Intervenciones que Mejoran la Calidad de Atención del Paciente en la UCI

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Disclosure

- No financial disclosures

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Presentation Outline

- Lung protective ventilation and ventilator bundle
  - Low tidal volume/Low plateau pressures
  - VAP prevention
  - Sedation interruption
- Rapid response teams
- Central line bundle
- Delirium prevention

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Other interventions not discussed

- Sepsis bundle
- Early mobilization in the ICU
- Palliative care in the ICU
- Family involvement
- Multidisciplinary rounds

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Lung Protective Ventilation and Ventilator Bundle

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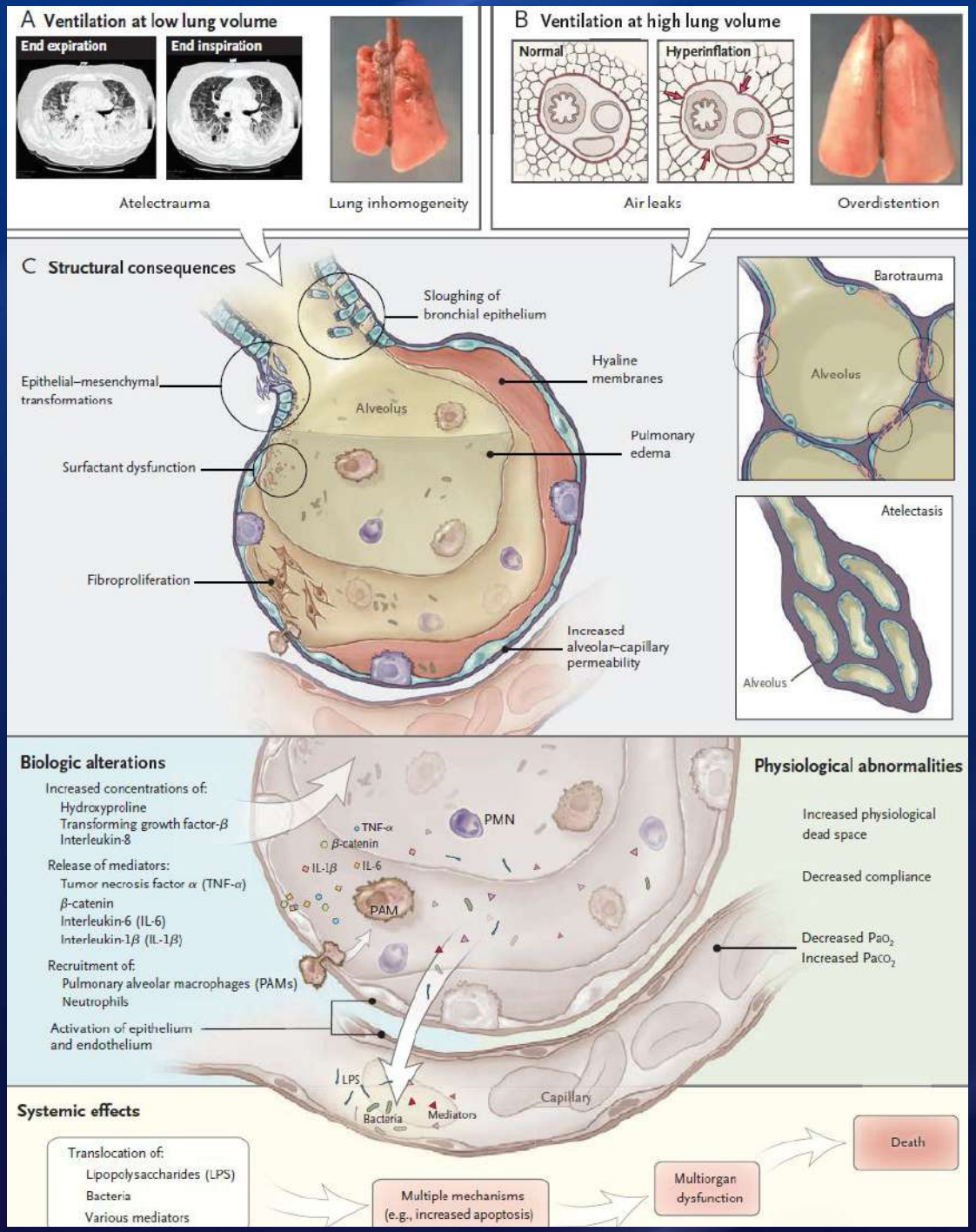


Lung Protective Ventilation

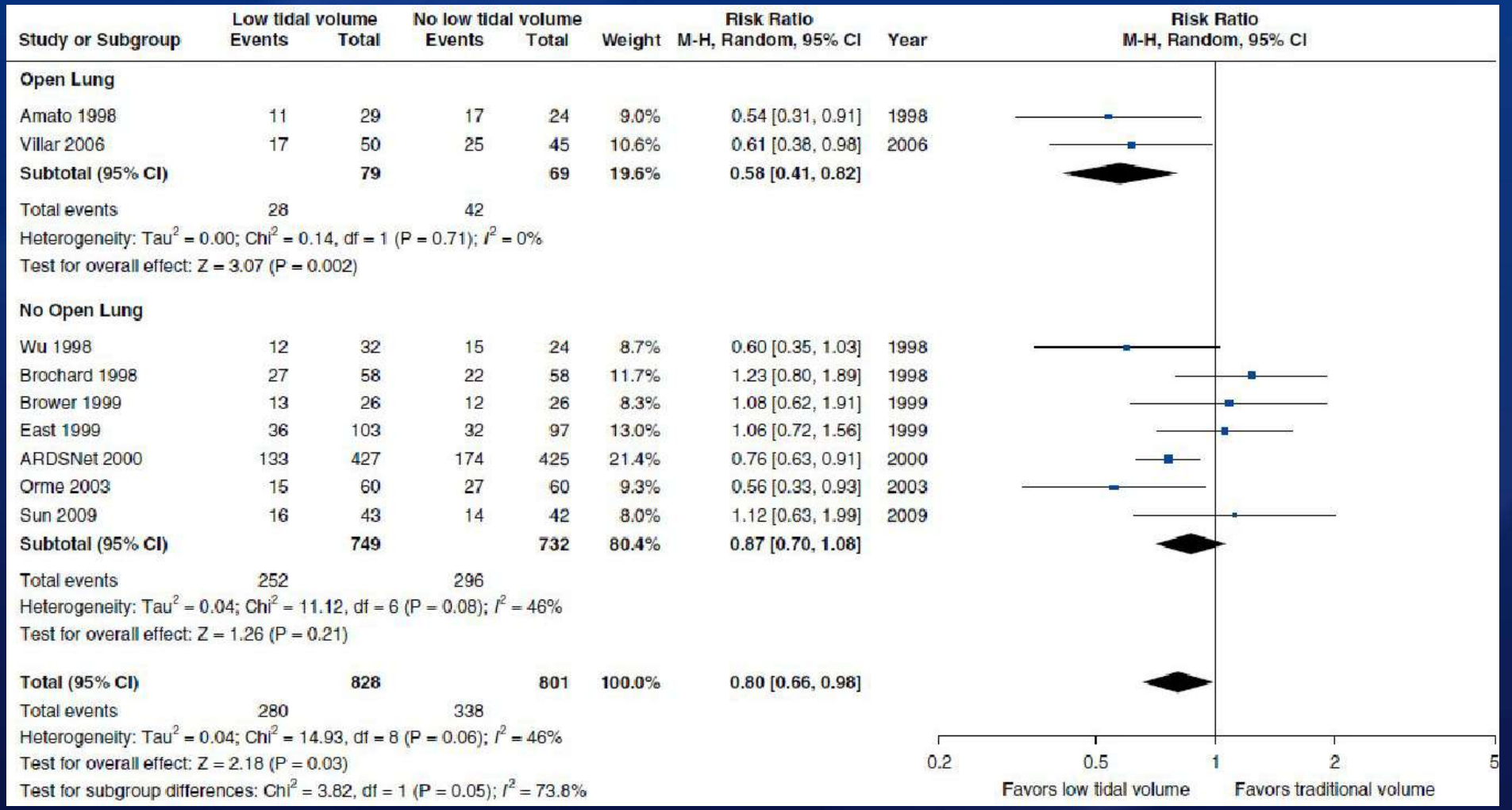
Slutsky AS Ranieri VM NEJM 2014

Low Tidal Volumes and Plateau pressures < 30 cmH2O

Intervention	ARDS Severity	Quality of Evidence (GRADE)	Strength of Recommendation	Comments
Mechanical ventilation with low tidal volumes and inspiratory pressures[a]	All ARDS	Moderate[61]	Strong	Initial tidal volume should be set at 6 mL/kg predicted body weight and can be increased up to 8 mL/kg predicted body weight if the patient is double triggering or if inspiratory pressure decreases below PEEP

JAMA February 20, 2018 Volume 319, Number 7

Low TV strategy in ARDS



Study or Subgroup	Low tidal volume Events	Total	No low tidal volume Events	Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
Open Lung							
Amato 1998	11	29	17	24	9.0%	0.54 [0.31, 0.91]	1998
Villar 2006	17	50	25	45	10.6%	0.61 [0.38, 0.98]	2006
Subtotal (95% CI)		**79**		**69**	**19.6%**	**0.58 [0.41, 0.82]**	
Total events	28		42				
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 0.14$, df = 1 (P = 0.71); $I^2 = 0\%$							
Test for overall effect: Z = 3.07 (P = 0.002)							
No Open Lung							
Wu 1998	12	32	15	24	8.7%	0.60 [0.35, 1.03]	1998
Brochard 1998	27	58	22	58	11.7%	1.23 [0.80, 1.89]	1998
Brower 1999	13	26	12	26	8.3%	1.08 [0.62, 1.91]	1999
East 1999	36	103	32	97	13.0%	1.06 [0.72, 1.56]	1999
ARDSNet 2000	133	427	174	425	21.4%	0.76 [0.63, 0.91]	2000
Orme 2003	15	60	27	60	9.3%	0.56 [0.33, 0.93]	2003
Sun 2009	16	43	14	42	8.0%	1.12 [0.63, 1.99]	2009
Subtotal (95% CI)		**749**		**732**	**80.4%**	**0.87 [0.70, 1.08]**	
Total events	252		296				
Heterogeneity: $Tau^2 = 0.04$; $Chi^2 = 11.12$, df = 6 (P = 0.08); $I^2 = 46\%$							
Test for overall effect: Z = 1.26 (P = 0.21)							
Total (95% CI)		**828**		**801**	**100.0%**	**0.80 [0.66, 0.98]**	
Total events	280		338				
Heterogeneity: $Tau^2 = 0.04$; $Chi^2 = 14.93$, df = 8 (P = 0.06); $I^2 = 46\%$							
Test for overall effect: Z = 2.18 (P = 0.03)							
Test for subgroup differences: $Chi^2 = 3.82$, df = 1 (P = 0.05); $I^2 = 73.8\%$							

AnnalsATS Volume 14 Supplement 4 | October 2017

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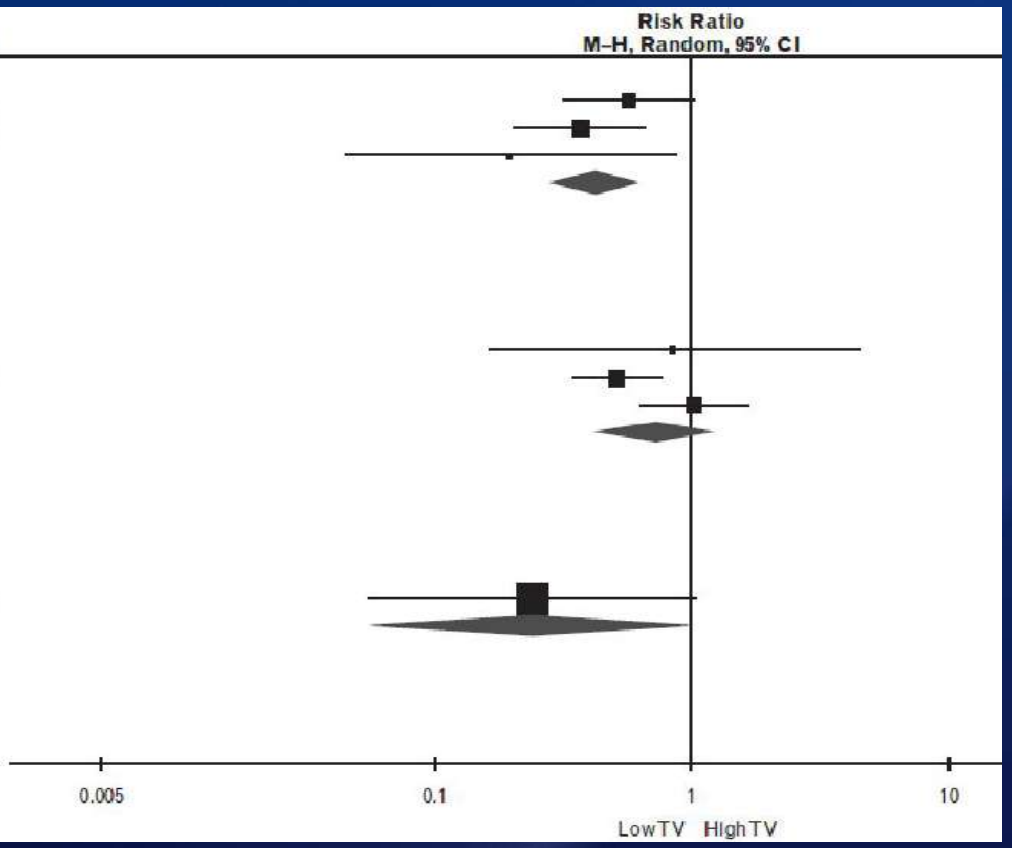
Low TV strategy in ICU patients (No ARDS)

Study or Subgroup	Low TV Events	Low TV Total	High TV Events	High TV Total	Weight	Risk Ratio M–H, Random, 95% CI	Year
1.2.1 Lung Injury							
Gajic 2004 [40]	12	66	32	100	40.4%	0.57 [0.32, 1.02]	2004
Yilmaz 2007 [42]	17	163	60	212	52.0%	0.37 [0.22, 0.61]	2007
Determann 2010 [8]	2	76	10	74	7.6%	0.19 [0.04, 0.86]	2010
Subtotal (95% CI)		**305**		**386**	**100.0%**	**0.42 [0.28, 0.63]**	
Total events	31		102				
Heterogeneity: $Tau^2 = 0.02$; $chi^2 = 2.35$, df = 2 (P = 0.31); $I^2 = 15\%$							
Test for overall effect: Z = 4.10 (P < 0.0001)							
1.2.2 Mortality							
Wolthuis 2007 [41]	3	23	2	13	9.7%	0.85 [0.16, 4.44]	2007
Yilmaz 2007 [42]	27	163	69	212	47.4%	0.51 [0.34, 0.76]	2007
Determann 2010 [8]	24	76	23	74	42.9%	1.02 [0.63, 1.63]	2010
Subtotal (95% CI)		**262**		**299**	**100.0%**	**0.72 [0.41, 1.26]**	
Total events							
Heterogeneity: $Tau^2 = 0.13$; $chi^2 = 4.95$, df = 2 (P = 0.08); $I^2 = 60\%$							
Test for overall effect: Z = 1.15 (P < 0.25)							
1.2.3 Pulmonary Infection							
Lee 1999 [39]	2	47	10	56	100.0%	0.24 [0.05, 1.03]	1999
Subtotal (95% CI)		**47**		**56**	**100.0%**	**0.24 [0.05, 1.03]**	
Total events	2		10				
Heterogeneity: Not applicable							
Test for overall effect: Z = 1.92 (P < 0.06)							



Curr Opin Crit Care 2014, 20:25–32

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LUNG SAFE study

- 459 ICUs from 50 countries, February 2014
- 2377 pts with ARDS
  - Less than 2/3 with TV <8cc/PBW
  - PP measured in 40%, PEEP <12 in 83%
  - NMB in 22% (38% if severe ARDS)
  - RM in 21% (33% if severe)
  - Prone positioning in 8% (16% if severe)
  - iPV in 8% (13% if severe)
  - ECMO in 3% (7% if severe)

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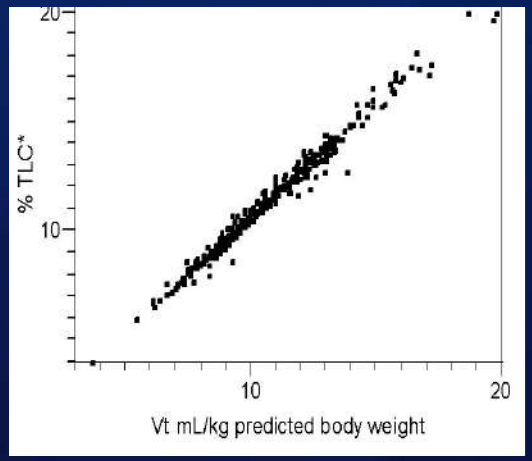
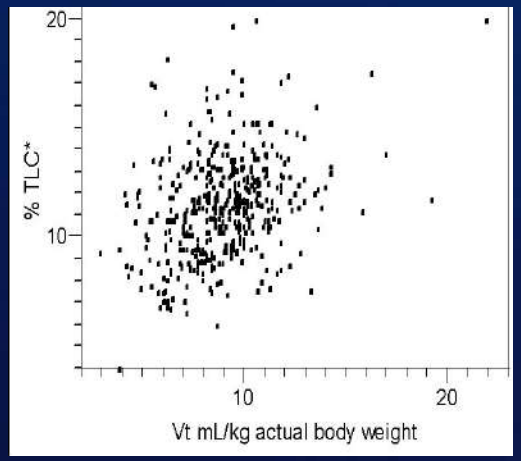
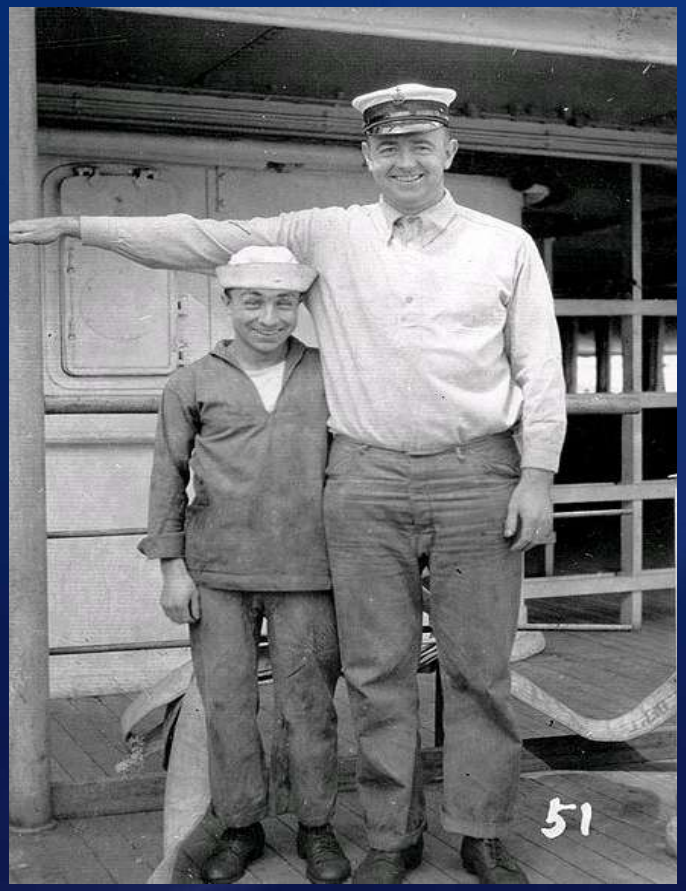
Bellani et al. JAMA. 2016;315(8):788-800

Adherence to Lung Protective Mechanical Ventilation

- Height and gender are better predictors of lung size than is actual body weight







Holets SR, Hubmayr RD. How to set the ventilator 2006

Females

Height	4 ml / Kg	6 ml / Kg	8 ml / Kg
132	108	163	217
134	117	176	235
137	127	190	254
139	136	204	272
142	145	218	290
144	155	232	309
147	164	245	327
149	173	259	346
152	182	273	364
155	191	287	382
157	200	301	401
160	210	314	419
162	219	328	438
165	228	342	456
167	237	356	474
170	246	370	493
172	256	383	511
175	265	397	530
178	275	411	549
180	283	425	566
183	293	439	585
185	302	452	603
188	311	466	622
190	320	480	640
193	329	494	658
195	339	508	677
198	347	521	695
200	357	535	714
203	366	549	732
205	375	564	750
208	384	577	769

Males

Height	4 ml / Kg	6 ml / Kg	8 ml / Kg
132	126	190	253
134	135	203	271
137	145	217	290
139	154	231	308
142	163	245	326
144	172	259	345
147	181	272	363
149	191	286	382
152	200	300	400
155	209	314	418
157	218	328	437
160	227	341	455
162	237	355	474
165	246	369	492
167	255	383	510
170	264	397	529
172	273	410	547
175	283	424	566
178	292	438	584
180	301	452	602
183	310	466	621
185	320	479	639
188	329	493	658
190	339	507	676
193	347	521	694
195	357	535	713
198	365	548	731
200	375	562	750
203	384	576	768
205	393	590	786
208	402	604	805

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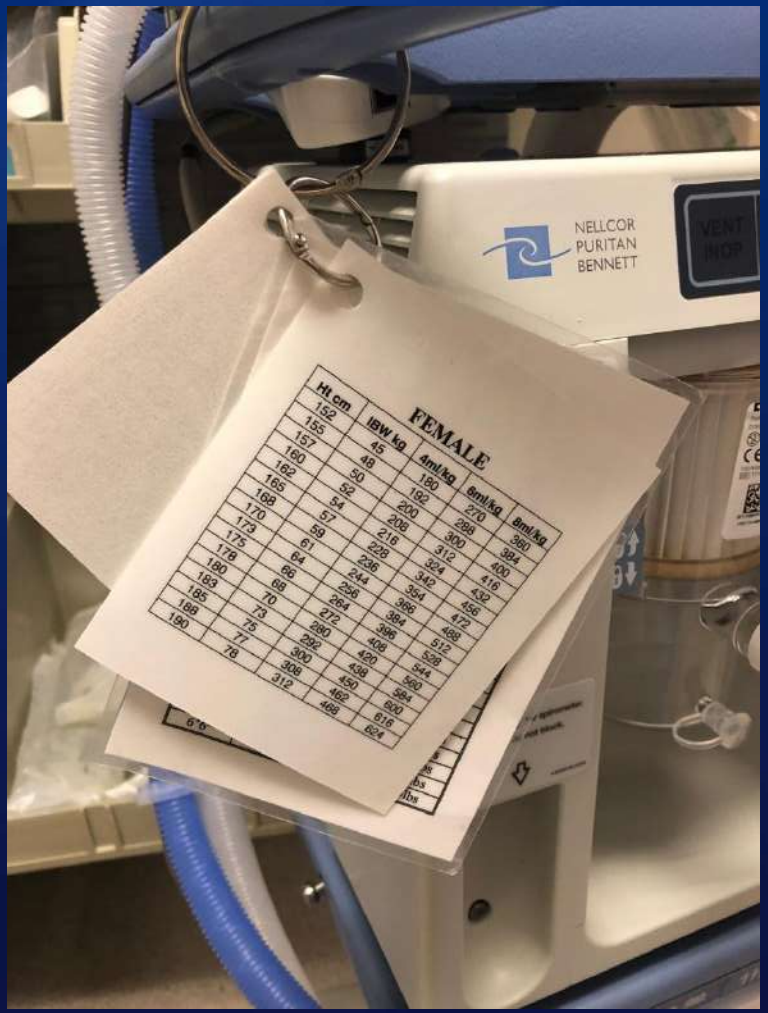
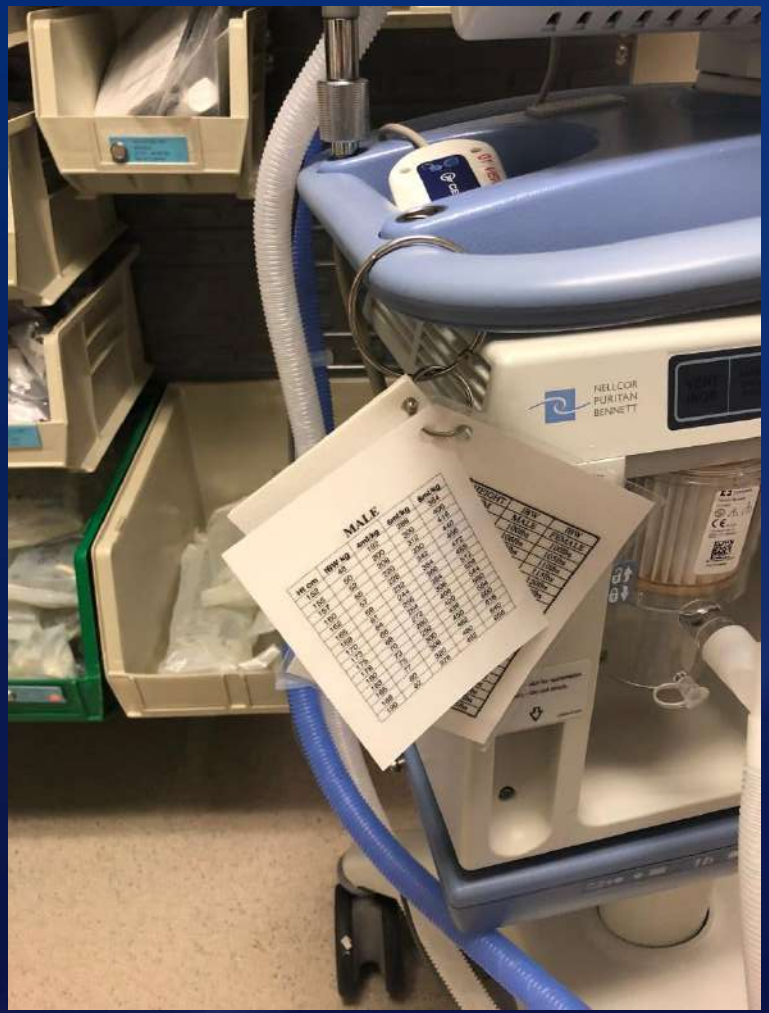
Make it simple!





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Ventilator Bundle Definition & Facts

Facts:

- Of hospital-acquired infections, VAP is the leading cause of death
- Mortality rate: 20 – 43%
- VAP adds estimated cost of $40,000
- VAP cases are reported to Center for Medicare & Medicaid Services

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Ventilator Bundle Components

"The Ventilator Bundle is a series of interventions related to ventilator care that, *when implemented together*, will achieve significantly better outcomes than when implemented individually"

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Ventilator Bundle Components

- Key components
  - Elevation of the head of the bed
  - Daily “sedation vacation” and assessment of readiness to extubate
  - Peptic ulcer disease prophylaxis
  - Deep venous thrombosis prophylaxis
- All elements must be completed in order to be compliant with the bundle!

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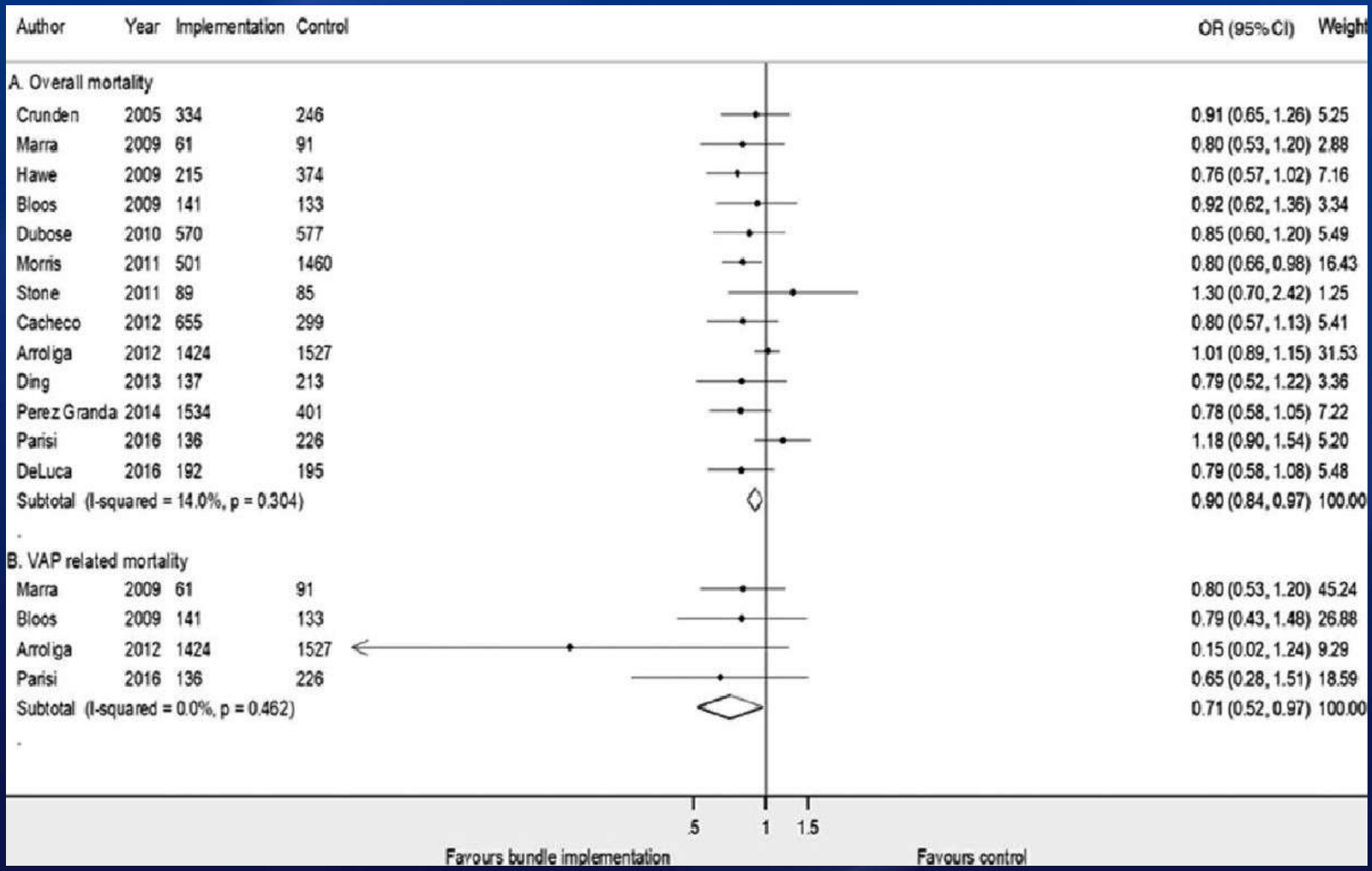
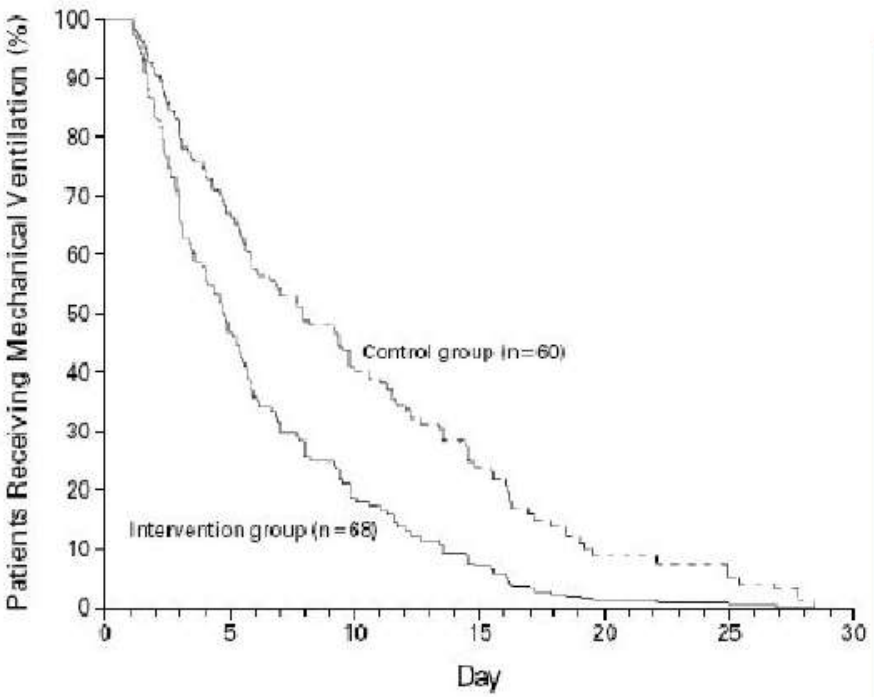
Ventilator Bundle: The Evidence



Crit Care Med. 2018 Apr 6

Daily Sedation Interruption Decreases Duration of Mechanical Ventilation

- Hold sedation infusion until patient awake and then restart at 50% of the prior dose
- "Awake" defined as any 3 of the following:
  - Open eyes in response to voice
  - Use eyes to follow investigator on request
  - Squeeze hand on request
  - Stick out tongue on request



- Fewer diagnostic tests to assess changes in mental status
- No increase in rate of agitated-related complications or episodes of patient-initiated device removal
- No increase in PTSD or cardiac ischemia

Kress JP, et al. *N Engl J Med*. 2000;342:1471-1477.
Kress JP, et al *AJRCCM*. 2003; 168:1457-1461.

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Awakening and Breathing Controlled (ABC) Trial

- Aim: assess a protocol that paired SATs (i.e. daily interruption of sedatives) with SBTs
- Methods: randomly assigned 336 mechanically ventilated ICU patients to management with a daily SAT followed by an SBT (intervention group; n=168) or with sedation per usual care plus a daily SBT (control group; n=168); the primary endpoint was time breathing without assistance
- Results:
  - Increased time off mechanical ventilation
  - Less time in medication induced coma
  - Less time in ICU & hospital
  - Improved 1-year survival compared to usual patient care

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(Girard et al, Lancet 2008)

MEDICATIONS:

VTE Prophylaxis:

Select Only One

- ☐ Heparin 5000 units subcutaneous every 8 hours (high risk surgery, risk factors [i.e., cancer, history VTE, large BMI]).
- ☐ Heparin 5000 units subcutaneous every 12 hours (i.e., moderate risk surgical, medical).
- ☐ Enoxaparin (Lovenox®) 30 mg subcutaneous every 12 hours (i.e., orthopedic indications, surgical).
- ☐ Enoxaparin (Lovenox®) 40 mg subcutaneous every 24 hours (i.e., medically ill).
- ☐ VTE prophylaxis contraindicated at this time.
- ☐ VTE prophylaxis not indicated at this time.

Stress Ulcer Prophylaxis:

Select Only One

- ☐ Famotidine (Pepcid®) 20 mg PO/IV. PO route preferred.
  - Twice daily (if CrCL 50 mL/minute or greater, or if by age, age less than 65).
  - Once daily (if CrCL 49 mL/minute or less, or if by age, age 65 or older).
- ☐ Omeprazole (Prilosec®) 20 mg PO daily.
- ☐ Lansoprazole (Prevacid Solu-Tab®) 30 mg SBTUBE/GTUBE once daily.
- ☐ Pantoprazole (Protonix®) 40 mg IV once daily.
- ☐ Stress ulcer prophylaxis contraindicated at this time.
- ☐ Stress ulcer prophylaxis not indicated at this time.

Oral Care: ☒ Chlorhexidine Gluconate (Peridex®) 15 mL every 6 hours while intubated. Apply topically with sponge to the buccal, pharyngeal, gingival, tongue and tooth surfaces for 30 seconds.
Note: Avoid brushing or the use of mouthwash for at least 2 hours after application of Chlorhexidine.

NURSING/RESPIRATORY:

- Elevate head of bed to 30 degrees or above unless contraindicated.
- Sequential compression devices unless contraindicated.
- Oral assessment and care every 2–4 hours and brush teeth every 6 hours.
- Perform daily sedation vacation unless contraindicated. (See page 2 for further details.)
- Perform daily weaning assessment during sedation vacation unless contraindicated.

Daily Sedation Vacation:

- Hold sedation until patient awake and can follow commands with a Richmond Agitation Sedation Scale (RASS) score at goal.
- If RASS greater than goal resume prior sedation as ordered. Discuss dose reduction during rounds.
- Hold sedation every day (scheduled in collaboration with Respiratory Therapy) if the RASS criteria are satisfied.

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Sedation Vacation Exclusion Criteria:

- Active seizures or seizure condition treated with medications
- Alcohol withdrawal
- Neuromuscular blockade
- Acute MI
- Elevated intracranial pressure (ICP > 20 mmHg)

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Rapid Response Teams

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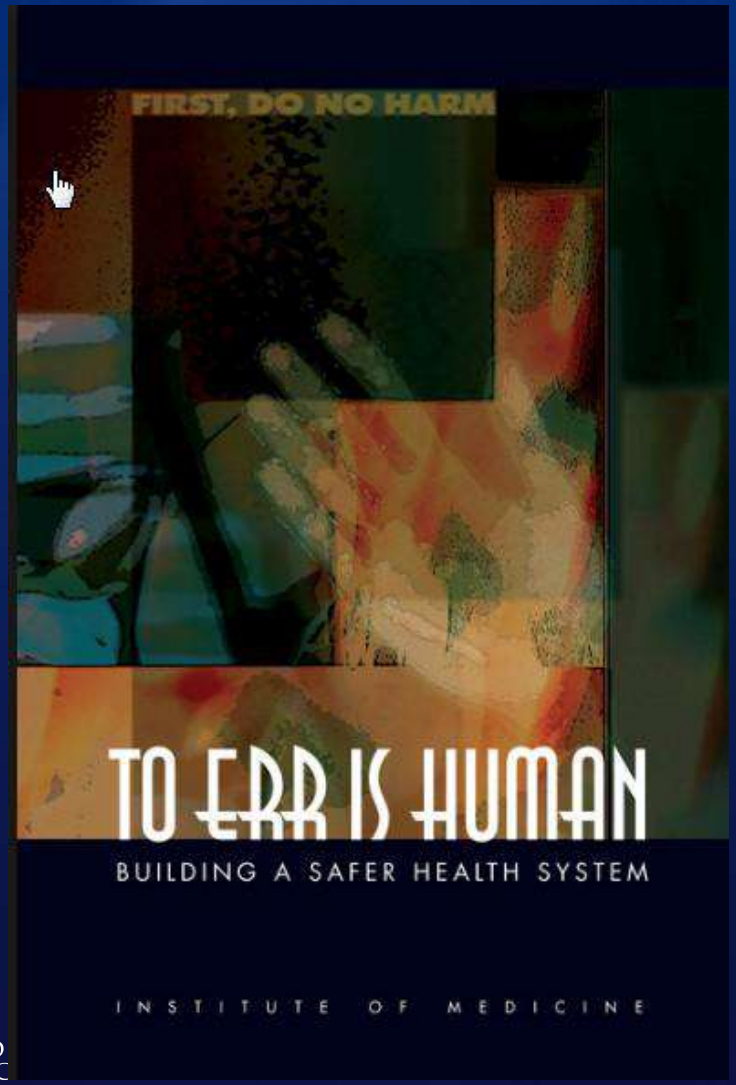
To Err is Human: Institute of Medicine 1999



Delayed recognition of critical illness was a major cause of poor outcomes in hospitals- led to research and creation of Rapid Response Teams

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Early Intervention

- Critical events are preceded by warning signs 6 to 8 hours prior to the event
- 70% of circulatory arrest patients have respiratory problems 8 or less hours before
- 84% of cardiac arrest patients had instability within the 8 hour window preceding the event
- Responding to early warning signs reduces mortality by 75% and cost by 40%

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Rapid Response Team

- Medical emergency team (MET)
- Bring critical care expertise to the patient bedside
- Team of health care providers that responds to hospitalized patients with early signs of deterioration on non-intensive care units to prevent respiratory or cardiac arrest.
- Usually triggered by predefined physiologic thresholds

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RRT Criteria

- A staff member is worried about the patient
- Acute and persistent declining pulse oximetry < 90%
- Acute and persistent change in HR: < 40 or > 130
- Acute and persistent change in Systolic BP to < 90
- Acute and persistent change in RR < 10 or > 28
- New onset chest pain suggestive of ischemia
- Acute and persistent change in conscious state (including agitated delirium)
- Signs and symptoms suggestive of a stroke

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RRT

- The team responds in a non-judgmental, non-punitive manner
- Roles:
  - Assess and stabilize the patient's condition.
  - Assist in organizing information to be communicated to the patient's physician.
  - Provide support and education to unit staff members.
  - Assist with transferring the patient to a higher level of care, if circumstances warrant.

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Outcome of adult patients attended by rapid response teams: A systematic review of the literature☆

Joonas Tirkkonen[a,*], Tero Tamminen[b], Markus B. Skrifvars[b,c]

[a] Department of Intensive Care Medicine, Tampere University Hospital and Department of Anaesthesiology and Intensive Care Medicine, Seinäjoki Central Hospital, P.O. Box 2000, FI-33521 Tampere, Finland
[b] Division of Intensive Care, Department of Anaesthesiology, Intensive Care and Pain Medicine, Helsinki University and Helsinki University Hospital, Finland
[c] Australian and New Zealand Intensive Care Research Centre, School of Public Health and Preventive Medicine, Monash University, Australia

Resuscitation 112 (2017) 43–52

Effectiveness of Rapid Response Teams on Rates of In-Hospital Cardiopulmonary Arrest and Mortality: A Systematic Review and Meta-analysis

Rose S. Solomon, MPH, Gregory S. Corwin, MPH*, Dawn C. Barclay, MD, MBA, Sarah F. Quddusi, MPH, Michelle D. Dannenberg, MPH

The Dartmouth Institute for Health Policy and Clinical Practice, Geisel School of Medicine at Dartmouth, Lebanon, New Hampshire.

Journal of Hospital Medicine Vol 11 | No 6 | June 2016

Rapid response systems: a systematic review and meta-analysis

Ritesh Maharaj[1,2,3*], Ivan Raffaele[2] and Julia Wendon[1,2]

CRITICAL CARE

Critical Care (2015) 19:254

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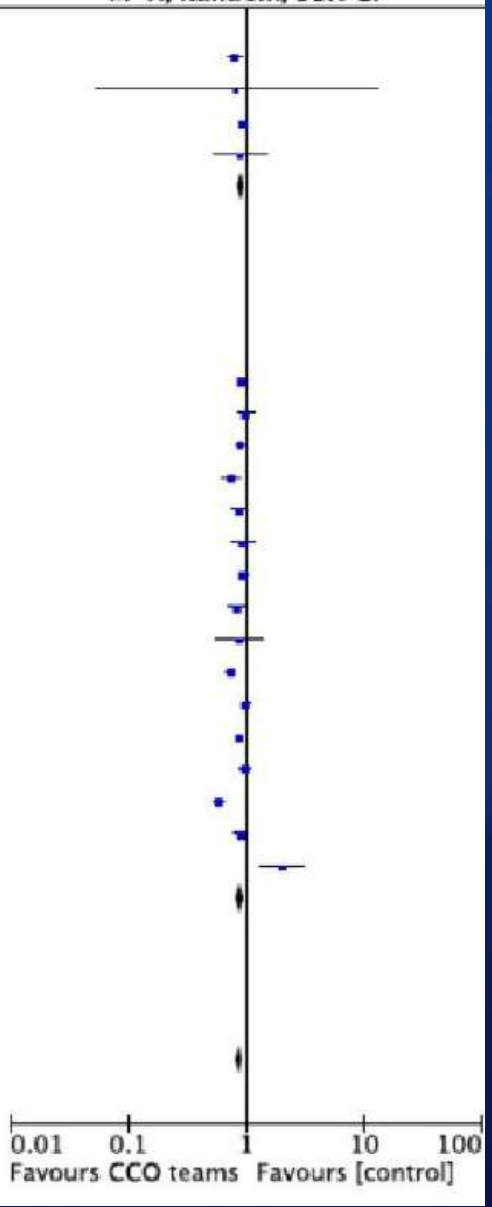
Study or Subgroup	Rapid Response Systems Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
1.1.1 Cluster RCT, CBA and ITS Studies						
Bristow	243	18338	535	32604	5.4%	0.81 [0.69, 0.94]
Hillman	1	622	1	517	0.1%	0.83 [0.05, 13.26]
Howell	1755	90045	1383	66496	6.7%	0.94 [0.87, 1.00]
Priestley	27	530	28	487	1.5%	0.89 [0.53, 1.48]
Subtotal (95% CI)		**109535**		**100104**	**13.6%**	**0.91 [0.85, 0.97]**
Total events	2026		1947			
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 3.11$, df = 3 ($P = 0.38$); $I^2 = 3\%$						
Test for overall effect: $Z = 2.70$ ($P = 0.007$)						
1.1.2 Observational and Before After Studies						
Al-Qahtani	3191	157804	2214	98931	6.9%	0.90 [0.86, 0.95]
Baxter	400	11271	279	7820	5.4%	0.99 [0.86, 1.16]
Beitler	1086	79013	1194	77021	6.5%	0.89 [0.82, 0.96]
Bellomo	222	20921	302	21090	5.0%	0.74 [0.62, 0.88]
Buist	393	22847	380	19317	5.6%	0.87 [0.76, 1.01]
Campello	357	70850	94	17557	4.1%	0.94 [0.75, 1.18]
Chan	773	24978	780	24193	6.3%	0.96 [0.87, 1.06]
Dacey	402	17090	160	5667	4.9%	0.83 [0.70, 1.00]
Hayani	26	294	53	520	1.8%	0.87 [0.55, 1.36]
Jones	4070	104001	873	16246	6.7%	0.73 [0.68, 0.78]
Kenward	1054	53500	1070	53500	6.5%	0.99 [0.91, 1.07]
Konrad	1211	73825	3854	203892	6.7%	0.87 [0.81, 0.93]
Lim	583	34699	569	33360	6.0%	0.99 [0.88, 1.10]
Santamaria	551	74616	1174	91137	6.2%	0.57 [0.52, 0.63]
Shah	970	45125	390	16244	6.0%	0.90 [0.80, 1.01]
Simmes	89	2410	25	1376	1.9%	2.03 [1.31, 3.15]
Subtotal (95% CI)		**793244**		**687871**	**86.4%**	**0.88 [0.81, 0.95]**
Total events	15378		13411			
Heterogeneity: $Tau^2 = 0.02$; $Chi^2 = 129.79$, df = 15 ($P < 0.00001$); $I^2 = 88\%$						
Test for overall effect: $Z = 3.20$ ($P = 0.001$)						
Total (95% CI)		**902779**		**787975**	**100.0%**	**0.88 [0.82, 0.94]**
Total events	17404		15358			
Heterogeneity: $Tau^2 = 0.02$; $Chi^2 = 135.66$, df = 19 ($P < 0.00001$); $I^2 = 86\%$						
Test for overall effect: $Z = 3.69$ ($P = 0.0002$)						
Test for subgroup differences: $Chi^2 = 0.41$, df = 1 ($P = 0.52$), $I^2 = 0\%$						



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Critical Care (2015) 19:254

RRT mediated outcomes

- Decrease hospital mortality
- Decrease number of in-hospital cardiac arrests
- Similar results in pediatric population
- No difference if the team lead is a physician
- Increase staff satisfaction

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Central Line Bundle

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CLABSI reduction from 2.7 events per 1000 catheter days to 0 at 3 months

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Central Line Bundle Components

- Hand Hygiene
- Maximal Barrier Precautions Upon Insertion
- Chlorhexidine Skin Antisepsis
- Optimal Catheter Site Selection

  (Subclavian vein)
- Daily Review of Line Necessity

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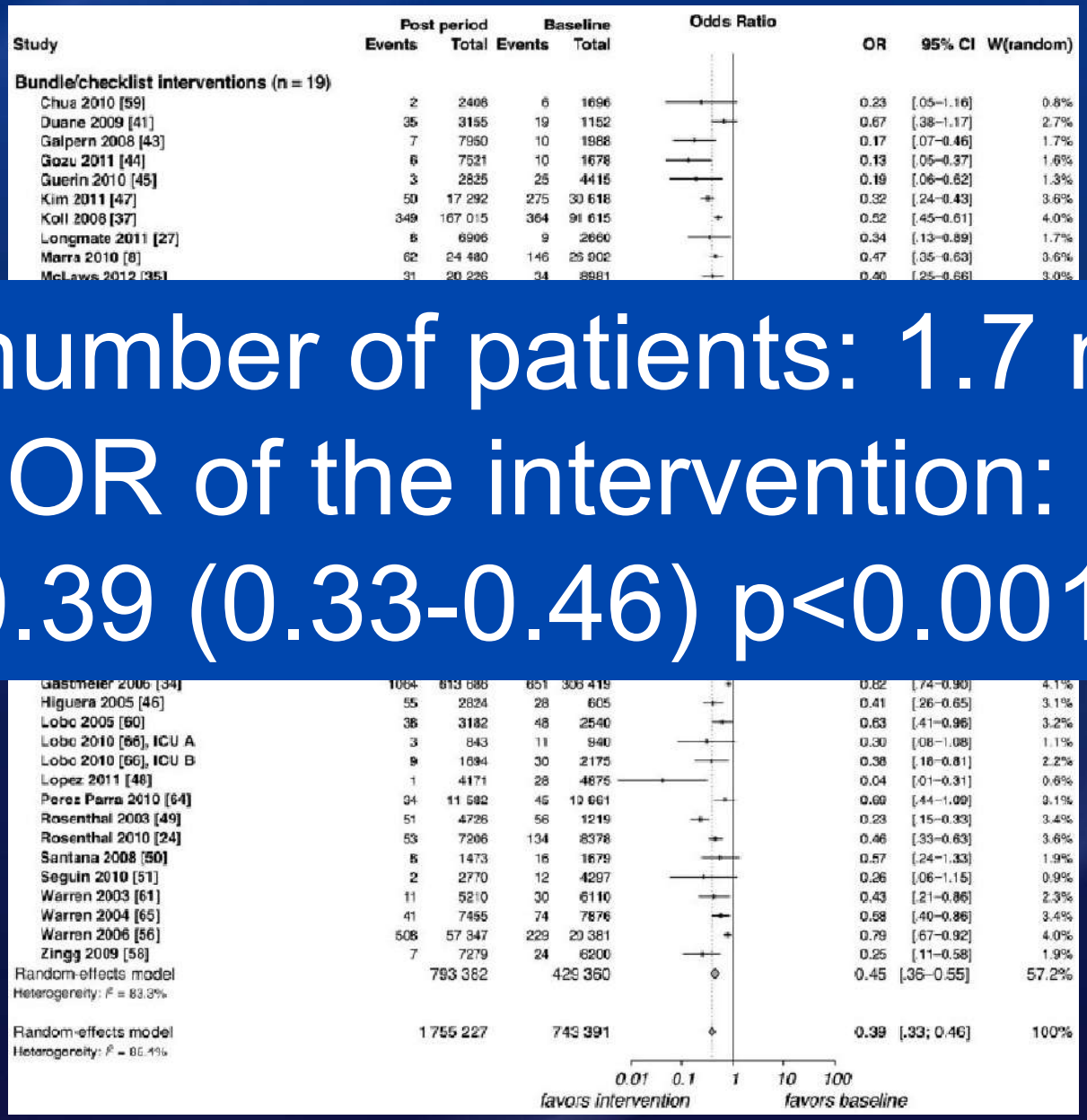
CLABSI Prevention

CID 2014:59 (1 July)



Total number of patients: 1.7 million

OR of the intervention:

0.39 (0.33-0.46) p<0.001

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The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Intravascular Complications of Central Venous Catheterization by Insertion Site

Jean-Jacques Parienti, M.D., Ph.D., Nicolas Mongardon, M.D., Bruno Mégarbane, M.D., Ph.D., Jean-Paul Mira, M.D., Ph.D., Pierre Kalfon, M.D., Ph.D., Antoine Gros, M.D., Sophie Marqué, M.D., Marie Thuong, M.D., Véronique Pottier, M.D., Michel Ramakers, M.D., Benoît Savary, M.D., Amélie Seguin, M.D., Xavier Valette, M.D., Nicolas Terzi, M.D., Ph.D., Bertrand Sauneuf, M.D., Vincent Cattoir, Pharm.D., Ph.D., Leonard A. Mermel, D.O., and Damien du Cheyron, M.D., Ph.D., for the 3SITES Study Group*

N Engl J Med 2015;373:1220-9.

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Intravascular Complications of Central Venous Catheterization by Insertion Site

- 10 ICUs, in France from December 2011 through June 2014
- Randomly assigned non-tunneled central venous catheterization in patients in the adult intensive care unit (ICU)
  - Subclavian, jugular, or femoral vein (in a 1:1:1 ratio if all three insertion sites were suitable
  - 1:1 ratio if two sites were suitable
- The primary outcome measure was a composite of catheter-related bloodstream infection and symptomatic deep-vein thrombosis.

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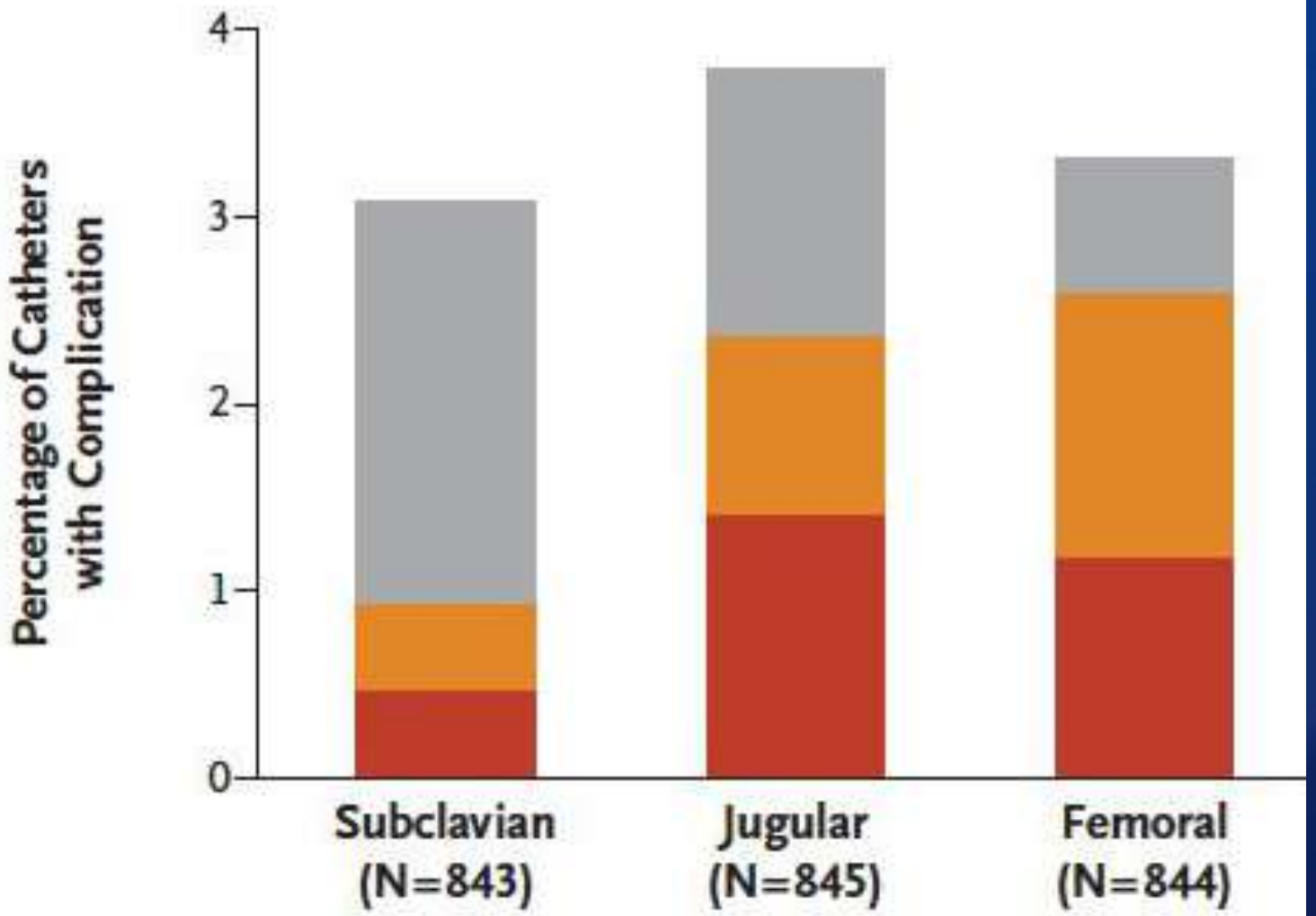

	Subclavian (N=843)	Jugular (N=845)	Femoral (N=844)
Mechanical (grade ≥3)	18 (2.1%)	12 (1.4%)	6 (0.7%)
Symptomatic deep-vein thrombosis	4 (0.5%)	8 (0.9%)	12 (1.4%)
Bloodstream infection	4 (0.5%)	12 (1.4%)	10 (1.2%)

Delirium Prevention

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Delirium: Definition

- Acute onset of impaired attention, cognition (memory, orientation , language), consciousness, perception, behaviors, and/or emotions that may fluctuate, have a medical cause, and are not due to dementia.
- Often called “acute confusion.”
- Think: rapid onset, inattention, clouded consciousness, fluctuating
- Subtypes: hyperactive, hypoactive, mixed

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Importance of preventing delirium

- ICU delirium is a predictor of:
  - ↑ mortality
  - ↑ length of stay
  - ↑ time on vent
  - ↑ costs
  - ↑ re-intubation
  - ↑ long-term cognitive impairment
  - ↑ discharge to long-term care facility

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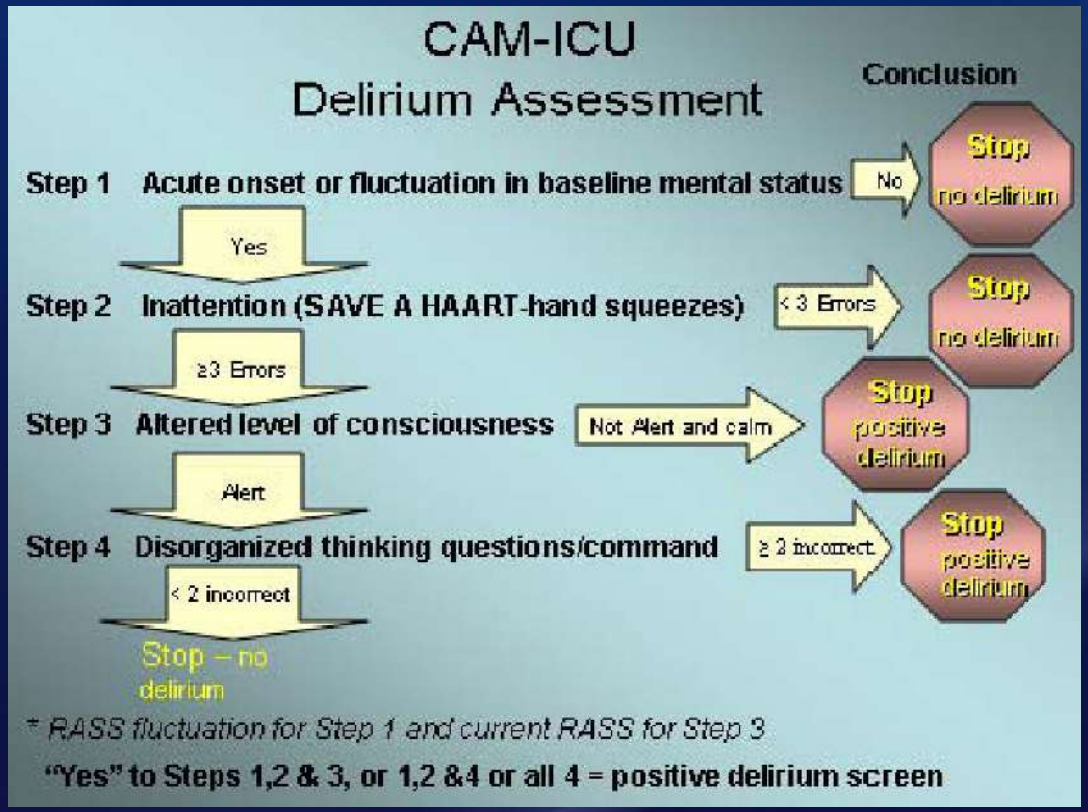
CAM-ICU: Confusion Assessment Method

Step 1: Acute Onset/Fluctuation

Step 2: Inattention

Step 3: Altered LOC

Step 4: Disorganized Thinking



Use non-drug management

- Sleep:

- Allow continuous sleep at night
- Keep noise down (ear plugs and eyes mask, pagers on vibrating mode, turn off non-critical alarms)
- Sound masking
- Relaxation techniques
- Aromatherapy

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Use non-drug management

- Orientation:
  - Orient to date and place
  - Clock and calendar in room
  - Light on from 7 a.m. to 7 p.m. (sunrise to sunset)
  - Always introduce yourself

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Use non-drug management

- Environment:

- Keep hearing aids and glasses accessible.
- Offer beverage of choice frequently for hydration.
- Encourage family visits

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Evening Bundle to Eliminate Delirium

Perform Nightly Between 8 P.M. - 10 P.M.

ROOM #: _____

Why?	Tasks to Complete
Day/Night Cycle	Lower blinds and turn off room and hallway lights
Orient	Introduce yourself and reorient patient to place/date/time
Familiarity	Ask about and emulate home bedtime routine
	Discuss with team to discontinue lines/tubes/devices
	Discuss with team to discontinue physical/chemical restraints
Sensory	Turn TV off and use white noise generator
	Set personal mobile devices to "night mode" or decrease screen brightness
	Close door and draw curtain if clinically appropriate
	Set hospital and personal phone/pager to vibrate or reduce volume
	Seek if interested in adjusting room temperature
Sleep	Discuss with team to initiate sleep protocol (less frequent RN assessments, grouped care activities, melatonin/trazodone)
	Offer ear plugs, headphones, sleep masks, and/or warm blanket to patient and family members
At Risk	Assess current RASS and discuss with team to adjust analgesics/sedatives to meet RASS goal
	Assess pCAM → if + or N/A, score WAT-1 if weaning agent(s) → treat withdrawal if WAT-1 >3; if WAT-1 ≤3 → consider using opioid/benzo/anti-cholinergic sparing agents (acetaminophen/ibuprofen/ketorolac/dexmed/clonidine/gabapentin)

Morning Bundle to Eliminate Delirium

Perform Daily Between 8 A.M. - 10 A.M.

ROOM #: _____

Why?	Tasks to Complete
Day/Night Cycle	Raise blinds, open curtains, and illuminate room and hallway lights
Orientation	Introduce yourself and reorient patient to place/date/time
	Develop daily goals and create routine with family
Mobility	Plan and perform passive limb exercises and current phase of mobility
Familiarity	Identify patient care activities family members can participate in (bedside care, mobility, etc.)
	Place objects familiar to patient and involve the Child Life and music/pet therapy teams
Sensory	Seek if interested in adjusting room temperature
	Remove ear plugs, headphones, or sleep masks
	Encourage wearing own glasses/contacts and/or hearing aides
At Risk	Assess current RASS and discuss with team to adjust analgesics/sedatives to meet RASS goal
	Assess pCAM → if + or N/A, score WAT-1 if weaning agent(s) → treat withdrawal if WAT-1 >3; if WAT-1 ≤3 → consider using opioid/benzo/anti-cholinergic sparing agents (acetaminophen/ibuprofen/ketorolac/dexmed/clonidine/gabapentin)

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Assess, prevent & manage pain

- CPOT or BPS to assess pain, insure adequate pain control
- Use of regional anesthesia and nonopioid adjuncts
- Analgesia-based sedation techniques with fentanyl

Both SAT & SBT

- Daily linked SAT and SBT
- Multidisciplinary coordination of care
- Faster liberation from MV

Choice of sedation

- Targeted light sedation when sedation necessary
- Avoidance of benzodiazepines
- Dexmedetomidine if high delirium risk, cardiac surgery, MV weaning

Delirium monitoring & management

- Routine CAM-ICU or ICDSC assessments
- Nonpharmacologic intervention, including sleep hygiene
- Dexmedetomidine or antipsychotic if hyperactive symptoms

Early mobility & exercise

- Physical and occupational therapy assessment
- Coordinate activity with SAT or periods of no sedation
- Progress through range of motion, sitting, standing, walking, ADLs

Family engagement & empowerment

- Reorientation, provision of emotional and verbal support
- Cognitive stimulation, participation in mobilization
- Participation in multidisciplinary rounds

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Anesthesiology. 2016 December ; 125(6): 1229–1241.

ICU ROUNDS SHIFT CHECKLIST

Date: _____ **Shift:** Day / Night

Assess/ Prevent/ Manage Pain

- ☐ Current **Pain Score** _____ Goal_____
- ☐ Current **RASS:** _____ Goal: _____

Both SATs and SBTs

- ☐ **Spontaneous Awakening Trial (SAT)** completed / planned to be completed this shift:
  - o Yes--Time: _____
  - o No--Reason: _____
- ☐ **Spontaneous Breathing Trial (SBT)** completed / planned to be completed this shift:
  - o Yes--Time: _____
  - o Result: _____
  - o No--Reason: _____
  - o Current vent settings: _____

Choice of Sedation

Sedation

_____

Analgesia

_____

Delirium: Assess, Prevent & Manage

CAM-ICU:

- ☐ Positive
  - o Minimize deliriogenic meds
- ☐ Negative

Sleep enhancement

Early Mobility & Exercise

- ☐ PT
- ☐ OT

Level:

- ☐ 1 PROM
- ☐ 2 AROM
- ☐ 3 Sitting
- ☐ 4 Standing/transfers to Chair
- ☐ 5 Ambulation

Family Engagement & Empowerment

- ☐ Medical POA identified
- ☐ Plan of care/ D/C planning
- ☐ Family conference/update
- ☐ SW/CM needs

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ICU CARE	☐ Feeding & bowel care/ Speech ☐ Fluid balance & cardiac meds ☐ Blood glucose control ☐ HOB up 30 degrees	☐ Peptic ulcer prophylaxis ☐ VTE prophylaxis: Meds / SCDs ☐ Medications reviewed ☐ Antibiotics & source Control
CAUTI & CLABSI PREVENTION	☐ **Urinary Catheter Needed** Yes--Reason: o *"Critically Ill Criteria"* o Chemically paralyzed/sedated o Epidural or lumbar drain o Urinary retention/obstruction o Sacral/back wound/ulcer healing o Comfort care (end of life) o Chronic Foley o GYN patient o Other: No--Consider removal	☐ **Central Line Needed** Yes--Reason: No—Consider removal Lines in Place: 1. 2. 3. 4. ☐ Arterial Line Needed
PRESSURE ULCER / WOUND PREVENTION	☐ **At Risk:** o Yes. Prevention interventions and consider Wound Ostomy consult o No ☐ **Present:** o Yes. Treatment interventions and ensure Wound Ostomy consult. o No	

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