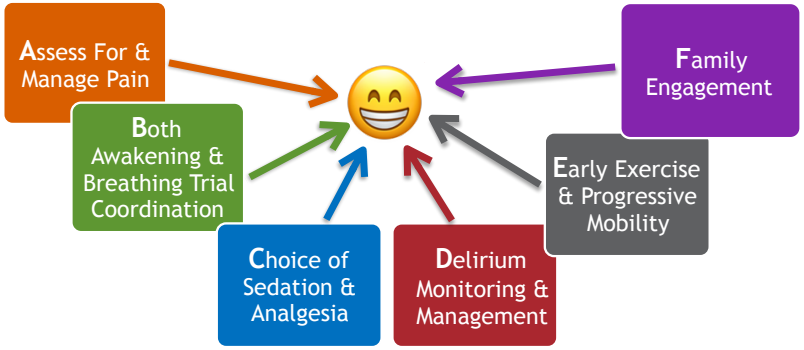
The ABCDEF Bundle (Care Protocol)



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Examples of Early Mobilization

- Preservation of ROM (PROM, stretching, splinting)
- Control peripheral edema (repositioning, massage)
- Sitting at edge of bed (postural retraining)
- Participating in self-care (bedside or standing)
- Coming to stand at bedside (even with lift devices)
- Transferring to a chair (versus chair mode of bed)
- Ambulation

*Aim to get these patients **upright**, working **against gravity**, and **utilizing large muscle** groups **ASAP****

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*within first 48 hours of admission to the ICU 2

2

Exclusion criteria: Consult the team

- Patient with grave prognosis, orders for comfort care
- Immediate plans to transfer to outside hospital
- Patient with open abdomen (risk for dehiscence)
- Patient maintained on neuromuscular paralytics*
- Patient unresponsive to verbal stimuli

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*Neuromuscular blocking agents (ex: rocuronium, pancuronium, vecuronium)

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Exclusion criteria: When not to treat

- Acute neurologic event - these patients must be reassessed every 24 hours or until managed
  (ex: new CVA, ICH, SAH)
- Acutely worsening cardiovascular event or hemodynamic instability
  (ex: low MAPs (<55-60), high pressors (2+ or >40 mcg), evolving MIs)
- Acutely worsening pulmonary status, difficult airway or oxygenation (possible re-intubation)
  (ex: high Fi02 (>65%) or PEEP (>12 cmH2O) requirements, PCO2 etc)

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Conditions encountered in the ICU*

SHOCK	RESPIRATORY FAILURE	INFECTIONS
Hypovolemic Cardiogenic Septic SIRS (Systemic Inflammatory Response Syndrome)	Pneumonia COPD Drowning Smoke Inhalation Asphyxiation ARDS (Acute Respiratory Distress Syndrome)	Sepsis: Pneumonias Bacteremia
RENAL FAILURE	**NEUROLOGIC EVENTS**	**BLEEDING/CLOTTING**
Sepsis Dehydration Toxic substances Hypertension	Stroke Infection Cerebral Anoxia Traumatic Injury	Liver failure/Gastric ulcers from Sepsis Hemorrhage/Trauma PE/DVT

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*MODS: Multiple Organ Dysfunction Syndrome

Drips and commonly used medications in the ICU

Pressors
- *Dopamine (3-10, or 10-20 mcg/kg/min)
- *Norepinephrine (0.01-1 mcg/kg/min) *potent
- *Epinephrine (0.04-1 mcg/kg/min)
- Phenylephrine (0.05-8 mcg/kg/min)
- *Dobutamine (0.04-1 mcg/kg/min)
- *Vasopressin
- *Milrinone

**Inotropes (hard/soft), Chronotropes (slow/fast)*

Sedation
- propofol (rapid onset/offset), precedex
- benzodiazepines
- opioids, e.g. morphine, fentanyl
- ketamine
- tranquilisers, e.g. haloperidol (haldol)

NM blockade (paralysis)
- Vecuronium, Rocuronium, Pancuronium

Antiarrhythmics
- Adenosine, Digoxin, Magnesium Sulfate
- Amiodarone
- Atenolol, Metoprolol, Esmolol (BB)
- Lidocaine, Phenytoin
- Verapamil, Diltiazem

Antihypertensive
- Esmolol, Nicardipine, Sodium Nitroprusside

Insulin
- Insulin drips
- Dextrose Infusions

Pain
- Fentanyl
- Morphine
- Hydromorphone
- Methadone
- Remifentanil

Medication impact on therapies

common side effects	pressors	sedatives	anti-arrhythmic	glycemic control	analgesic
hypo-hypertension / syncope	X		X	X	X
bradycardia / tachycardia	X	X	X	X	
arousal /CNS depression		X		X	X
dyspnea / respiratory depression	X	X	X		X
arrhythmia / dysrhythmias			X	X	
hypo / hyperglycemia	X		X	X	
bleeding / clots	X		X		
seizures / loss of balance	X	X		X	

Notes

Monitoring Equipment

	Indications	Mobilizing Precautions	Normal Values	Complications	Errors/Artifact
ECG	HR and rhythms	Keep leads and wires intact, observe for arrhythmias	sinus rhythm or Pt baseline between 60-100	---	movement & breathing rates, loose leads, pacemakers, tremors
PULSE OXIMETRY	SpO2 (saturation of peripheral oxygen)	Keep sensors in contact with skin	>90%	---	poor pulse or waveforms, cold extremities, dark nail polish
ETCO2	respiratory depression monitoring	Capnography pattern, position of device so	35-45	---	correlate with RR or vent settings
Arterial Line	continuous, real time BP monitoring, blood gas monitoring	avoid mobilizing if on high dose pressors (2+ or >40 mcg) , no ambulation	SBP 90-140/DBP 60-80, (MAP 70-110)	hemorrhage, ischemia, thrombosis, embolism, vessel rupture	transducers too high/ low (dampened tracings), bubbles/kinks in line
Central Line	IV access for meds/ blood/TPN/dialysis, other procedures, continuous CVP/RAP (fluid status)	check for pressor dose, femoral lines ok to dangle/stand bedside, ok ambulated (disconnect)	CVP 3-8, RAP 0-8	PTX, HTX, arrhythmias, infections, hemorrhage	static reading
Pulmonary Artery Catheter	continuous direct measurement of RAP-PAP-PCWP (heart status), SvO2, allows AV pacing	Locked PA line, avoid ROM/Exs to ipsi shoulder, determine hemodynamic stability	PAs 15-30/PAd 5-15, mean PAP (8-20)	vessel rupture, lethal arrhythmias, valve damage, air embolism	transducers too high/ low (dampened tracings), bubbles/kinks in line
Chest Tubes	PTX, HTX, Empyema, pericardial/pleural effusion	drainage system below incision/chest level, HOLD therapies after removal until PTX r/o	check parameters/ output ranges in chart	PTX, HTX, bleeding, infection	transducers too high/ low (dampened tracings), bubbles/kinks in line

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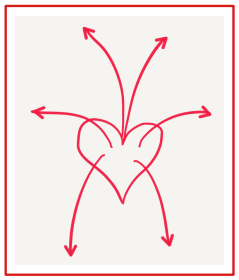
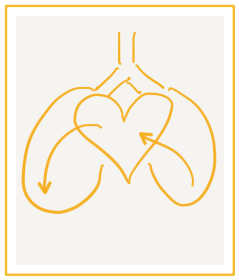
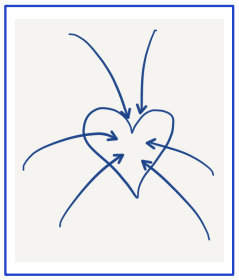
A-line | PAC | CV line







- arterial pressure from heart into tissues
- arteriovenous pressures within the heart & lungs
- venous pressures from the tissues into the heart

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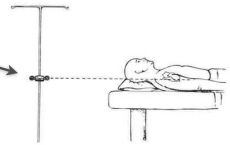
Invasive Monitoring Equipment - presence of **transducers**

4th ICS mid-axillary line
level of the heart's RA to obtain accurate measurement



RED - Arterial Line (A-line/Art Line)

BLUE - Central Venous Pressure (CVP) / Central Line

YELLOW - Pulmonary Artery Catheter (PAC) / Swan-Ganz

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Notes

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BP = blood pressure
MAP = mean arterial pressure

Arterial Line (art-line, a-line)

- radial, femoral a. (also brachial, ulnar, DP)
- arterial **blood gas** access
- direct, continuous monitoring of **BP, MAP (n. 70-110 mmHg)**
- **inotropes*** &/or **pressors** (vasoactive meds)

Mobility considerations:

- OK to dangle (keep hip <80 flex if femoral line brief sitting), stand at bedside
- May attach/strap/tape transducers to arm
- Ambulation possible if near monitors, asymptomatic & not on high dose pressors

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**inotropes = meds that change force of heart contractions*

Central Venous Pressure (CVP, Central) Line

SVC = superior vena cava
CVP = central venous pressure
RAP = right atrial pressure
TPN = total parenteral nutrition

- commonly in: internal jugular, subclavian, femoral v. (also axillary)
- continuous monitoring of **CVP** and/or **RAP (n. 2-8 mmHg)**
- **fluid volume status** (dehydration/overload)
- venous blood (and gas) draws
- route for **meds, fluids, TPN, blood transfusions, temporary pacer**

Mobility considerations:

- OK to dangle (keep hip >80 flex if femoral line brief sitting), stand at bedside
- May attach/strap/tape transducers to arm
- Ambulation possible if near monitors, asymptomatic & not on high dose* pressors

**2 or more pressors or >40 mcg total)*

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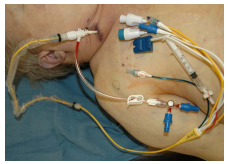
Pulmonary Artery Catheter (PAC) or Swan-Ganz

RAP = right atrial pressure
PAP = pulmonary artery pressure
PCWP = plum capillary wedge pressure
LAP = left atrial pressure
Sv02 = saturation of venous blood

- directly measures **PAP (n. 15-30/8-15) , PCWP (n. 4-15 mmHg)**
- status of **heart failure** (Pts with poor/critical cardiac function)
- cardiac output monitor, **permits atrial / vent pacing**

***PA line must be LOCKED prior to mobilizing** (done by nursing)



Mobility considerations:

- OK to dangle, stand at bedside, transfer to chair.
- Generally not ambulated due to potential for hemodynamic instability
- *Mobility, if necessary or allowed, must be undertaken by experienced clinician*

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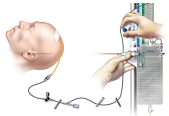
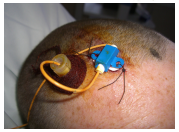
Intracranial Pressure Devices (ICP Monitoring)

MAP = mean arterial pressure
CPP = cerebral perfusion pressure
ICP = intracranial pressure
VS = vital signs
GCS = glasgow coma scores

- by intraventricular caths, subdural screws, or epidural sensors
- **intracranial pressure (n. 1-20 mmHg)**
- Cerebral Perfusion Pressure **(CPP) = MAP - ICP (n. 60-80)** *<50 = cell death*
- require hourly monitoring of VS, GCS, pupil size, neuro, CPP
- positions allowed: determined by neurosurgeon (<90 deg hip flex, L-drain)





Mobility considerations:

- Device must be CLAMPED prior to mobilizing, or for coughing, vomiting, suctioning, or repositioning (any procedure or activity that can overflow CSF)
- Carefully monitor arousal / balance levels
- Patients at risk for vasospasm or seizures

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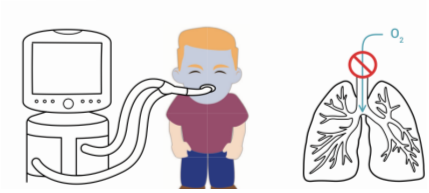
RT should be present

Oxygenation

providing increased Oxygen (O_2) to the body



How Oxygenation is provided:

FiO2 (Fraction of inspired oxygen)
- percentage of oxygen concentration delivered to the patient

PEEP (Positive Expiratory End Pressure)
- pressure to keep alveoli open so 02 can be absorbed

↑ PEEP or ↑ Fi02 = ↑ risk of alveoli collapsing

>12 cmH20 >60%

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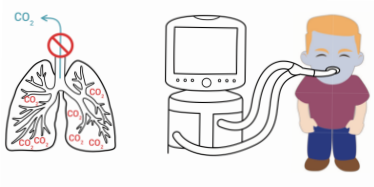
RT should be present

Ventilation

removing excess Carbon Dioxide (CO_2) from the body



How Carbon Dioxide is removed:

Tidal Volume (Vt) normal 6-8 ml/kg of IBW for a 70 kg male, expect a Vt of 560-600 ml
- volume of air with normal breathing without extra effort

Respiratory Rate (f) normal 10-20 breaths/min
- frequency (f) of breaths per minute
- used to assess work of breathing (WOB), shortness of breath/dyspnea

too little or too much CO2 affects cerebral perfusion

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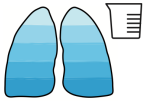
Ventilator Parameters for therapists

normal volume of air displaced between normal inhalation and exhalation when extra effort is not applied

normal 6-8 ml/kg
ex: for a 70 kg male, expect a Vt of 560-600 ml

1. Tidal volume (V_T)



Ventilation

2. Respiratory rate (RR)

number of breaths per minute

hypoventilation (RR<10-12)
hyperventilation (RR>20-25)

normal 12-20 (resting)
<10 = risk for hypercapnea*
>35 = risk for hypocapnea

*also hypercarbia, CO2 retention

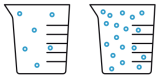
Positive End Expiratory Pressure or PEEP prevents end-expiration alveolar collapse

normal 0-5 cmH2O
>12 = risk alveolar rupture, also CV compromise
too little = risk alveolar collapse

3. PEEP

Oxygenation

4. FiO_2



the fraction of inspired oxygen or the percentage of oxygen delivered to the patient

natural/room air 21% Fi02
>60% = risk for 02 toxicity
>80% = poor reserve, no therapies

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RT should be present

What to document

- **Document position of ETT before and after treatment**
  ex: 25 cm at teeth
- **Document ventilator pre-set parameters**
  ex: Spont w/PS of 12
  Vt 350, f 20, Fi02 30%, PEEP 8
- **Document patient response via vent settings.**
  ex : Spontaneous Mode PS 12
  Vt 459, RR 42, Fi02 30%, PEEP 8
- **Document flow (LPM) and Fi02 (%)**
  ex: 50 LPM on HFNC, Fi02 35%
  ex: 6 LPM on trach collar, Fi02 30%

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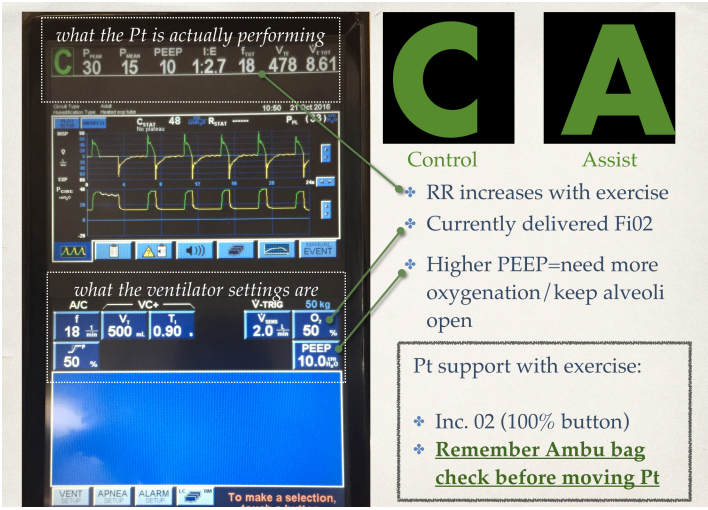
An example of a Pt on an Assist or Control Mode

RT should be present



C — Control

A — Assist

- RR increases with exercise
- Currently delivered Fi02
- Higher PEEP=need more oxygenation/keep alveoli open

Pt support with exercise:

- Inc. 02 (100% button)
- **Remember Ambu bag check before moving Pt**

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Control Mode, Assist Mode, (Assist-Control) Modes

- **Control** - breath is initiated by the machine, most often seen when Pts are on paralytics, or Pt has no use of respiratory muscles (*Therapies contraindicated*)
- **Assist** - breath is initiated (triggered) by the patient, then the ventilator either:
  1. *delivers support* via preset volume (Volume Control) or preset pressure (Pressure Control)
  2. *delivers a breath* to maintain a set RR if Pt doesn't trigger a breath

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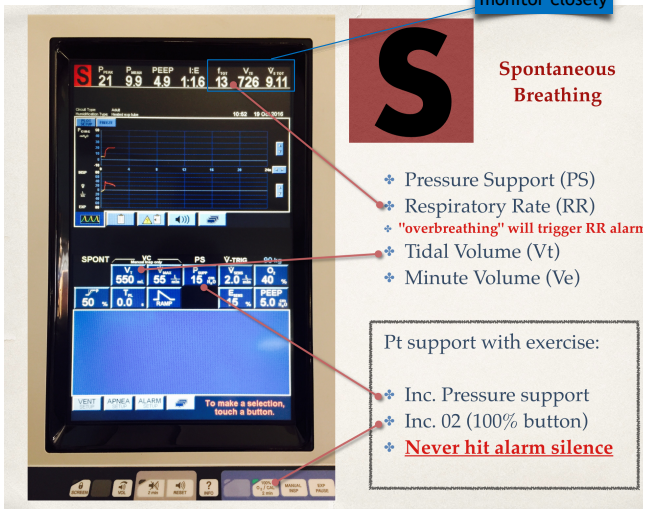
An example of a Pt on a Spontaneous Mode

RT should be present

monitor closely



S — Spontaneous Breathing

- Pressure Support (PS)
- Respiratory Rate (RR)
- "overbreathing" will trigger RR alarm
- Tidal Volume (Vt)
- Minute Volume (Ve)

Pt support with exercise:

- Inc. Pressure support
- Inc. 02 (100% button)
- **Never hit alarm silence**

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Spontaneous Breathing and Support Modes/Settings

- **Positive end-expiratory Pressure (PEEP)** - pressure applied upon expiration to keep alveoli open, increasing Pa02
- **Pressure Support (PS)** - Pt triggers all breaths and there is a constant set inspiratory pressure level. If there is a lung/thorax mechanical change, or a change in Pt's effort, Tidal Volume (Vt) will be affected, so PS amount must be adjusted
- **CPAP or BPAP** - similar to PS but non-invasive

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The portable ventilator

Can you identify:

- Ventilator Mode
- Tidal Volume
- Respiratory rate
- Fi02
- PEEP
- Other info?

Sample Documentation:

Spontaneous Mode PS 12
Vt 459, RR 42
Fi02 30%, PEEP 8

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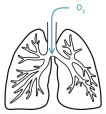
Screening for Weaning - How is your Patient doing?

Patient Status during therapy

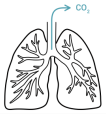
1. Oxygenation status

$SpO_2 \geq 90\%$ on $FiO_2 \leq 40\%$
PEEP ≤ 5 cmH_2O



2. Ventilation status

< 35 breaths / minute



3. Hemodynamic status

No active myocardial infarction
No (or low) vasopressor infusion
Hemoglobin >7
No significant ECG changes

4. Sedation status

RASS 0 to -1
No neuromuscular blocking agents

Parameters for Weaning

WOB*	O2
RSBI** <100	FiO2 <40%
No dyspnea	PEEP <5-8
RR <35	PS <10

*WOB=work of breathing, PS=pressure support
**RSBI=Rapid-Shallow Breathing Index (RR/Vt)
OFF VENT FOR 1 minute!

A Pt who cannot tolerate independent breathing tends to breathe rapidly (high RR) and shallowly (low tidal volume), and will therefore have a high RSBI

Neuro	Psych
Awake	↓ Fear
Alert	↓Anxiety
GCS >8	↓ Pain
No seizures	↓ Stress
Follows instructions	

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Notes

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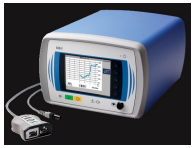
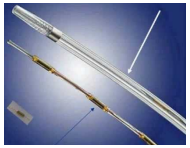
Invasive Lines (Life Support)

***Patients usually on BEDREST**

EKOS Acoustic Pulse Thrombolysis



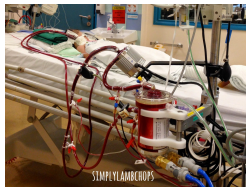


IABP

Intra-Aortic Balloon Pump

ECMO

Extra-Corporeal Membrane Oxygenation



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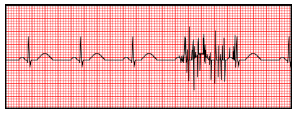
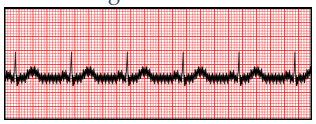
Artifacts/Errors or "Noise": not rhythm changes, these are technical problems

Muscle Artifact



Tremors, loose electrodes, movement

Electromagnetic Interference

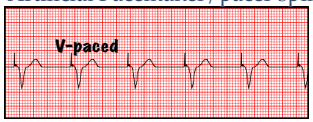


Noisy environments, close to mobile devices or power outlets

Wandering Baseline

Deep inspiration and expiration

Artificial Pacemaker/pacer spikes



Seen when implanted pacemaker is firing: atrial = p wave follows, ventricular = qrs follows

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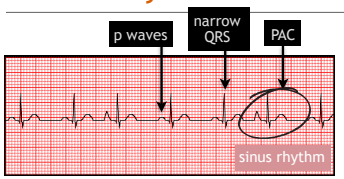
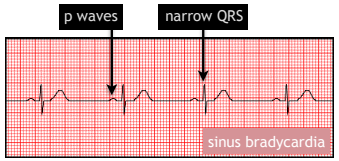
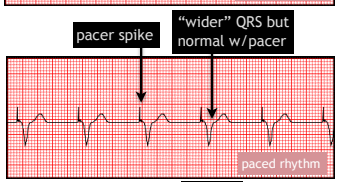
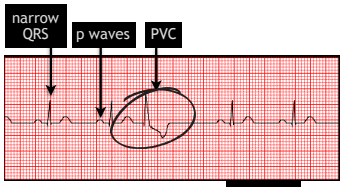
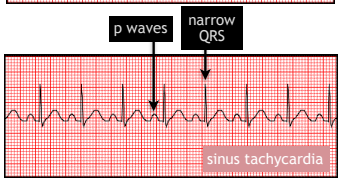
Stable Rhythms

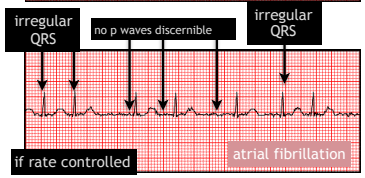












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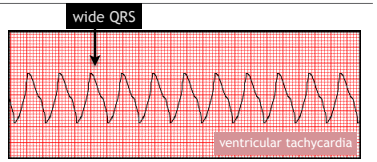
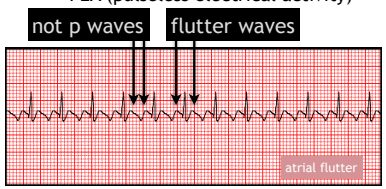
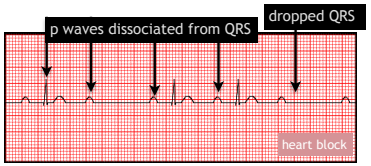
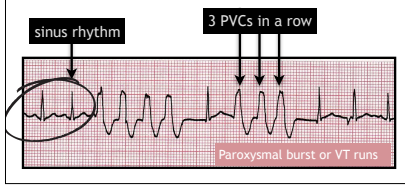
Scary Rhythms

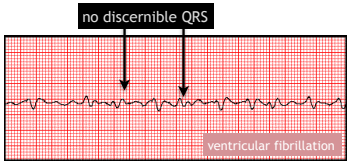
- Altered Mental Status
- Hypotension/Signs of shock
- Ongoing chest pain or significant symptom changes
- PEA (pulseless electrical activity)











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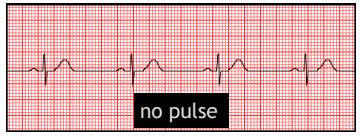
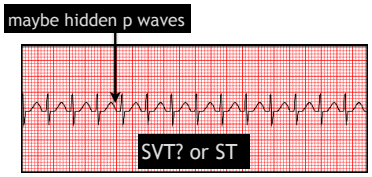
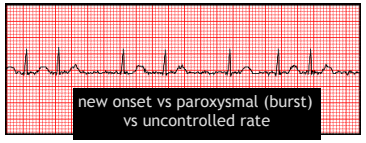
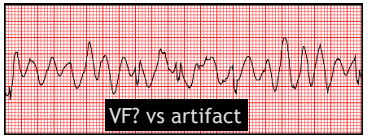
Maybe Scary Rhythms

- Altered Mental Status
- Hypotension/Signs of shock
- Ongoing chest pain or significant symptom changes
- PEA (pulseless electrical activity)









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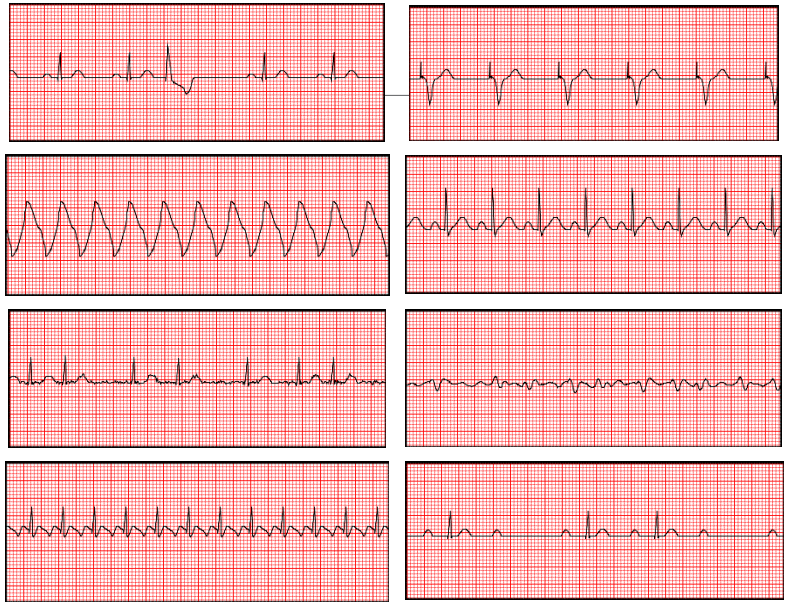

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INPATIENT EXERCISE GUIDELINES

	DON'T START EXERCISE IF:			TERMINATE EXERCISE IF:		
	ACSM	AACVPR	APTA	ACSM	AACVPR	APTA
Pulse Rate	> 120 bpm	---	< 40 bpm >130 bpm	POST MI 20 bpm above rest	POST MI 30 bpm above rest	Med/Surg >130 bpm
Pulse Rate	---	---	---	POST CABG 30 bpm above rest	POST CABG 30 bpm above rest	Med/Surg >130 bpm
Respiration	---	---	RR > 30	---	---	Inability to converse
SBP	>200 mmHg <90 mmHg	---	>250 mmHg	>220 mmHg	10 mmHg drop	>250 mmHg 10 mmHg drop
DBP	>110 mmHg <50 mmHg	>110 mmHg	>120 mmHg	>110 mmHg	>110 mmHg	>120 mmHg
SpO2	<88% (request supplemental O2)	---	<85% (request supplemental O2)	Titrate to maintain ≥90% (≥ 94% MI)	---	Drop from rest 3-5% (document)
Fever	---	---	>100°F	---	---	---
Arrhythmia	30% of complexes in 1 minute		>6 /min	30% of complexes in 1 minute	---	>6 /min
RPE (Borg)				13	13	
	ASCM = American College of Sports Medicine, AACVPR = American Association of Cardiovascular and Pulmonary Rehabilitation, APTA = American Physical Therapy Association - Acute Care Section					

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Dignity Health

Early Progressive Mobility Protocol

STEP 1: Screen for safety - Evaluate daily

Myocardial Stability
- □ No active cardiac ischemia within past 12-24 hours
- □ No dysrhythmia requiring new antidysrhythmic agent within past 12-24 hours

Oxygenation Stability
- □ FiO2 <0.65 on mechanical ventilation
- □ PEEP <12 cm H2O
- □ No unsecured airway

Vasopressor Use
- □ No new or increase of any vasopressor x2 hrs

Engages to Voice
- □ Responds to verbal stimulation
- □ RASS <+3

Neuro Stability
- □ ICP <15
- □ No acute or uncontrolled intracranial event

Devices to Consider
- □ No ECMO, Open Abdomen, ICP Monitoring/drainage, Balloon Pump

Does not meet all criteria = Start at Level 1 and evaluate in 12 hours

Meets all criteria = Start at Level 2 and Progress

STEP 2: Implement Progressive Mobility Program

1	2	3	4
LEVEL	LEVEL	LEVEL	LEVEL
RASS -4 /-5	RASS -2 /-3	RASS -1/ 0 /1	RASS -1/ 0 /1

Goal: Clinical stability and able to move arm against gravity
- Passive ROM TID
- Turn Q2 hours
- Active-resistance PT
- Sitting position 20 minutes TID

Goal: Sitting upright and able to move leg against gravity
- Passive ROM TID
- Turn Q2 hours
- Active-resistance PT
- Sitting position 20 minutes TID
- Sitting on edge of bed

Goal: Increased strength and stands with minimal to moderate assist
- Turn Q2 hours
- Active-resistance PT
- Sitting position 20 minutes TID
- Sitting on edge of bed
- Active transfer to chair ≥ 20 minutes 2x/day

Goal: Strength and distance walk
- Self or assisted turn Q2 hours
- Active-resistance PT
- Active transfer to chair ≥ 20 minutes 3x/day
- Ambulation (marching in place, walking in halls)
- ADL Training

July 16, 2016

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RASS: Richmond Agitation Sedation Scale

The CAM-ICU is positive, the patient is considered to have **delirium** if features 1 *plus* 2 and *either* feature 3 or 4 are present.

agitation

- **+4** Combative Overtly combative, violent, immediate danger to staff
- **+3** Very agitated Pulls or removes tube(s) or catheter(s); aggressive
- **+2** Agitated Frequent non-purposeful movement, fights ventilator
- **+1** Restless/Anxious but movements not aggressive/vigorous
- **0** Alert and calm
- **-1** Drowsy Not fully alert, but has sustained awakening (eye-opening/eye contact) to *voice* **(>10 seconds)**
- **-2** Light sedation Briefly awakens with eye contact to *voice* **(<10 seconds)**
- **-3** Moderate sedation Movement or eye opening to *voice* **(but no eye contact)**
- **-4** Deep sedation No response to voice, but movement or eye opening to *physical* stimulation
- **-5** Unarousable No response to *voice or physical* stimulation

sedation

* Optimal levels for therapy/activity

CAM-ICU Worksheet

Feature 1: Acute Onset or Fluctuating Course	Score	Check here if Present
Is the pt different than his/her baseline mental status? OR Has the patient had any fluctuation in mental status in the past 24 hours as evidenced by fluctuation on a sedation scale (i.e., RASS), GCS, or previous delirium assessment?	Either question Yes →	□
Feature 2: Inattention		
Letters Attention Test (See training manual for alternate Pictures) Directions: Say to the patient, *"I am going to read you a series of 10 letters. Whenever you hear the letter "A," indicate by squeezing my hand."* Read letters from the following letter list in a normal tone 3 seconds apart. S A V E A H A A R T **Errors are counted when patient fails to squeeze on the letter "A" and when the patient squeezes on any letter other than "A."**	Number of Errors >2 →	□
Feature 3: Altered Level of Consciousness		
Present if the Actual RASS score is anything other than alert and calm (zero)	RASS anything other than zero →	□
Feature 4:Disorganized Thinking		
Yes/No Questions (See training manual for alternate set of questions) 1. Will a stone float on water? 2. Are there fish in the sea? 3. Does one pound weigh more than two pounds? 4. Can you use a hammer to pound a nail? **Errors are counted when the patient incorrectly answers a question.** Command Say to patient: "Hold up this many fingers" (Hold 2 fingers in front of patient) "Now do the same thing with the other hand" (Do not repeat number of fingers) *"If pt is unable to move both arms, for 2nd part of command ask patient to "Add one more finger"* **An error is counted if patient is unable to complete the entire command.**	Combined number of errors >1→	□

Overall CAM-ICU		
Feature 1 plus 2 and either 3 or 4 present = CAM-ICU positive	Criteria Met →	□ CAM-ICU Positive (Delirium Present)
	Criteria Not Met →	□ CAM-ICU Negative (No Delirium)

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Glasgow Coma Scale (GCS)

- Originally used in Pts following TBI, adult populations only
- Widely used to assess Pt's conscious state
- Lowest 3 (deep unconscious) to highest 15 (normal conscious)
- Convey each score separately along with the total score

  (ex: an intoxicated Pt may be 4,4,6=GCS 14)

Summary of the GCS

	Eyes Opening		Verbal Response		Motor Response
4	Spontaneous	5	Orientated to time and place	6	Obeys command
3	Voice	4	Confused speech	5	Localises to pain
2	Pain	3	Inappropriate words	4	Withdraws to pain
1	None	2	Incomprehensible sounds	3	Decorticate
		1	None	2	Decerebrate
				1	None

St. Mary's Medical Center
A Dignity Health Member

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What to review and document

Critical Lab Values	Vital Signs: pre, during, post tx
•CBC: WBC, Hgb, Hct, Plt, ANC if neutropenic •Chem: Na, K, Mg (Arrhythmias), Glucose •Cultures: urine, sputum, blood, fluids •Coagulation: PT, INR, PTT as appropriate •Cardiac: BNP, Troponin, CK, CKMB •Renal: BUN, Cr, GFR •Blood gases: pH, PaCO2, PaO2, Sa02	•Pain levels: ICU screening tools, VAS, PAINAD •Tele: rate (HR, Pulse), rhythm, ectopy/bursts •BP: indicate ABP or NIBP, pressors - MAP •Sp02: indicate 02 methods, better: Fi02 •RR, WOB, symmetry, auscultation results •If present: ICP, CVP, PAP, temperature •Invasive lines and drains •Sedation meds, drips, pumps
Ventilator Settings	**Patient**
•Mode: control, assist, spontaneous/PS •Vt (tidal volume) •RR (respiratory rate) •Fi02 (fraction of inspired 02 in %) •PEEP (positive end-expiratory pressure) •If non-invasive: CPAP level or BPAP: IPAP/EPAP •Response to SBT / reasons for failure •RSBI if available / calculated	•Pt appearance/presentation/positioning •Overnight events/procedures/extubation •Sensorium/Mentation/Cognition: RASS/CAM •Mobility: levels, assist, devices, techniques •WOB - before, during, after therapy •Activity tolerance: pain, fatigue, exercise reps, sitting or ambulation distance-duration

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EOB = edge of bed

Heidi Engel's sample progression

UCSF ICU- step 1, untangling

UCSF ICU- step 2, bed exercise

UCSF ICU- step 3, sitting on EOB

UCSF ICU- step 4, assisted sit to stand

UCSF ICU- step 5, walking

UCSF ICU- step 6, sit and rest as needed

Why EOB sitting vs Bed in Chair mode?

- Trunk control
- Vestibular training
- Joint compression
- Joint/muscle stretching
- Lung expansion
- Airway clearance
- Aerobic exercise? **(Yes!)**
- GI motility
- Orientation, mental status
- Endurance

iculiberation.org 41

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Evidence-Based Guidelines

Responsive to verbal stimulation

FiO2 < 60% or 0.60

PEEP<10cmH2O

No orthostasis with sitting or standing

No catecholamine drips

Keep O2 sat > 90%

Monitor RR, HR, & BP

No excessive anxiety, diaphoresis

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Stop and rest the patient if:

- Unresponsive or continues to be unresponsive
- Fatigued, pale appearance
- Respiratory rate consistently >10 beats/min above baseline
- Heart rate consistently >30 beats/min above resting
- Systolic pressure drop > 20 mmHg or diastolic change (>15)
- Muscle recruitment decreased
- Losing balance
- Weight-bearing ability decreased
- Diaphoresis* present

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Notes

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