifische hochkalorische Ernährung	Standardtherapie	s.o.	
Ernährung	ALI / ARDS	parentrale Ernährung	enterale Ernährung	s.o.	
Ernährung	ALI / ARDS	Immunonutrition	Standardtherapie	s.o.	
Mobilisation	ALI / ARDS	Wann beginnen	keine	s.o.	hohe Relevanz aus Sicht der Patientenvertreter
	ALI / ARDS	Wie lange	keine		
	ALI / ARDS	Wie oft	keine	s.o.	
	ALI / ARDS	Welche Techniken	keine	s.o.	
VAP Prophylaxe	ALI / ARDS	SOD	keine SOD	Sterblichkeit, VAP-rate,	
	ALI / ARDS	SDD	Keine SDD	s.o.	
	ALI / ARDS	Geschlossenes Absaugen,	Standardvorgehen	s.o.	
	ALI/ARDS	Oberkörperhochlagerung	Standardtherapie	s.o.	
	ALI/ARDS	Ulcusprophylaxe	Standardtherapie	Komplikation Blutung	
		Subglott. Absaugung			
		Bündeltherapie			
		Intubationsweg orotrach	nasotracheal		
		aktive Befeuchtung	passiv		
		Cufftypen	standard		
Tracheotomie	ALI / ARDS	ja	nein	s.o.	hohe Relevanz aus Sicht der Patientenvertreter
subgruppenanalyse					
Zeitpunkt		Früh	Spät	s.o.	
Technik		Dilatativ	Chirurgisch	s.o.	
Medikamentose Adj.	ALI / ARDS	ja	nein	s.o.	
Antioxidantien	ALI / ARDS	ja	nein	s.o.	
Beta2Mimenika	ALI / ARDS	ja	nein	s.o.	
Surfactant	ALI / ARDS	ja	nein	s.o.	
Statine	ALI / ARDS	ja	nein	s.o.	
volumenmanagement	ALI / ARDS	restriktive	liberal	s.o.	
Kolloide	ALI / ARDS	ja	nein	s.o.	
HÄS	ALI / ARDS	ja	nein	s.o.	
Diuretika					
Albumine	ALI / ARDS	ja	nein	s.o.	

Thema	Population/Patient	Intervention	Comparison	Outcome	Bemerkung
1. Recruitment	1. Pat mit schwerem ARDS	Kurzzeitige akute Erhöhung des Atemwegdrucks; "Lachmann-Manöver"	Keine Recruitmentmanöver	1.a). Letalität	voraussichtlich Bearbeitung PEEP-Trial/PEEP-Titration in AGIV
	2. Pat mit mildem/moderaten ARDS und akuter Hypoxämie			2.) . Lebensqualität	systematische Erfassung der Nebenwirkungen/Komplikationen
	3. Pat mit akuter respiratorischer Insuffizienz und akuter Hypoxämie			4.) ICU-LOS	Art der Lungenschädigung kann für Effektivität / Komplikationen der RM ausschlaggebend sein
				5.a) beatmungsfreie Tage	
	' + Untergruppen:			6) . KH-LOS	
	Erwachsene			7.a) akute Verbesserung der Oxygenierung	
	Kinder			/.a). nachhaltige Verbesserung der Oxygenierung	
				7.d) Verbesserung der Atemmechanik	
				10.) Komplikationen (Pneu)	
2. Bauchlage	1. Pat mit moderatem/schwerem ARDS	1. Bauchlage (180/135)	Rückenlage / konventionelle re-li-Lagerung	s. 1. Thema	Weitere Lagerungsmassnahmen (Rotorest, OK-Hochlagerung) ggf für Überarbeitung der LL betrachten
	2. Pat mit Risiko f. ARDS	2. für eine bestimmte Zeitdauer		10.) Lagerungsschäden	
				10.) andere Lagerungskomplikationen	Outcome Nr. 8/9 nicht Gegenstand des Thema Rescue-Verfahren
3. iNO/iProstaglandine	1. Neugeborene (34.-44. GW) mit neonatalem ARDS	1. iNO	1. kein iNO	s.1. Thema	Grundsätzlich auch Vergleich iNO/iPG
	2. Kind/Erwachsener ARDS	2. iPG	2. kein iPG	7.e) Reduktion ECMO Inzidenz	
	3. PAH, Rechtsherzdekompensation		3 PDE3/5 Inhibitoren	7.g) bei Neugeborenen: Reduktion strukturelle Lungenerkrankungen	
			4. ECMO	7.h). bei PAH: Reduktion PA Druck	10. mutmasslich kein Gegenstand der 1. Auflage der Leitlinie
4. Extrakorporale Verfahren	1. Schweres ARDS (Kinder/ Erwachsene)	1. vvECMO	1. kein extrakorporales Verfahren	s.1. Thema	1. allgemeines Ziel: bei mutmasslich fehlenden RCT Bildung einer Datengrundlage für Expertenmeinung zu ECMO-Therapie bei pulmonalen und Rechtsherzerkrankungen
	2. Schwere Hyperkapnie (Kinder/Erwachsene)	2. vaECMO	2. vs. andere Rescueverfahren	7.b/c.). bei Hyperkapnie: Korrektur pCO2, pH	daher: weite Suchstrategie ohne vorherige Einschränkung (z.B keine spezifische Suche nach H1N1), nach Literatursichtung ggf Bildung einer Empfehlung auf Expertenniveau
	3. Neugeborene mit PHT	3.. pECLA	3. Surfactant (bei Neugeborenen)		
	4. Rechtsherzversagen	4. vvaECMO	4. Beatmungs-einstellungen unter ECMO		
	5. bridge to Lu-Transplant				
	6. Ermöglichung lungenprotektiver Beatmung				
	7. Pat mit ECMO Therapie aufgrund pulmonaler Erkrankung	1. Komplikationen	keine ECMO	s.1 Thema	mutmasslich keine Studien zu Vergleich Komplikationen/Komplikationsmanagement nach KH-Typ-Stratifizierung vorhanden
		2. Erfassung Management technischer Aspekte, e.g. Antikoagulation, Kanülenart und -plazierungsort, Plazierungsart, Flüsse, Drücke, Transfusionshäufigkeit etc…		10.) Komplikationsart	Daher: durch Erfassung der Komplikationen Rückschluss auf notwendigerweise zu ECMO-Therapie vorzuhaltender med Einrichtungen geplant
		3. Erfassung spezifischer Indikationen/Erkrankungen		10.) Komplikationsart	Ziel: bei mutmasslich fehlenden RCT Bildung einer Datengrundlage für Expertenmeinung zu ECMO-Therapie bei pulmonalen und Rechtsherzerkrankungen
5. Surfactant	Patient mit ARDS	Surfactant	keine Gabe	s.1. Thema	
6. ggf. PLV	Patient mit ARDS	PLV	keine Gabe	s.1. Thema	voraussichtlich Verzicht auf Bearbeitung wg. Fehlender Zulassung
zusätzlich fü r Thema 1. - 6.:	Patienten mit schwerer Hyperkapnie	Anwendung von Rescue-Verfahren	keine Rescue- verfahren	s.1. Thema	

Thema	Population/Patient	Intervention	Comparison	Outcome	Bemerkung
Abgrenzung zur S2k-LL „Prolongiertes Weaning“ (Als „Elaborierte Einführung in unser Kapitel)	Weaningkategorie 1+2 ggf. Untergruppen für Hauptfrage ~ + Erwachsene ~ + Kinder (' ~ + ECMO)			1.a) Sterblichkeit 1.c) 1, 5, 10 Jahresüberleben 2. Lebensqualität 4. ICU LOS 5.a) Beatmungszeit 10.) Komplikationen	
Benötigen wir Weaningprotokolle	s.1. Thema + Untergruppen s.1.	Protokolle ja/nein automatisiertes Weaning ja/nein		s.1. Thema	Kooperation mit AG VIII. Folgeversorgung und
Diagnostische Verfahren (Prädiktoren des erfolgreichen Weaning) **z.B. SBT, SAT**	s.1. Thema + Untergruppen s.1.				
Beatmungsverfahren	s.1. Thema + Untergruppen s.1.	Unterschiedliche Beatmungsverfahren		s.1. Thema	Kooperation mit AG III. Wahl des Beatmungsmodus
Beatmungszugang	s.1. Thema + Untergruppen	1, Tubus 2. Tracheostoma 3. Nichtinvasiver Zugang		s.1. Thema	Kooperation mit AG III. Wahl des Beatmungsmodus
Adjunktive Maßnahme	s.1. Thema + Untergruppen	1. Ernährung 2. Mobilisation/Sekret-management 3. Delirmanagement 4. Transfusionstrigger		s.1. Thema	Kooperation mit AG V. Supportive Maßnahmen
Überleitung bei fortbestehender Indikation für Beatmung aus der Sicht der Klinik		Außerklinische Beatmung			Kooperation mit AG VIII: Folgeversorgung und Langzeitfolgen
Terminales Weaning		Techniken der Deeskalation		in Anlehnung an S3 Palliativmedizin UK Symptomkontrolle	

Thema	Population/Patient	Intervention	Comparison	Outcome
1. Bedeutung von Risikofaktoren für Langzeitfolgen?	Akutes respiratorisches Versagen >= 72 h Beatmung Untergruppen für Hauptfrage: **~ + Erwachsene** **~ + Erwachsene >70 Jahre** **~ + Kinder** **~ + ECMO**		Risikofaktoren für jede Untergruppe: **~ + chron. Vorerkrankung** (COPD/ILDs/Brain trauma (incl. Stroke)/neuromusk. Erkrankungen chron./Insuffizienz Herz-Leber-Niere/Tumor/hämatolog. Erkrankungen/Vaskulitis/Immunsuppression/psychiatr. Erkrankung/geistige Behinderung **~ + akute Erkrankung vor Beatmung/ akut erworben während Beatmung** (Delir/Brain Trauma/CIM/Depression/ARDS/ Lungenembolie/Schock/SIRS/Sepsis /Polytrauma/akute Herzinsuffizienz/ akutes Leberversagen/AKI	1.b) Überleben/Überlebensprognose 2.) QoL 3.a) Fatigue/zerebrale Dysfunktion/kognitive Dysfunktion/Depression/chron. Schmerzen 3.b) Dauerhafte Heimversorgung/Pflegebedürftigkeit/functional Indepdence 5.c) Überleitung zur Langzeitbeatmung 8.) Häufigkeit spezif. Langzeitfolgen: CIM/Schluckstörung/respirat. InsuffizienzHerzinsuffizienz/Niereninsuffizienz/Leberinsuffizienz/chron. Cholangitis/Hirninfarkt/Hirnblutung
2. Wie sind Langzeitfolgen charackterisiert?	s.1. Thema + Untergruppen s.1.			1.a) Erhöhte Sterblichkeit 2.) QoL 3.a) Fatigue/zerebrale Dysfunktion/kognitive Dysfunktion/Depression/chron. Schmerzen 3.b) Dauerhafte Heimversorgung/Pflegebedürftigkeit/functional Indepdence 5.c) Abhängigkeit Langzeitbeatmung 8.) Weitere spezif. Langzeitfolgen: CIM/Schluckstörung/respirat. Insuffizienz/Herzinsuffizienz/Niereninsuffizienz/Leberinsuffizienz/chron. Cholangitis/Hirninfarkt/Hirnblutung 11.) Ökonomie/Kostenanalyse
3. Welche allgemeinen Einflussfaktoren/Zustände auf der ICU bestimmen LZ-Folgen?	s.1. Thema + Untergruppen s.1.	1. akute Hypoxämie/hochinvasive Beatmung (Pimax>40mbar)/Hypotonie 2. Beatmungsdauer/ICU-LOS/H-LOS 3. Soziale Kontakte (Angehörige) 4. Aufklärung/Angehörige, Patient 5. Immobilisation 6. Umfeld: Lärm, Tag-Nacht, Licht, Orientierungspunkte		s. Frage 2
4. Prävention/Therapeut.Intervention während ICU mit Einfluß auf LZ-Folgen?	s.1. Thema + Untergruppen s.1.	1. Delir/Sedierungsprotokoll 2. Tagebücher/ Patient, Angehöriger 3. Beatmungsprotokoll 4. Lungenprotektive Beatmung 5. Physiotherapie 6.Frühmobilisation **7. Pharmakotherapie-Untergruppen** Sedative/Opiate/NichtopioidAnalgetika/Clonidin/Dexmedetomidin Antipsychotika/Antidepressiva Glukokortikoide/Insulin Immunsuppressiva/Chemotherap. Immunglobuline Melatonin Diuretika Antibiotika/Antimykotika Katecholamintherapie		s. Frage 2
5. Folgeversorgung, Versorgungsstrukturen?	s.1. Thema + Untergruppen s.1.	stationäre Rehabilitation ambulante Rehabilitation Hausarzt ambulante Betreuung durch Berufsgruppen: Physiotherapie/Atemtherapie/Ergotherapie/Psychotherapie Selbsthilfegruppen		s. Frage 2

Leitlinien-Recherche

1. Quellen

- AWMF
  http://www.awmf.org/leitlinien/leitlinien-suche.html
- Leitlinine.de
  http://www.leitlinien.de/leitlinien-finden/leitlinien-finden
- Arztbibliothek
  http://www.arztbibliothek.de/
- G-I-N
  http://g-i-n.net/
- National Guideline Clearinghouse
  http://www.guideline.gov/
- Arzneimittelkommission der dt. Ärzteschaft
  http://www.akdae.de/
- SIGN Scottish Intercollegiate Guidelines Network (SIGN)
  http://www.sign.ac.uk/guidelines/published/index.html
- National Institute for Health an Care Excellence (NICE)
  http://guidance.nice.org.uk/CG/Published

2. Leitliniensuche

AWMF:

Suchbegriff: Beatmung → 102 Treffer → 21 ausgewählt

(Recherche Mai 2015: Beatmung → 114 Treffer)

Ergebnis: AWMF website fehler 23.06.2015 Fichtner

Suchbegriff: respiratorisches Versagen → 1 zusätzlicher Treffer

Nach Titel Ausgewählt als inhaltlich relevant: 55

GIN:

mechanical ventilation → 6 Treffer → 5 ausgewählt

(Recherche Mai 2015: 6 Treffer) → keine neuen

ventilation → 10 Treffer → 1 zusätzlich ausgewählt

(Recherche Mai 2015: 10 Treffer) → keine neuen

respiratory failure → 6 Treffer → 1 zusätzlich ausgewählt

(Recherche Mai 2015: 6 Treffer) → keine neuen

Ausgewählt als inhaltlich relevant: 7 Treffer

- *3 Treffer als NGC Guideline aufgenommen*
    1. Capnography/capnometry during mechanical ventilation: 2011. American Association for Respiratory Care. NGC:008739 → als NGC Guideline mit aufgenommen

    2. Evidence-based clinical practice guideline: inhaled nitric oxide for neonates with acute hypoxic respiratory failure. American Association for Respiratory Care. NGC:008740 → als NGC Guideline mit aufgenommen

    3. Humidification during invasive and noninvasive mechanical ventilation: 2012. American Association for Respiratory Care. NGC:009100 → als NGC Guideline mit aufgenommen

- *1 Treffer nicht aufgenommen:*
    1. Guidelines for the prehospital management of severe traumatic brain injury, second edition: Treatment: airway, ventilation, and oxygenation. Brain Trauma Foundation. NGC:006386 → nicht auffindbar, daher gelöscht. Aber von Brain Trauma Foundation folgende Publikation → ich würde die aber zum jetzigen Zeitpunkt außen vor lassen, die finden wir sicherlich bei der Recherche wieder. Siehst du das auch so? (Falls du Interesse hast: https://www.braintrauma.org/coma-guidelines/searchable-guidelines/

- *3 Treffer sind als Zeitschriftenartikel nachgewiesen*

Guidline.gov:

Mechanical ventilation → 76 Treffer

Dupletten zu vorherigen Suchen: II

ventilation OR mechanical ventilation OR respiratory failure → 317 Treffer

Davon nach Titel inhaltlich ausgewählt: 84 Treffer

10, 11, 12, 13, 15, 16, 17, 19, 20, 22, 23, 24, 26, 29, 32, 34, 35, 37, 38, 40, 41, 45, 46, 50, 53, 56, 58, 67, 68, 72, 73, 75, 79, 80, 83, 84, 90, 100, 102, 103, 104, 110, 113, 116, 117, 119, 120, 125, 139, 141, 145, 146, 147, 152, 154, 155, 158, 160, 161, 163, 179, 180, 191, 194, 195, 201, 202, 205, 224, 235, 239, 259, 265, 269, 277, 286, 300, 307, 308, 309, 314,

Recherche Mai 2015:

Advanced Search: ventilation OR respiratory failure , Jahre 2014 und 2015

http://www.guideline.gov/search/results.aspx?99=2015,2014,&term=ventilation%20OR%20respiratory%20failure

Davon nach Titel Inhaltliche Selektion des Ergebnisses aus dem Link (23.06.2015, Fichtner): 10 Treffer

1,5,7,8,13,23,33,40,42,95

NICE

Alle angesehen

A (ersetzt durch CG48), CG4 (ersetzt durch CG56), CG5 (ersetzt durch CG108), CG12 (ersetzt durch CG101), CG50, CG56, CG68, CG69, CG94, CG95, CG101, CG105, CG108, CG112, CG163, CG167

Recherche Mai 2015:

http://www.nice.org.uk/guidance/published?type=guidelines

Inhaltliche Selektion des Ergebnisses aus dem Link (23.06.2015):

NG9, CG 131, CG191 (Pneumonia), CG37 (Postnatal Care), CG187 (acute heart failure), CG176 (head injury), CG174 (fluid)

Insgesamt nach Titel inhaltlich ausgewählt: 19

SIGN

“Mechanical Ventilation”

“Ventilation OR mechanical ventilation OR respiratory failure”

Insgesamt nach Titel inhaltlich ausgewählt: 6

Recherche Mai 2015: http://www.sign.ac.uk/guidelines/published/index.html

Ergebnis: keine neuen Leitlinien (23.06.2015 Fichtner)

Leitlinien.de → durch internationale Leitlinienrecherche und bei arztbibliothek.de abgedeckt → keine Suche

Arztbibliothek.de

➔ Keine neuen Treffer gefunden

Österreichische Gesellschaft für Anästhesiologie, Reanimation und Intensivmedizin

http://www.oegari.at/arbeitsgruppe.asp?id=473

➔ 1 Leitlinie gefunden

Nach individueller Recherche nachgereicht:

Autor, Herausgeber oder Institution	Jahr ermittelt	Titel	Dokumententyp	Selektion	Selektionsgrund	II	III	IV	V	VI	VII	VIII
Cook, D. J.; Meade, M. O.; Perry, A. G.	2001	Qualitative studies on the patient's experience of weaning from mechanical ventilation	Zeitschriftenaufsatz	1 = positiv								
Meade, M.; Guyatt, G.; Cook, D.; Griffith, L.; Sinuff, T.; Kergl, C.; Mance	2001	Predicting success in weaning from mechanical ventilation	Zeitschriftenaufsatz	1								
National Institute of Health and Clinical Excellence	2010	Chronic obstructive pulmonary disease	Internetdokument	1		211,212		45				
AWMF_DGAI	2015	Delir Analgesie Sedierung Aktualisierung2015	Zeitschriftenaufsatz	1					51, 52,53, 62, 641, 642, 643, 762, 763			
Barbas, Carmen Silvia Valente: Isola. Alexandre Marini: Farias. Auousti	2014	Brazilian recommendations of mechanical ventilation 2013. Part 2	Zeitschriftenaufsatz	1	narrativ	2x	3x	4x	5x	6x	7x	8x
Barbas, Carmen Silvia Valente: Isola. Alexandre Marini: Farias. Auousti	2014	Brazilian recommendations of mechanical ventilation 2013. Part 1	Zeitschriftenaufsatz	1	narrativ	2x	3x	4x	5x	6x	7x	8x
Behr, J.		Leitlinie zur Diagnostik und Therapie der idiopathischen Lungenfibrose	Zeitschriftenaufsatz	1		211, 212				641		
Bundesärztekammer: Kassenärztliche Bundesvereinigung: Arbeitsgem	2012	Nationale VersorgungsLeitlinie COPD	Internetdokument	1	veraltet !	211, 212		45				83
Bundesärztekammer: Kassenärztliche Bundesvereinigung: Arbeitsgem	2011	Nationale VersorgungsLeitlinie Asthma. 2. Auflage	Internetdokument	1	veraltet !	211, 212		45				83
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Intravasale Volumentherapie beim Erwachsenen Achtung Teil I und Teil II !!!!!!!!!	Zeitschriftenaufsatz	1					585			
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Laqerungstherapie und Frühmobilisation zur Prophylaxe oder Therapie von pulmonalen Funktionsstörungen	Zeitschriftenaufsatz	1					55	62		
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Prähospitale Notfallnarkose	Zeitschriftenaufsatz	1		211, 221, 23		42				
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Hämodynamisches Monitoring und Herz-Kreislauf	Zeitschriftenaufsatz	1	veraltet !			45, 49				
Deutsche Gesellschaft für Ernährungsmedizin	2013	Klinische Ernährung Chirurgie	Zeitschriftenaufsatz	1					54			
Deutsche Gesellschaft für Neurologie		Multiprofessionelle neurologische Rehabilitation	Zeitschriftenaufsatz	1								83
Deutsche Gesellschaft für Neurologie		Tetanus	Zeitschriftenaufsatz	1		211			57			
Deutsche Gesellschaft für Neurologie	2012	Intrakranieller Druck (ICP)	Internetdokument	1	bis 2015	211, 221		45	51, 52			
Deutsche Gesellschaft für Neurologie	2012	Akuttherapie des ischämischen Schlaganfalls	Internetdokument	1	veraltet!							
Deutsche Gesellschaft für Pädiatrische Kardiologie		Hypoplastisches Linksherzsyndrom (HLHS) im Kindesund Jugendalter	Zeitschriftenaufsatz	1				45				
Deutsche Gesellschaft für Palliativmedizin		S3-Leitlinie Palliativmedizin	Zeitschriftenaufsatz	1		2x bis auf 23					78	
Deutsche Gesellschaft für Pneumologie und Beatmungsmedizin e. V.	2008	Nichtinvasive Beatmung als Therapie der akuten respiratorischen Insuffizienz	Internetdokument	1	neue version?	211, 221						
Deutsche Gesellschaft für Pneumologie und Beatmungsmedizin e. V.	2007	Langzeit-Sauerstofftherapie	Internetdokument	1	neue version?	212, 222						
Deutsche Gesellschaft für Pneumologie und Beatmungsmedizin e. V.	2009	Nichtinvasive und invasive Beatmung als Therapie der chronischen respiratorischen Insuffizienz	Internetdokument	1	veraltet !	211, 221	31,32, 33	48, 49	57			
Deutsche Gesellschaft für Unfallchirurgie	2016	Polytrauma/ Schwerverletzten-Behandlung	Zeitschriftenaufsatz	1		211, 221, 23		41, 43, 45				
Deutsche Sepsis-Gesellschaft: Deutsche Interdisziplinäre Vereinigung	2010	Prävention, Diagnose, Therapie und Nachsorge der Sepsis	Internetdokument	1	neue version?	211		41, 42, 43, 45, 46	51, 52, 54, 56, 585,	62, 631	72	
Deutschen Gesellschaft für Ernährungsmedizin	2013	Überwachung künstliche Ernährung	Zeitschriftenaufsatz	1								
Deutschen Gesellschaft für Kardiologie - Herz- und Kreislaufforschung	2010	Infarkt-bedingter kardiogener Schock - Diagnose, Monitoring und Therapie	Internetdokument	1	aktuelle fassung?	211, 221				643		
Deutschen Gesellschaft für Thorax-, Herz- und Gefäßchirurgie		IABP Kardiochirurgie Ballonkegelpulsation	Zeitschriftenaufsatz	1		211						
Extracorporeal Life Support Organization		General Guidelines for all ECLS Cases	Zeitschriftenaufsatz	1	low quality			41, 42, 43, 46,	55	62, 641, 642, 643	72, 78	
Extracorporeal Life Support Organization		Guidelines for ECMO centers	Zeitschriftenaufsatz	1	low quality					641, 642, 643		
Extracorporeal Life Support Organization		H1N1 Specific Supplements to the ELSO General Guidelines	Zeitschriftenaufsatz	1	low quality					641, 642, 643		
Extracorporeal Life Support Organization		Patient Specific Supplements to the ELSO General Guidelines	Zeitschriftenaufsatz	1	low quality					641, 642, 643		
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin		Behandlung der neonatalen Asphyxie unter besonderer Berücksichtigung der therapeutischen Hypothermie	Zeitschriftenaufsatz	1				45				
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin	2011	Akutes, nicht obstruktives Lungenversagen(ARDS/ALI) im Kindesalter	Internetdokument	1		211	35	41, 42, 43, 45, 46, 47	56, 583, 585,	62, 631, 632, 641	73	
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin: Deut	2011	Das Schädel-Hirn-Trauma im Kindesalter	Internetdokument	1		211		47				
Gesellschaft für Neuropädiatrie		Akute Bewusstseinsstörung jenseits der Neugeborenenperiode	Zeitschriftenaufsatz	1		211						
National Guideline Clearinghouse	2008	Prevention of ventilator-associated pneumonia. In: Prevention and control of healthcare-associated infections i	Internetdokument	1					56(zu alt)			
National Guideline Clearinghouse	2010	A.S.P.E.N. clinical guidelines: nutrition support of neonates supported with extracorporeal membrane oxygenati	Internetdokument	1					54			
National Guideline Clearinghouse	2010	Acute stroke management. In: Canadian best practice recommendations for stroke care	Internetdokument	1					55			83
National Guideline Clearinghouse	2010	Chronic obstructive pulmonary disease (chronic OPD)	Internetdokument	1				45				
National Guideline Clearinghouse	2010	Cystic fibrosis pulmonary guidelines: pulmonary complications: hemoptysis and pneumothorax	Internetdokument	1		211						
National Guideline Clearinghouse	2010	Endotracheal suctioning of mechanically ventilated patients with artificial airways 2010	Internetdokument	1					56			
National Guideline Clearinghouse	2010	Evaluation and management of patients with acute decompensated heart failure: HFSA 2010 comprehensive he	Internetdokument	1		211						
National Guideline Clearinghouse	2010	NIH Consensus Development Conference statement on inhaled nitric oxide therapy for premature infants	Internetdokument	1						631		
National Guideline Clearinghouse	2011	British guideline on the management of asthma. A national clinical guideline	Internetdokument	1				45				
National Guideline Clearinghouse	2011	Capnography/capnometry during mechanical ventilation: 2011	Internetdokument	1				49				
National Guideline Clearinghouse	2011	Prevention of ventilator-associated pneumonia. Health care protocol	Internetdokument		1				56			
National Guideline Clearinghouse	2012	Diagnosis and management of asthma	Internetdokument	1		211						
National Guideline Clearinghouse	2012	Emergency tracheal intubation immediately following traumatic injury: an Eastern Association for the Surgery o	Internetdokument	1		211, 23						
National Guideline Clearinghouse	2012	ESC guidelines for the diagnosis and treatment of acute and chronic heart failure 2012	Internetdokument	1		211						
National Guideline Clearinghouse	2012	ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elev	Internetdokument	1		211?		45				
National Guideline Clearinghouse	2012	Humidification during invasive and noninvasive mechanical ventilation: 2012	Internetdokument	1					56			
National Guideline Clearinghouse	2016	Surviving sepsis campaign: international guidelines for management of severe sepsis and septic shock: 2012	Internetdokument	1		211		41, 42	51, 52, 53, 54, 56, 585	61, 62, 641	72	
National Guideline Clearinghouse		Head injury. Triage, assessment, investigation and early management of head injury in children, young people a	Zeitschriftenaufsatz	1	NICE guidelin	211, 221						
National Guideline Clearinghouse		VA/DoD clinical practice guideline for the management of chronic obstructive pulmonary disease.	Zeitschriftenaufsatz	1		211, 212						
National Guideline Clearinghouse	2010	Evidence-based clinical practice guideline: inhaled nitric oxide for neonates with acute hypoxic respiratory failur	Internetdokument	1						631		
National Institute of Health and Clinical Excellence		Head injury	Musikwerk / Musikalbum	1		211		45				
National Institute of Health and Clinical Excellence		Intravenous fluid therapy in adults in hospital	Buch (Monographie)	1					585			
National Institute of Health and Clinical Excellence	1994	Acute heart failure	Buch (Monographie)	1		211						
National Institute of Health and Clinical Excellence	2013	Idiopathic pulmonary fibrosis	Internetdokument	1		211, 214					78	
National Institute of Health and Clinical Excellence	2010	Motor neurone disease	Internetdokument	1		211,213					78	
National Institute of Health and Clinical Excellence		Bronchiolitis in children	Zeitschriftenaufsatz	1		211						
OGARI		Leitlinien zur invasiven Beatmung von Intensivpatienten	Zeitschriftenaufsatz	1	narrativ	2x	3x	4x	5x	6x	7x	8x
SCAI/ACC/HFSA/STS	2015	Clinical Expert Consensus Statement on the Use of Percutaneous Mechanical CirculatorySupport Devices in Car	Zeitschriftenaufsatz	1						643		
SRLF, Richard C.	2014	Consensus statement Extracorporeal Life support ARDS	Zeitschriftenaufsatz	1						62, 641, 642,643		
AWMF/DGErnährungsmedizin		Klinische Ernährung Neurologie			1				54			
criticalcarenutrition	2015	guideline summary			1				54			
	2013	guideline summary			1				54			
ASPEN guideline	2016	Guidelines for the Provision and Assessment of Nutrition Support Therapy in the Adult Critically Ill Patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.)			1							
BTS 2016 Hypercapnic respir failure	2016	BTS ICS guideline for the ventilatory management of acute hypercapnic respiratory failure			1							

Scottish Intercollegiate Guidelines Network (SIGN)	2008	British Guideline on the Management of Asthma	Internetdokument	0 = negativ	veraltet	2x						
Scottish Intercollegiate Guidelines Network (SIGN)	2008	Management of patients with stroke or TIA: assessment, investigation, immediate management and secondary	Internetdokument	0	veraltet	211						
Scheinhorn, D. J.; Chao, D. C.; Hassenpflug, M. S.; Gracev, D. R.	2001	Post-ICU weaning from mechanical ventilation: the role of long-term facilities	Zeitschriftenaufsatz	0	veraltet							
National Guideline Clearinghouse		Acute heart failure: diagnosing and managing acute heart failure in adults.	Zeitschriftenaufsatz	0								
National Guideline Clearinghouse		Energy expenditure: measuring resting metabolic rate (RMR) in the healthy and non-critically ill evidence-based	Zeitschriftenaufsatz	0								
National Guideline Clearinghouse		Evidence-based guideline summary: diagnosis and treatment of limb-girdle and distal dystrophies: report of the	Zeitschriftenaufsatz	0								
National Guideline Clearinghouse		Safe administration of systemic cancer therapy. Part 2 administration of chemotherapy and management of pre	Zeitschriftenaufsatz	0								
National Guideline Clearinghouse	2008	Continuous positive airway pressure for the treatment of obstructive sleep apnoea/hypopnoea syndrome	Internetdokument	0								
National Guideline Clearinghouse	2008	Early acute management in adults with spinal cord injury: a clinical practice guideline for health-care profession	Internetdokument	0								
National Guideline Clearinghouse	2008	Guide to the care of the hospitalized patient with ischemic stroke. 2nd edition	Internetdokument	0								
National Guideline Clearinghouse	2008	Management of asthma	Internetdokument	0								
National Guideline Clearinghouse	2008	Practice parameters for the use of autotitrating continuous positive airway pressure devices for titrating pressu	Internetdokument	0								
National Guideline Clearinghouse	2009	Asthma. In: Pulmonary (acute & chronic)	Internetdokument	0								
National Guideline Clearinghouse	2009	Clinical guideline for the evaluation, management and long-term care of obstructive sleep apnea in adults	Internetdokument	0								
National Guideline Clearinghouse	2009	COPD – Chronic obstructive pulmonary disease. In: Pulmonary (acute & chronic)	Internetdokument	0								
National Guideline Clearinghouse	2009	Evidence-based patient safety advisory: patient assessment and prevention of pulmonary side effects in surgery	Internetdokument	0								
National Guideline Clearinghouse	2009	Practice parameter update: the care of the patient with amyotrophic lateral sclerosis: drug, nutritional, and resp	Internetdokument	0								
National Guideline Clearinghouse	2010	ACR Appropriateness Criteria® acute respiratory illness in immunocompetent patients	Internetdokument	0								
National Guideline Clearinghouse	2010	ACR Appropriateness Criteria® dyspnea — suspected cardiac origin	Internetdokument	0								
National Guideline Clearinghouse	2010	ACR–SIR practice guideline for sedation/analgesia	Internetdokument	0								
National Guideline Clearinghouse	2010	American College of Chest Physicians guidelines for the prevention and management of postoperative atrial fib	Internetdokument	0								
National Guideline Clearinghouse	2010	Pleural procedures and thoracic ultrasound: British Thoracic Society pleural disease guideline 2010	Internetdokument	0								
National Guideline Clearinghouse	2012	Management of obstructive sleep apnoea/hypopnoea syndrome in adults. A national clinical guideline	Internetdokument	0								
National Guideline Clearinghouse	2012	Organ-specific management and supportive care in chronic graft-versus-host disease	Internetdokument	0								
National Guideline Clearinghouse	2012	Perioperative protocol. Health care protocol	Internetdokument	0								
National Guideline Clearinghouse	2012	The treatment of central sleep apnea syndromes in adults: practice parameters with an evidence-based literatu	Internetdokument	0								
National Guideline Clearinghouse	2013	Diagnosis and management of chronic obstructive pulmonary disease (COPD)	Internetdokument	0								
National Guideline Clearinghouse	2013	Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease	Internetdokument	0								
National Guideline Clearinghouse	2013	Practice guidelines for management of the difficult airway: an updated report by the American Society of Anest	Internetdokument	0								
National Institute of Health and Clinical Excellence	2007	ME secondary prevention	Internetdokument	0								
National Institute of Health and Clinical Excellence	2008	Respiratory tract infections	Internetdokument	0								
National Institute of Health and Clinical Excellence	2008	Stroke	Internetdokument	0								
National Institute of Health and Clinical Excellence	2010	Chest pain of recent onset	Internetdokument	0								
National Institute of Health and Clinical Excellence	2010	Sedation in children and young people	Internetdokument	0								
Royal College of Physicians	2010	Chronic heart failure	Internetdokument	0								
AWMF Arbeitskreis Krankenhaus- & Praxishygiene		Händedesinfektion	Zeitschriftenaufsatz	0								
AWMF Arbeitskreis Krankenhaus- & Praxishygiene		Handschuhe	Zeitschriftenaufsatz	0								
Dalhoff, K; Abele-Horn, M; Andreas, S; Bauer, T; Baum, H von; Deja, M	2012	Epidemiologie, Diagnostik und Therapie erwachsener Patienten mit nosokomialer Pneumonie	Internetdokument	0	nicht thema							
Deutsche Dermatologische Gesellschaft		S2k + IDA Leitlinie: Diagnostik und Therapie Staphylococcus aureus bedingter Infektionen der Haut und Schlei	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Allgemeinmedizin und Familienmedizin		Schlaganfall	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Erklärung zum Hirntod	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin		Leitlinie Atemwegsmanagement	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Anästhesiologie und Intensivmedizin; Deut	2009	Analgesie, Sedierung und Delirmanagement in der Intensivmedizin	Internetdokument	0	vor 2010							
Deutsche Gesellschaft für Gastroenterologie, Verdauungs- und Stoffi		Helicobacter pylori und gastroduodenale Ulkuskrankheit	Zeitschriftenaufsatz	0	vor 2010							
Deutsche Gesellschaft für Gynäkologie und Geburtshilfe		Betreuung von gesunden reifen Neugeborenen in der Geburtsklinik	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Infektiologie		Strategien zur Sicherung rationaler Antibiotika-Anwendung im Krankenhaus	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Kardiologie - Herz- und Kreislaufforschung		Nationale VersorgungsLeitlinie Chronische Herzinsuffizienz	Zeitschriftenaufsatz	0	vor 2010							
Deutsche Gesellschaft für Kinderchirurgie		Zwerchfellhernie/Zwerchfelldefekt	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Neurochirurgie	2007	Schädel-Hirn-Trauma im Erwachsenenalter	Internetdokument	0	vor 2010							
Deutsche Gesellschaft für Neurologie		Alkoholdelir Verwirrtheitszustände	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Neurologie		Querschnittlähmung	Zeitschriftenaufsatz	0	nicht thema							

Deutsche Gesellschaft für Neurologie		Akuttherapie des ischämischen Schlaganfallsaboelaufen	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Neurologie		Diagnostik und Therapie der Venenthrombose und der Lungenembolie	Zeitschriftenaufsatz	0	nicht thema							
Deutsche Gesellschaft für Pneumologie und Beatmungsmedizin e. V.		Ambulant erworbene Pneumonie	Zeitschriftenaufsatz	0	vor 2010							
Deutschen Gesellschaft für Ernährungsmedizin	2013	Klinische Ernährung Geriatrie	Zeitschriftenaufsatz	0	nicht thema				54			
Deutschen Gesellschaft für Kinderchirurgie		Kurzstreckige Ösophagusatresie	Zeitschriftenaufsatz	0	nicht thema							
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin	2009	Therapie idiopathischer Apnoen, Bradykardien und Hypoxämien bei Frühgeborenen	Zeitschriftenaufsatz	0	nicht thema							
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin	2009	Surfactanttherapie des Atemnotsyndroms Frühgeborener (RDS)	Internetdokument	0	nicht thema							
Gesellschaft für Neonatologie und Pädiatrische Intensivmedizin: Deut	2009	Prävention und Therapie der bronchopulmonalen Dysplasie Frühgeborener	Internetdokument	0	nicht thema							
Gesellschaft für Neuropädiatrie		Guillain-Barré Syndrom im Kindes-und Jugendalter	Zeitschriftenaufsatz	0	nicht thema							
Gesellschaft für Pädiatrische Pneumologie		Lungenerkrankung bei Mukoviszidose	Zeitschriftenaufsatz	0	nicht thema							
Gesellschaft für Tauch- und Überdruckmedizin e.V.	2011	Leitlinie Tauchunfall	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2008	Respiratory tract infections - antibiotic prescribing: Prescribing of antibiotics for self-limiting respiratory tract inf	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2008	Strategies to prevent ventilator-associated pneumonia in acute care hospitals	Internetdokument	0	vor 2008							
National Guideline Clearinghouse	2009	British Thoracic Society guidelines for the management of community acquired pneumonia in adults: update 20	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2009	Care of the patient with aneurysmal subarachnoid hemorrhage	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2009	Guidelines for field triage of injured patients. Recommendations of the National Expert Panel on Field Triage, 20	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2009	Interstitial lung disease. In: Pulmonary (acute & chronic)	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2009	Seasonal influenza in adults and children - diagnosis, treatment, chemoprophylaxis, and institutional outbreak r	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2009	Spinal cord injury (SCI). Evidence-based nutrition practice guideline	Internetdokument	0	vor_2010							
National Guideline Clearinghouse	2009	VA/DoD clinical practice guideline for management of asthma in children and adults	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2010	Asthma	Internetdokument	0	vor 2010 low qual							
National Guideline Clearinghouse	2010	Best evidence statement (BEST). Clinical utility of neurally adjusted ventilatory assist (NAVA) in decreasing the u	Internetdokument	0	no recommend							
National Guideline Clearinghouse	2010	Chronic obstructive pulmonary disease. Management of chronic obstructive pulmonary disease in adults in prin	Internetdokument	0								
National Guideline Clearinghouse	2010	Clinical practice guideline on acute bronchiolitis	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2010	COPD management in the long-term care setting	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2010	Cumulative trauma conditions medical treatment guidelines	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2010	Device selection and outcomes of aerosol therapy: evidence-based guidelines: American College of Chest Physi	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2010	Evidence-based care guideline for management of acute exacerbation of asthma in children aged 0 to 18 years	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2010	Evidence-based care guideline for management of first time episode bronchiolitis in infants less than 1 year of a	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2010	Management of pleural infection in adults: British Thoracic Society pleural disease guideline 2010	Internetdokument	0	nicht inhalt							
National Guideline Clearinghouse	2010	Management of spontaneous pneumothorax: British Thoracic Society pleural disease guideline 2010	Internetdokument	0	nicht inhalt							
National Guideline Clearinghouse	2011	2011 ACCF/AHA guideline for coronary artery bypass graft surgery: a report of the American College of Cardiol	Internetdokument	0	nicht inhalt							
National Guideline Clearinghouse	2011	Acute coronary syndrome and myocardial infarction	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Acute coronary syndromes. A national clinical guideline	Internetdokument	0	vor 2010							
National Guideline Clearinghouse	2011	Best evidence statement (BEST). Basic pediatric tracheostomy care	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Best evidence statement (BEST). Recruitment maneuvers compared to chest physiotherapy for the mechanically	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Best evidence statement (BEST). Recruitment maneuvers for acute lung injury	Internetdokument	0	low quality							
National Guideline Clearinghouse	2011	British Thoracic Society guideline for advanced diagnostic and therapeutic flexible bronchoscopy in adults	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Burns	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Chronic obstructive pulmonary disease (COPD)	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Clinical policy: critical issues in the evaluation and management of adult patients presenting to the emergency r	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Diagnosis and management of stable chronic obstructive pulmonary disease: a clinical practice guideline updat	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Head (trauma, headaches, etc., not including stress & mental disorders)	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Heart failure in adults	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Management of overweight and obesity in the adult	Internetdokument	0	nicht thema							
National Guideline Clearinghouse	2011	Perioperative care of the pregnant woman. Evidence-based clinical practice guideline	Internetdokument	0	nicht thema							

National Guideline Clearinghouse	2011	The management of community-acquired pneumonia in infants and children older than 3 months of age: clinica	Internetdokument	0	nicht thema
National Guideline Clearinghouse	2012	AARC clinical practice guideline: transcutaneous monitoring of carbon dioxide and oxygen: 2012	Internetdokument	0	nicht thema
National Guideline Clearinghouse	2012	British Thoracic Society guideline for respiratory management of children with neuromuscular weakness	Internetdokument	0	nicht thema
National Guideline Clearinghouse	2012	Global strategy for asthma management and prevention	Internetdokument	0	nicht inhalt
National Guideline Clearinghouse	2012	Infection. Prevention and control of healthcare-associated infections in primary and community care	Internetdokument	0	nicht inhalt
National Guideline Clearinghouse	2012	Management of pulmonary contusion and flail chest: an Eastern Association for the Surgery of Trauma practice	Internetdokument	0	vor 2010
National Guideline Clearinghouse	2012	Traumatic brain injury medical treatment guidelines	Internetdokument	0	nicht inhalt
National Guideline Clearinghouse	2008	Comprehensive assessment and management of the critically ill. In: Evidence-based geriatric nursing protocols	Internetdokument	0	nicht thema
National Guideline Clearinghouse		Management of lung cancer. A national clinical guideline.	Zeitschriftenaufsatz	0	nicht thema
National Guideline Clearinghouse		Special populations. In: Prevention and treatment of pressure ulcers: clinical practice guideline.	Zeitschriftenaufsatz	0	nicht thema
National Guideline Clearinghouse		Treatment of pressure ulcers. In: Prevention and treatment of pressure ulcers: clinical practice guideline.	Zeitschriftenaufsatz	0	nicht thema
National Guideline Clearinghouse	2008	American Association of Clinical Endocrinologists, The Obesity Society, and American Society for Metabolic & B	Internetdokument	0	vor 2010
National Guideline Clearinghouse		Bi-level positive airway pressure (BPAP) devices	Zeitschriftenaufsatz	0	nicht thema
National Guideline Clearinghouse	2013	Practice guidelines for postanesthetic care: an updated report by the American Society of Anesthesiologists Tas	Internetdokument	0	nicht thema
National Institute of Health and Clinical Excellence	1990	Pneumonia Diagnosis and management of community- and hospital-acquired pneumonia in adults	Musikwerk / Musikalbum	0	nicht thema
National Institute of Health and Clinical Excellence	1993	Colorectal cancer: The diagnosis and management of colorectal cancer	Buch (Monographie)	0	nicht thema
National Institute of Health and Clinical Excellence	1993	Postnatal care	Buch (Monographie)	0	nnicht thema
National Institute of Health and Clinical Excellence	2013	Myocardial infarction with STsegment elevation	Internetdokument	0	nicht thema
National Institute of Health and Clinical Excellence	2007	Acutely ill patients in hospital	Internetdokument	0	vor 2010
National Institute of Health and Clinical Excellence	2010	Chronic heart failure	Internetdokument	0	nicht thema
National Institute of Health and Clinical Excellence	2010	Unstable angina and NSTEMI	Internetdokument	0	nicht thema
Paul-Ehrlich-Gesellschaft für Chemotherapie: Deutschen Gesellschaft	2009	Epidemiologie, Diagnostik, antimikrobielle Therapie und Management von erwachsenen Patienten mit ambulan	Internetdokument	0	nicht thema
Ring, Johannes; Beyer, Kirsten; Biedermann, Tilo; Bircher, Andreas; D	2014	Leitlinie zu Akuttherapie und Management der Anaphylaxie	Zeitschriftenaufsatz	0	nicht thema
Scottish Intercollegiate Guidelines Network (SIGN)	2003	Management of Obstructive Sleep Apnoea/Hypopnoea Syndrome in Adults. (SIGN Guideline No 73)	Internetdokument	0	nicht theam
Scottish Intercollegiate Guidelines Network (SIGN)	2004	Postoperative management in adults. (SIGN Guideline No 77)	Internetdokument	0	nicht thema
Scottish Intercollegiate Guidelines Network (SIGN)	2009	Early management of patients with a head injury. (SIGN Guideline No 110)	Internetdokument	0	nicht thema
Scottish Intercollegiate Guidelines Network (SIGN)	2013	Acute coronary syndromes	Internetdokument	0	nich thema
Vicente Plaza,a,* Myriam Calle,b Jesús Molina,c Santiago Quirce,d Joa		Brazilian Guideline Inhalation	Zeitschriftenaufsatz	0	nicht thema
National Guideline Clearinghouse	2010	Sedation in children and young people. Sedation for diagnostic and therapeutic procedures in children and you	Internetdokument	0	nicht inhalt

S3Leitlinie Invasive Beatmung und Einsatz extrakorporaler Verfahren bei akuter respiratorischer Insuffizienz

Systematische Literaturrecherche Oktober-Dezember 2014

Verwendete Filteralgorithmen

Systematic Reviews Filter von PubMed[1] für Metaanalysen und Systematic Reviews

```
(systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR
systematic literature review [ti] OR
this systematic review [tw] OR pooling project [tw] OR (systematic review
[tiab] AND review [pt]) OR
meta synthesis [ti] OR meta-analy*[ti] OR integrative review [tw] OR
integrative research review [tw] OR
rapid review [tw] OR umbrella review [tw] OR consensus development
conference [pt] OR practice guideline [pt] OR
drug class reviews [ti] OR cochrane database syst rev [ta] OR acp journal
club [ta] OR health technol assess [ta] OR
evid rep technol assess summ [ta] OR jbi database system rev implement rep
[ta]) OR
(clinical guideline [tw] AND management [tw]) OR ((evidence based[ti] OR
evidence-based medicine [mh] OR
best practice* [ti] OR evidence synthesis [tiab])
AND (review [pt] OR diseases category[mh] OR behavior and behavior
mechanisms [mh] OR therapeutics [mh] OR
evaluation studies[pt] OR validation studies[pt] OR guideline [pt] OR
pmcbook))
OR
((systematic [tw] OR systematically [tw] OR critical [tiab] OR (study
selection [tw]) OR
(predetermined [tw] OR inclusion [tw] AND criteri* [tw]) OR exclusion
criteri* [tw] OR main outcome measures [tw] OR
standard of care [tw] OR standards of care [tw])
AND
(survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR
reviews [tiab] OR search* [tw] OR
handsearch [tw] OR analysis [ti] OR critique [tiab] OR appraisal [tw] OR
(reduction [tw]AND (risk [mh] OR risk [tw]) AND (death OR recurrence)))
AND
(literature [tiab] OR articles [tiab] OR publications [tiab] OR publication
[tiab] OR
bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR pooled
data [tw] OR
unpublished [tw] OR citation [tw] OR citations [tw] OR database [tiab] OR
internet [tiab] OR textbooks [tiab] OR
references [tw] OR scales [tw] OR papers [tw] OR datasets [tw] OR trials
[tiab] OR meta-analy* [tw] OR
(clinical [tiab] AND studies [tiab]) OR treatment outcome [mh] OR treatment
outcome [tw] OR pmcbook))
NOT
```

[1] http://www.nlm.nih.gov/bsd/pubmed_subsets/sysreviews_strategy.html

(letter [pt] OR newspaper article [pt])

Cochrane Highly Sensitive Search Strategy for identifying randomized trials in MEDLINE: sensitivity- and precision-maximizing version[2] für randomisierte klinische Studien

#1	randomized controlled trial [pt]
#2	controlled clinical trial [pt]
#3	randomized [tiab]
#4	placebo [tiab]
#5	clinical trials as topic [mesh: noexp]
#6	randomly [tiab]
#7	trial [ti]
#8	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7
#9	animals [mh] NOT humans [mh]
#10	#8 NOT #9

University of Texas Library filter für Case-Control-Studies[3]

“Case-Control Studies”[Mesh:noexp] OR "retrospective studies"[mesh:noexp] OR “Control Groups”[Mesh:noexp] OR (case[TIAB] AND control[TIAB]) OR (cases[TIAB] AND controls[TIAB]) OR (cases[TIAB] AND controlled[TIAB]) OR (case[TIAB] AND comparison*[TIAB]) OR (cases[TIAB] AND comparison*[TIAB]) OR “control group”[TIAB] OR “control groups”[TIAB]

[2] http://handbook.cochrane.org/chapter_6/box_6_4_b_cochrane_hsss_2008_sensprec_pubmed.htm
[3] http://libguides.sph.uth.tmc.edu/pubmed_filters

Literaturselektion in 2stufiger Selektion: Titelselektion und Selektion nach hierarchischer Volltextsichtung

Arbeitsgruppe/ Kapitel	Abschnitt	Treffer PubMed	Treffer Embase	Treffer Cochrane (HTA)	#Dubletten (gelöscht)	Gesamtzahl Primärsuche	Gesamtzahl nach Titelselektion und Ergänzungen individueller Handrecherche	Finale Kapitelnummer Anmerkungen/Änderungen	Gesamtzahl für LL-Empfehlung verwendeter, bewerteter Quellen (LL, SR/MA, RCT, etc.) nach hierarchischer Volltextsichtung, -selektion und Bewertung
II Indikationen	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt): Indikation invasive Beatmung vs. Nicht invasive Beatmung [211]	247	281		101	**427**	**168**	2.1. aus [211] bis [213]	**28**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt): Indikation Sauerstofftherapie [212]	81	68		33	**116**	**26**	s.o.	
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) Indikation negative pressure ventilation [213]	46	18		8	**56**	**18**	s.o.	
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Palliation [214]	134	88		34	**188**	**11**	2.3 aus [214] und [231]	**10**
	Koma: Indikation invasive Beatmung vs. Nichtinvasive Beatmung [231]	88	59		15	**132**	**12**	entfallen	
	Koma: Indikation zur Sauerstofftherapie/Intubation/Palliation [232]	258	215		52	**421**	**6**	entfallen	
	Polytrauma: Indikation zur Intubation und invasiven Beatmung [24]	99	47		18	**128**	**32**	2.2 aus [24]	**13**
III Beatmungsmodi								3.1 aus [33], [32]	**22**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Traumapatienten: Kontrollierte Beatmungsmodi [31]	423	447	9	118	**761**	**168**	3.2 aus [31]	**4**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Traumapatienten: Assist. Modi [32]	355	407	1	136	**627**	**161**	3.3 aus [32]	**8**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Traumapatienten: n.n./mischformen [33]	75	77	2	18	**136**	**59**	3.4 aus [33]	**16**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Traumapatienten: nn./autom. + servo targetting [34] (34)	73	160	1	34	**200**	**85**	3.5 aus [34]	**33**
								3.6 aus [32], [33], [34]	**0**
	Akute respir Insuffizienz (hypoxämisch/hyperkapnisch/gemischt) und Traumapatienten: n.n./HFOV/Jet [35]	337	638	4	133	**846**	**126**	3.7 aus [35]	**4**

	Literaturselektion in 2stufiger Selektion: Titelselektion und Selektion nach hierarchischer Volltextsichtung								
Arbeitsgruppe/ Kapitel	Abschnitt	Treffer PubMed	Treffer Embase	Treffer Cochrane (HTA)	#Dubletten (gelöscht)	Gesamtzahl	Gesamtzahl nach Titelselektion und Ergänzungen individueller Handrecherche	Finale Kapitelnummer Anmerkungen/Änderungen	Gesamtzahl für LL-Empfehlung verwendeter, bewerteter Quellen (LL, SR/MA, RCT, etc.) nach hierarchischer Volltextsichtung, -selektion und Bewertung
IV Beatmungsparameter	: PEEP [41neu]	288	267		105	**450**	**116**		**23**
	FiO2 [42]	255	146		47	**354**	**24**		**3**
	Vt [43neu]	213	226		87	**352**	**103**		**6**
	I/E [44neu]	34	8		4	**38**	**23**	Wechsel Reihenfolge 4.5 aus [44neu]	**4**
	: Permissive Hypoxämie/Hyperkapnie/Target Saturation/Zielparameter Gasaustausch [45neu]	186	232		65	**353**	**27**	Wechsel Reihenfolge 4.6 aus [45neu]	**5**
	PAW [46neu]	142	144		103	**183**	**36**	Wechsel Reihenfolge 4.4 aus [46neu]	**8**
	Frequenz [47]	27	22		11	**38**	**28**		**2**
	Gewichtung [48]	85	240		33	**292**	**187**	entfallen	
	Monitoring: (49neu]	392	512		121	**783**	**29**	4.8 aus [49neu]	**9**

Literaturselektion in 2stufiger Selektion: Titelselektion und Selektion nach hierarchischer Volltextsichtung

Arbeitsgruppe/ Kapitel	Abschnitt	Treffer PubMed	Treffer Embase	Treffer Cochrane (HTA)	#Dubletten (gelöscht)	Gesamtzahl	Gesamtzahl nach Titelselektion und Ergänzungen individueller Handrecherche	Finale Kapitelnummer Anmerkungen/Änderungen	Gesamtzahl für LL-Empfehlung verwendeter, bewerteter Quellen (LL, SR/MA, RCT, etc.) nach hierarchischer Volltextsichtung, -selektion und Bewertung
V Supportive Maßnahmen	Sedierung[51neu]	181	314		59	**436**	**18**	Zusammenfassung 5.1 aus [51neu], [52], [53]	**1**
	Muskelrelaxation [52]	61	37		11	**87**	**13**	s.o.	
	Delirmonitoring/terapie [53]	67	98		14	**151**	**8**	s.o.	
	Ernährung [54neu]	464	597		182	**879**	**208**	Änderung Reihenfolge 5.3 aus [54neu]	**11**
	Mobilisation [55]	236	205		33	**408**	**74**	Änderung Reihenfolge 5.2 aus [55]	**6**
	Prophyl. VAP [56]	586	757		272	**1071**	**351**	Änderung Reihenfolge 5.4 aus [56]	**28**
	Tracheotomie [57_75_neu	474	570		202	**842**	**110**	Änderung Reihenfolge 5.5 aus [57_75_neu]	**13**
	[581neu] antioxidantien	241	217		86	**372**	**59**	entfallen	
	[582] beta mimetika	502	298		34	**766**	**70**	Änderung Reihenfolge 5.6.1 aus [582] Änderung Reihenfolge 5.6.1 aus [582]	**5**
	[583neu] surfactant	445	289		95	**639**	**78**	Änderung Reihenfolge 5.6.2 aus [583]	**6**
	[584] statine	97	88		19	**166**	**entfällt**	entfallen	
	[585neu] fluid therapy transfusion	694	312		82	**924**	**201**	Änderung Reihenfolge 5.6.3 aus [585neu] 5.6.4 aus [585neu]	**5** **10**

Literaturselektion in 2stufiger Selektion: Titelselektion und Selektion nach hierarchischer Volltextsichtung

Arbeitsgruppe/ Kapitel	Abschnitt	Treffer PubMed	Treffer Embase	Treffer Cochrane (HTA)	#Dubletten (gelöscht)	Gesamtzahl	Gesamtzahl nach Titelselektion und Ergänzungen individueller Handrecherche	Finale Kapitelnummer Anmerkungen/Änderungen	Gesamtzahl für LL-Empfehlung verwendeter, bewerteter Quellen (LL, SR/MA, RCT, etc.) nach hierarchischer Volltextsichtung, -selektion und Bewertung
VI Verfahren bei therapierefrakt. Gasaustauschstörung	Recruitment [61neu]	134	146		53	**227**	**61**		**4**
	Bauchlagerung [62]	254	262		109	**407**	**116**		**10**
	iNO, [631neu]	479	404		127	**756**	**118**		
	iPGs [632]	80	141		31	**190**	**30**	Zusammenfassung 6.3 aus [631neu] und [632]	**5**
	Extrakorporal [641_644_neu]	1541	1538	16	441	**2654**	**601**	6.4.1	**16**
	ECCO2 R [642neu]	133	134		42	**225**	**22**	6.4.2	**4**
	PE, PAH, bridgetransplant_vvECMO [643]	93	46		22	**117**	**26**	entfallen	
	[65] PLV	107	123	0	21	**209**	**28**		**3**

Literaturselektion in 2stufiger Selektion: Titelselektion und Selektion nach hierarchischer Volltextsichtung

Arbeitsgruppe/ Kapitel	Abschnitt	Treffer PubMed	Treffer Embase	Treffer Cochrane (HTA)	#Dubletten (gelöscht)	Gesamtzahl	Gesamtzahl nach Titelselektion und Ergänzungen individueller Handrecherche	Finale Kapitelnummer Anmerkungen/Änderungen	Gesamtzahl für LL-Empfehlung verwendeter, bewerteter Quellen (LL, SR/MA, RCT, etc.) nach hierarchischer Volltextsichtung, -selektion und Bewertung
VII weaning	Abgrenzung akutes Weaning/Klassifikation [71neu]	185	66		30	**221**	**21**		**5**
	Weaningprotokolle [72]	103	108		49	**162**	**70**		**6**
	Diagnostik/Prädiktoren [73]	193	191		65	**319**	**83**		**5**
	Adjuvante Maßnahmen [761neu] Nutrition	64	63		43	**84**	**22**	entfallen	
	[762neu] Mobiilisation	96	47		25	**118**	**38**	entfallen	
	[763neu] Delir	93	62		22	**133**	**43**	entfallen	
	[764neu] Transfusion	141	84		37	**188**	**32**	entfallen	
	Überleitung/Heimbeatmung [77neu]	106	218		26	**298**	**51**		-
	Terminales weaning/deeskalation [78neu]	211	150		62	**299**	**81**		-
VIII Langzeitfolgen Folgeversorgung	Langzeitfolgen/Outcome: Überleben [811]	362	225		83	**504**	**130**	Neugliederung 8.1 aus [811], [812], [816]	**8**
	Langzeitfolgen/Outcome: QoL [812]	101	118		23	**196**	**61**	Neugliederung 8.2 aus [811], [812], [816]	**5**
	Langzeitfolgen/Outcome: fatigue [813]	432	217		25	**624**	**32**	Neugliederung 8.3 aus [811], [812], [813], [816]	**6**
	Langzeitfolgen/Outcome: longterm-ventilation [814 815]	196	122		34	**284**	**11**		
	Langzeitfolgen/Outcome: chronic complications [816]	543	309		136	**716**	**107**	Neugliederung 8.4 aus [816]	**1**
	Folgeversorgung Socialsupport [83neu]	70	143		4	**209**	**20**	Neugliederung 8.5 Übernahme DAS-LL	**1**
	Folgeversorgung [85]		167			**167**	**48**		
								Gesamtanzahl aller eingesetzten, bewerteten Literaturstellen	**362**
								Gesamtanzahl aller verwendeten Referenzen	297

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

< SokolJ_2003 > Cochrane review 2010 (7)

Guideline topic: AG VI	Key Question No: 6.3.1 (V2(12.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***	
1.1	The study addresses a clearly defined research question.[i]	Yes ☐	No ☐
		Can't say ☐	
1.2	At least two people should select studies and extract data.[ii]	Yes ☐	No ☐
		Can't say ☐	
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐	No ☐
		Can't say ☐	Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐	No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐	No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐	No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐	No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be reviewed in detail	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

<AfshariA_2010_A> Cochrane review 2010 (8) on aerosolized prostacyclin

Guideline topic: AG VI	Key Question No: 6.3.2 (20.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< AndrewsPL_2013> J Trauma Acute Care Surg 2013;75:635ff

Guideline topic: AGIII ventilation strategies	Key Question No: 3.3

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKLS

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included (and excluded) studies are listed.[v] K=16 resp. 15	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No X
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No X Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x] But all publication acc. to i/E criteria used	Yes ☐ No X Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] SR/MA of published observational data from a valid lit-search; comparison of conventional vs airways pressure release ventilation performed in trauma pt.; methods convincing and well reasoned although beyond „mainstream" SR larger samples used to enhance generalizability; RCT exclusion well reasoned certain problem of differing retrospection times in conventional (1995 to 2012) vs APRV (2002-2005	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< BlackwoodB_2011 > BMJ 2011;342:c7237ff

Guideline topic: AG VII	Key Question No: 7.2

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v]	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii]	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

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[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

<BlackwoodB_2014> Cochrane review 2010 (5)

Guideline topic: AG V	Key Question No: 7.2 (27.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

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[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

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[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< BrielM_2010 > JAMA 2010;303(3):865ff

Guideline topic: AG IV	Key Question No: 4.1

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKLS

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No X
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x] k=3 (4) → not necessary	Yes ☐ No X Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) Unacceptable – reject
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii]	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

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[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed

e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

Briel M et al. Higher vs Lower Positive End-Expiratory Pressure in Patients With Acute Lung Injury and Acute Respiratory Distress Syndrome. JAMA 2010;303(9):865ff

Guideline topic: Chap. 4 (ID:02)	Key Question No:

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***	
1.1	The study addresses a clearly defined research question.[i]	Yes X Can't say ☐	No ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X Can't say ☐	No ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X Can't say ☐	No ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X	No ☐
1.5	The included and excluded studies are listed.[v]	Yes in~ X k=3(4)	No ex~ X (l=5)
1.6	The characteristics of the included studies are provided.[vi]	Yes X	No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X	No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes No ☐ Can't say X wg. k<10
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) Acceptable (+) ☐ Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes X No ☐
2.3	**Notes:**[xiii]although no overall significance when considering interaction → borderline significant benefits for lower PEEP in ALI; in ARDS higher PEEP significantly better	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

<BurnsK_2014> Cochrane review 2014 (9)

Guideline topic: AG V	Key Question No: 7.2 (27.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< DavidsonWJ_2006 > Crit Care 2006;10:R41ff

.

Guideline topic: AG V	Key Question No: 5.8.3 (25.05.16ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF **YES** continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and e□tract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Already updated evidence available from <ZhangN 2013>/ <MengH 2012>, only abstract reviewd due to timely restrictions→ w/O difference to newer publications	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< Davydow_2008 > Psychosomat Med 2008;70:512ff

Guideline topic: AG VIII	Key Question No: 8.1.3 (& 8.1.2 QoL)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i] EBM based clinical guidance	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv] English only, adults	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=10 ref. with n=321 pts. (2 excl. duplicates from 6 cohorts); 6 retrosp., 2 prospective, 2 cross-sectional); DO given	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi] Tab.1	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii] → n.a.	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii] → n.a.	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix] ➔ Rather difficult to combine due to various length of FU	Yes ☐ No ☐ Can't say X
1.10	The likelihood of publication bias is assessed.[x] ➔ But non-survivor anyway not regarded	Yes ☐ No X Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No X
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] SR of FU data regarding depression/ anxiety/ PTSD; interesting although marked heterogeneity seen and data from observational cohorts only QoL although presented	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

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[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

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[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< DuffettM_2007 > Crit Care 2007;11:R66ff

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Guideline topic: AG V	Key Question No: 5.8.3 (25.05.16ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF **YES** continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii] Available on request	Yes X No ☐ Can't say (X) Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=6 with n=314 children	Yes ☐ No X incl. only
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say X
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] rather old evidence, but with differences between children & adults and mortality benefits at that state surfactant ther. in children max be supported; AE seem to be comparable and/or sufficiently to dealt with	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

< Fitzgerald_2014 > Clin Toxicol 2013;51:385ff

Guideline topic: AG VI	Key Question No: 6.4.2 (22.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v] 2 RCTs and 12 further CCs/ case series; n_{total}=495	Yes ☐ No X
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix] Not applicable	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No X Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] no statistical pooling but description of overall results due to heterogeneity of trials/ studies; although methodologically satisfying only little evidence provided apparnatly an error in table 1 occurred p=0.000 unlikely with mortality rates of 7/40 ve. 6/39; see also par.1 in p.5	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< GalvinIM_2013 > Cochrane review 2013 (7)

Guideline topic: AG VI	Key Question No: 6.4.4 (20.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN

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Study identification (*Include author, title, year of publication, journal title, pages*)

<GonzalesM_2010> Int Care Med 2010; 36:817-27

Guideline topic: AGIII ventilation strategies	Key Question No: 3.1

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.

   → No, secondary analysis of selected observational cohort data but no systematic review/ meta-analysis

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKLS

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is	Yes ☐ No ☐

	assessed and documented.[vii]	
1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) Acceptable (+) ☐ Unacceptable – reject X
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Secondary analysis of observational cohort data; no RCT, no systematic review; Propensity score method used to adjust for structural dysbalances between groups	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

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[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

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Study identification (*Include author, title, year of publication, journal title, pages*)

< HermansG_2014> Cochrane review 2014;1

Guideline topic: AG VIII	Key Question No: 5.6. (05.04.16)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

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[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

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[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

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[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

< HosokawaK_2015> Crit Care 2015;19:424ff

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Guideline topic: AG V	Key Question No: 5.7. (14.04.16)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF **YES** continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i] However def. of ET vs LT problematical due to overlapping times	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii] Only 2 (major) DB searched, compared to <HuangH_2014> xx diff. trials	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv] Engl only, abs not	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=12 RCT with n=2689; thereof ET: 7x (4d)/ 12x (10d) / LT: 10x (>10d)/ 2x (>5d)	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐

1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐
1.8	The scientific quality of the included studies was assessed appropriately.[viii] SD estimate=IQR/1,35 → questionable in my opinion; SD should be rather broader → more conservative estimates seem to be more reliable	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No X Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No X
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Compared to <HuangH_2014> 1 RCT missing (Bouderk 2004 -> why?) and inclusion of <Koch 2012> of questionable use to me, since both arms with ET; overlapping timing definitions ET/LT should be evaluated by clinician regarding usefulness; Higher rates of trachotomy in ET groups when using 1:1 rando ratio may indicate a bias in RCTs although discussed in SR; **Results of <HuangH_2014> also indicate a trend in favour of ET (see shifted confidence limits in aggregated short-/long.term mortality & incidence of VAP → therefore results not essentially contradicting those stated here**. A trial sequential analysis would have been helpful to determine whether sufficient evidence is available by now (I doubt it). Possibly it would be useful to exclude most early trials because of changed regimens then and today	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< KaushalKA_2013 > Cochrane review 2013 (2)

Guideline topic: AG VIII	Key Question No: 8.1.1 (20.10.15ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< KuriyamaA_2015 > Intens Care Med 2015;41:402ff

Guideline topic: AG V	Key Question No: 5.6. (11.04.16)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv] None (incl. inform. Abs)	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=16 RCTs	Yes ☐ No X incl. only
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] CAVE: Superiority of CSS (not Non-Inferiority → s. Abs = Äquivalence) is question of interest –incorrect in Abs; Herterogeneity definition of trial is weaker than in Jongerden (2007)	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< MaitraS_2015 > Anesthesiol 2015;122:841ff

Guideline topic: AGIII ventilation strategies	Key Question No: 3.5

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKLS

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v] k=7 (n=1759)	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Respiratory adjunct therapies allowed in RCTs; RCTs with children/ neonates excluded	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

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[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

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[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

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[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Study identification (*Include author, title, year of publication, journal title, pages*)

< MengH_2012 > J Cardiothor Vasc Anaest 2012;26(5):849ff

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Guideline topic: AG V	Key Question No: 5.8.3 (25.05.16ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF **YES** continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and e□tract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No X
1.5	The included and excluded studies are listed.[v]	Yes ☐ No X included only
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix] FEM	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say X
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No X
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] No hints on benefits in mortality	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

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[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

Methodology Checklist 2: Controlled Trials

Study identification (*Include author, title, year of publication, journal title, pages*)
Peek et al., "Efficacy and economic assessment…", 2009, Lancet

Guideline topic: 6, ECMO vs. conventional	Key Question No:	Reviewer: CP, IMISE

Before completing this checklist, consider:

1. Is the paper a **randomised controlled trial** or a **controlled clinical trial**? If in doubt, check the study design algorithm available from SIGN and make sure you have the correct checklist. If it is a **controlled clinical trial** questions 1.2, 1.3, and 1.4 are not relevant, and the study cannot be rated higher than 1+

2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO REJECT (give reason below). IF YES complete the checklist.

Reason for rejection: 1. Paper not relevant to key question ☐ 2. Other reason ☐ (please specify):

SECTION 1: INTERNAL VALIDITY

	In a well conducted RCT study…	***Does this study do it?***
1.1	The study addresses an appropriate and clearly focused question.[i]	Yes **X** No ☐ Can't say ☐
1.2	The assignment of subjects to treatment groups is randomised.[ii]	Yes **X** No ☐ Can't say ☐
1.3	An adequate concealment method is used.[iii]	Yes **X** No ☐ Can't say ☐
1.4	Subjects and investigators are kept 'blind' about treatment allocation.[iv] **Nicht möglich, allerdings Bewertung nach 6 Monaten verblindet.**	Yes ☐ No **X** Can't say ☐
1.5	The treatment and control groups are similar at the start of the trial.[v]	Yes **X** No ☐ Can't say ☐
1.6	The only difference between groups is the treatment under investigation.[vi] **Behandlung unterschiedlich, s. Tabelle 2!**	Yes ☐ No **X** Can't say ☐
1.7	All relevant outcomes are measured in a standard, valid and reliable way.[vii]	Yes **X** No ☐ Can't say ☐
1.8	What percentage of the individuals or clusters recruited into each treatment arm of the study dropped out before the study was completed?[viii]	**Bei 0 bzw. 3 pro Gruppe (je 90 Patienten) konnte primärer Endpunkt nicht erhoben werden**
1.9	All the subjects are analysed in the groups to which they were randomly allocated (often referred to as intention to treat analysis).[ix]	Yes **X** No ☐ Can't say ☐ Does not apply ☐

1.10	Where the study is carried out at more than one site, results are comparable for all sites.[x] **Patienten wurden für ECMO-Behandlung in ein bestimmtes Zentrum transferiert.**	Yes ☐ Can't say ☐	No ☐ Does not apply **X**

SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	How well was the study done to minimise bias? *Code as follows:*[xi]	High quality (++)☐ Acceptable (+)**X** Unacceptable – reject 0 ☐
2.2	Taking into account clinical considerations, your evaluation of the methodology used, and the statistical power of the study, are you certain that the overall effect is due to the study intervention?	**Kann ich nicht beurteilen, da unterschiedliche Behandlung (s. Tabelle 2). Evtl. auch Bias, da nur ein Zentrum die ECMO-Behandlung durchführt.**
2.3	Are the results of this study directly applicable to the patient group targeted by this guideline?	
2.4	**Notes.** Summarise the authors' conclusions. Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above.	
	ECMO führt in der Studie zu erhöhter Überlebensrate ohne Behinderung nach 6 Monaten. Allerdings limitiert durch oben erwähnte Probleme.	

[i] Unless a clear and well defined question is specified, it will be difficult to assess how well the study has met its objectives or how relevant it is to the question you are trying to answer on the basis of its conclusions.

[ii] Random allocation of patients to receive one or other of the treatments under investigation, or to receive either treatment or placebo, is fundamental to this type of study.

[iii] Allocation concealment refers to the process used to ensure that researchers are unaware which group patients are being allocated to at the time they enter the study. Research has shown that where allocation concealment is inadequate, investigators can overestimate the effect of interventions by up to 40%.

[iv] Blinding refers to the process whereby people are kept unaware of which treatment an individual patient has been receiving when they are assessing the outcome for that patient. It can be carried out up to three levels. Single blinding is where patients are unaware of which treatment they are receiving. In double blind studies neither the clinician nor the patient knows which treatment is being given. In very rare cases studies may be triple blinded, where neither patients, clinicians, nor those conducting the analysis are aware of which patients received which treatment. The higher the level of blinding, the lower the risk of bias in the study.

[v] Patients selected for inclusion in a trial must be as similar as possible. The study should report any significant differences in the composition of the study groups in relation to gender mix, age, stage of disease (if appropriate), social background, ethnic origin, or co-morbid conditions. These factors may be covered by inclusion and exclusion criteria, rather than being reported directly. Failure to address this question, or the use of inappropriate groups, should lead to the study being downgraded.

[vi] If some patients received additional treatment, even if of a minor nature or consisting of advice and counselling rather than a physical intervention, this treatment is a potential confounding factor that may invalidate the results. **If groups were *not* treated equally, the study should be rejected unless no other evidence is available.** If the study is used as evidence it should be treated with caution.

[vii] The primary outcome measures used should be clearly stated in the study. **If the outcome measures are not stated, or the study bases its main conclusions on secondary outcomes, the study should be rejected.** Where outcome measures require any degree of subjectivity, some evidence should be provided that the measures used are reliable and have been validated prior to their use in the study.

[viii] The number of patients that drop out of a study should give concern if the number is very high. Conventionally, a 20% drop out rate is regarded as acceptable, but this may vary. Some regard should be paid to why patients dropped out, as well as how many. It should be noted that the drop out rate may be expected to be higher in studies conducted over a long period of time. A higher drop out rate will normally lead to downgrading, rather than rejection of a study.

[ix] In practice, it is rarely the case that all patients allocated to the intervention group receive the intervention throughout the trial, or that all those in the comparison group do not. Patients may refuse treatment, or contra-indications arise that lead them to be switched to the other group. If the comparability of groups through randomisation is to be maintained, however, patient outcomes must be analysed according to the group to which they were originally allocated irrespective of the treatment they actually received. (This is known as intention to treat analysis.) If it is clear that analysis was not on an intention to treat basis, the study may be rejected. If there is little other evidence available, the study may be included but should be evaluated as if it were a non-randomised cohort study.

[x] In multi-site studies, confidence in the results should be increased if it can be shown that similar results were obtained at the different participating centres.

[xi] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

< PetrucciN_2013> Cochrane DB syst rev 2013 (2)

Guideline topic: AG IV	Key Question No: 4.3 & 8.1.1

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v]	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Most recent update of Cochrane SR/MA from 2003 & 2007 as well as publication from 2004 (the former ones not assessed in every methodological detail)	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< Putensen_2014 > Crit Care 2014;18:544ff

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Guideline topic: AG V	Key Question No: 5.7. (14.04.16)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=22; 14x PT vs ST & 8x various (6) PT techniques	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix] Pooled PT vs ST/ diff. PT techniques against each other compared	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x] Macaskill's test (weighted lin regress.)	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii]	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< PutensenC_2009 > Ann Intern Med 2009;151:566ff

Guideline topic: AG VI	Key Question No: 6.4.1 (28.10.15.ff) → gehört m.E. eher in Kap. IV

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No X
1.5	The included and excluded studies are listed.[v] K_{total}=9; k_{Vt}=4 (n=1149); ; k_{PEEP}=3 (n=2299) ; k_X=2 (n=148)	Yes ☐ No X (incl.only)
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say X
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Ref. belongs rather to Chap. IV than VI	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< SantaCruzR_2013 > Cochrane DB syst rev 2013(6)

Guideline topic: AG IV	Key Question No: 4.1

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKLS

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v]	Yes X No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x] Stated but not presented (although not necessarily essential due to k=7)	Yes ☐ No ☐ Can't say X
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) Acceptable (+) X Unacceptable – reject
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] 95%-CI rather near to significance regarding relevant outcomes like hospital/ 28d-mortality; Too rigorous rejection of higher PEEP's value with respect to the overall results	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

< TokmajiG_ 2015 > Cochrane review 2015;8

Guideline topic: AG II (?)	Key Question No: 2.4.1 (?; 11.04.16 –Nachtrag)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

Vital et al., Non-invasive positive pressuer ventilation, 2013, Cochrane Review

Guideline topic: 7-02	Key Question No: 7-02

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: CP, IMISE

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes **X** No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes **X** No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes **X** No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes **X** No ☐
1.5	The included and excluded studies are listed.[v] **Only included studies.**	Yes **X** No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes **X** No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes **X** No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes **X** No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes **X** No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes **X** No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes **X** No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++)**X** Acceptable (+) ☐ Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] **Bei Heterogenität der Studien wurden Sensitivitätsanalysen ohne bestimmte Studien gemacht, aber kein Random Effects Model.**	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< WangL_2016 > Cochrane review 2016;1

Guideline topic: AG VI (?)	Key Question No: 6.2 (?; 11.04.16 –Nachtrag)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes ☐ No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes ☐ No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes ☐ No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes ☐ No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No ☐
1.6	The characteristics of the included studies are provided.[vi]	Yes ☐ No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes ☐ No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes ☐ No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes ☐ No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes ☐ No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X (at least) Unacceptable – reject 0 ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] Acc. to convention Cochrane rev. are not to be methodologically reviewed in detail;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

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[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

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[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

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Methodology Checklist 1: Systematic Reviews and Meta-analyses

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Study identification (*Include author, title, year of publication, journal title, pages*)

< ZampieriF_2013 > J Crit Care 2013;28:998ff

Guideline topic: AG VI	Key Question No: 6.4.1 (28.10.15.ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF YES continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv]	Yes X No ☐
1.5	The included and excluded studies are listed.[v] K=3 (1 RCT & 2 CCs w. Propensity adjustment)	Yes X No ☐ k_{ex}=2 (old)
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii]	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x] sinceK small → not suitable	Yes ☐ No ☐ Can't say X
1.11	Conflicts of interest are declared.[xi]	Yes X No ☐
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) ☐ Acceptable (+) X Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] No definite evidence found that ECMO supports Survival; more studies needed;	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

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[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

[xi] Potential sources of support should be clearly acknowledged in both the systematic review and the included studies.

[xii] Rate the overall methodological quality of the study, using the following as a guide: **High quality** (++): Majority of criteria met. Little or no risk of bias. Results unlikely to be changed by further research. **Acceptable** (+): Most criteria met. Some flaws in the study with an associated risk of bias, Conclusions may change in the light of further studies. **Low quality** (0): Either most criteria not met, or significant flaws relating to key aspects of study design. Conclusions likely to change in the light of further studies.

[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.

SIGN

Methodology Checklist 1: Systematic Reviews and Meta-analyses

SIGN gratefully acknowledges the permission received from the authors of the AMSTAR tool to base this checklist on their work: *Shea BJ, Grimshaw JM, Wells GA, Boers M, Andersson N, Hamel C,. et al. Development of AMSTAR: a measurement tool to assess the methodological quality of systematic reviews. BMC Medical Research Methodology 2007, **7**:10 doi:10.1186/1471-2288-7-10. Available from http://www.biomedcentral.com/1471-2288/7/10 [cited 10 Sep 2012]*

Study identification (*Include author, title, year of publication, journal title, pages*)

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Guideline topic: AG V	Key Question No: 5.8.3 (25.05.16ff)

Before completing this checklist, consider:

1. Is the paper a systematic review or meta-analysis? IF NO reject. IF **YES** continue.
2. Is the paper relevant to key question? Analyse using PICO (Patient or Population Intervention Comparison Outcome). IF NO reject. IF YES complete the checklist.

Checklist completed by: AF, ZKSL

Section 1: Internal validity

In a well conducted systematic review:		***Does this study do it?***
1.1	The study addresses a clearly defined research question.[i]	Yes X No ☐ Can't say ☐
1.2	At least two people should select studies and extract data.[ii]	Yes X No ☐ Can't say ☐
1.3	A comprehensive literature search is carried out.[iii]	Yes X No ☐ Can't say ☐ Does not apply ☐
1.4	The authors clearly state if or how they limited their review by publication type.[iv] Engl. only	Yes X No ☐
1.5	The included and excluded studies are listed.[v]	Yes ☐ No X
1.6	The characteristics of the included studies are provided.[vi]	Yes X No ☐
1.7	The scientific quality of the included studies is assessed and documented.[vii]	Yes X No ☐

1.8	The scientific quality of the included studies was assessed appropriately.[viii] Unknown assessment but statements are OK	Yes X No ☐ Can't say ☐
1.9	Appropriate methods are used to combine the individual study findings.[ix]	Yes X No ☐ Can't say ☐
1.10	The likelihood of publication bias is assessed.[x]	Yes X No ☐ Can't say ☐
1.11	Conflicts of interest are declared.[xi]	Yes ☐ No X
SECTION 2: OVERALL ASSESSMENT OF THE STUDY		
2.1	What is your overall assessment of the methodological quality of this review? [xii]	High quality (++) X Acceptable (+) ☐ Unacceptable – reject ☐
2.2	Are the results of this study directly applicable to the patient group targeted by this guideline?	Yes ☐ No ☐
2.3	**Notes:**[xiii] No hints on therapeutic efficacy regarding reduced mortality 2 RCTs aus Mengh 2012 not included → reasons I/E-crit/ syst. Lit search?	

[i] The research question and inclusion criteria should be established before the review is conducted. To score a 'yes' for this factor there must be reference to a protocol, ethics approval, or pre-determined/a priori published research objectives.

[ii] At least two people should select papers and extract data. There should be a consensus procedure to resolve any differences.

[iii] At least two major electronic databases should be searched. The report must include years and databases searched (e.g., Central, EMBASE, MEDLINE, OpenGrey, 1999-2009). Key words and/or MESH terms must be stated and where feasible the search strategy should be provided. All searches should be supplemented by consulting current contents, reviews, textbooks, specialized registers, or experts in the particular field of study, and by reviewing the references in the studies found. In rare cases this may not apply where authors have carried out a meta analysis focusing on a specified range of major trials in their field.

[iv] The authors should state whether or not they excluded any reports (from the systematic review), based on their publication status or language. If searching sources that contains both grey and non-grey literature, must specify that they were searching for both.

[v] A list of included and excluded studies should be provided. Limiting the excluded studies to references is acceptable.

[vi] In an aggregated form such as a table, data from the original studies should be provided on the participants, interventions and outcomes. The ranges of characteristics in all the studies analyzed e.g., age, race, sex, relevant socioeconomic data, disease status, duration, severity, or other diseases should be reported. (**Note** that a format other than a table is acceptable, as long as the information noted here is provided).

[vii] This relates to the scientific quality of the studies included in the review. I can include use of a quality scoring tool or checklist, e.g., Jadad scale, risk of bias, sensitivity analysis, or a description of quality items, with some kind of result for EACH study ("low" or "high" is fine, as long as it is clear which studies scored "low" and which scored "high"; a summary score/range for all studies is not acceptable).

[viii] The methodological rigor and scientific quality should be considered in the analysis and the conclusions of the review, and explicitly stated in formulating recommendations. (**Note**: The review might say something like "the results should be interpreted with caution due to poor quality of included studies." Cannot score "yes" for this question if scored "no" for question 7).

[ix] For the pooled results, a test should be done to ensure the studies were combinable, to assess their homogeneity (i.e., Chi-squared test for homogeneity, *I*2). If heterogeneity exists a random effects model should be used and/or the clinical appropriateness of combining should be taken into consideration (i.e., is it sensible to combine?). Indicate "yes" where the authors mention or describe heterogeneity or variability between results and discuss the consequences (eg where authors declare they cannot pool results because of heterogeneity).

[x] An assessment of publication bias should include a combination of graphical aids (e.g., funnel plot, other available tests) and/or statistical tests (e.g., Egger regression test, Hedges-Olken). (**Note**: Score "Can't say" if there were fewer than 10 included studies).

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[xiii] Add any comments on your own assessment of the study, and the extent to which it answers your question and mention any areas of uncertainty raised above. This is a very important part of the evaluation and will feature in the evidence table. PLEASE FILL IN.