" Integrating Palliative care Practices in Intensive care units"

Ayman Abdel-Halim, MD

American Board Certified in Anesthesiology, Pain and Palliative Medicine

Visiting Professor Ain Shams University

" The chief obstacle to discovery is the illusion of knowledge "Anonymous

You matter because you are you, and you matter to the end of your life. We will do all we can not only to help you die peacefully, but also to live until you die.

— Cicely Saunders —

Background

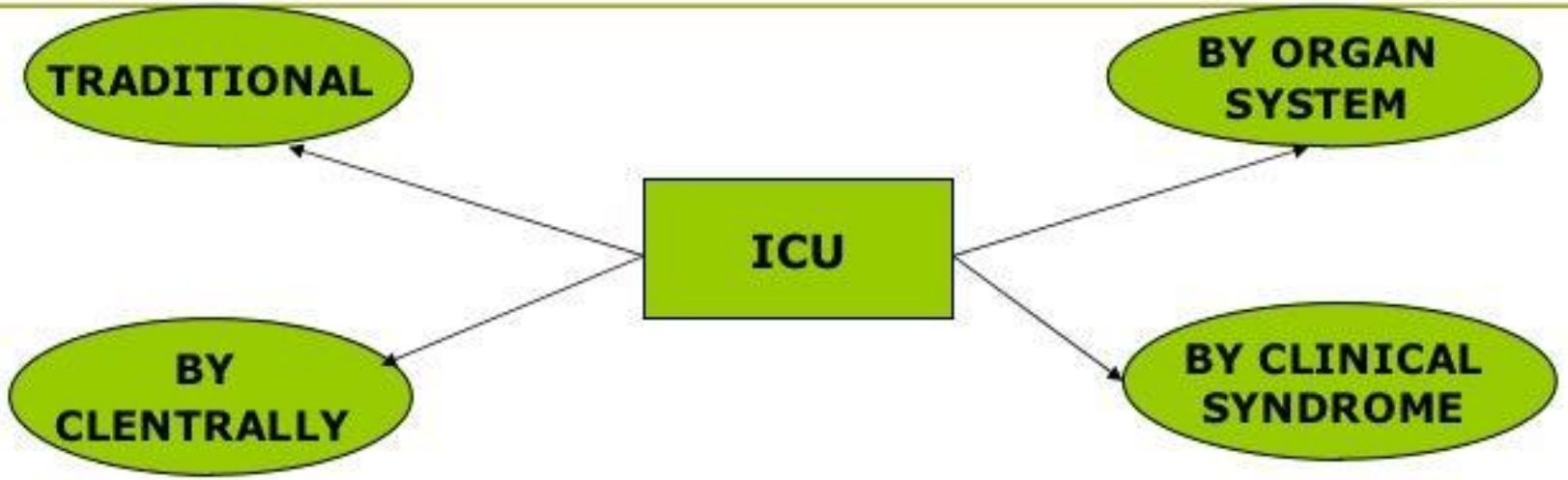
- **Palliative care (PC) is a holistic approach which incorporates management of physical, psychological and spiritual symptoms, communication regarding goals of care, support for clinicians and families, and planning for care transitions in patients with critical illness .**
- **Even though data suggest that PC improves quality of life, and decreases caregiver burden, cost , and hospital and intensive care unit (ICU) length of stay , the integration of PC in the ICU is not universally accepted.**
- **Poor understanding of what PC provides is one of the barriers to the widespread implementation of their services in ICU.**

Objectives

- Spectrum of Palliative care (PC)
- Common symptoms at end of life(EOL)
- Prognostication
- Basic Ethical Principles
- Terminal Extubation
- Palliative sedation
- REFRENCES
- KEY LEARNING POINTS

TYPES OF ICU

There are four ways of organizing an ICU.



- **By Traditional Specialties:** Surgical, Medical, Paed
- **By Organ System:** Cardiac, Neuro, Renal, Respiratory
- **By Clinical Syndrome:** Burn, Trauma , Stroke

4. **By Clientele:** Neonatal, Paed., Gynae

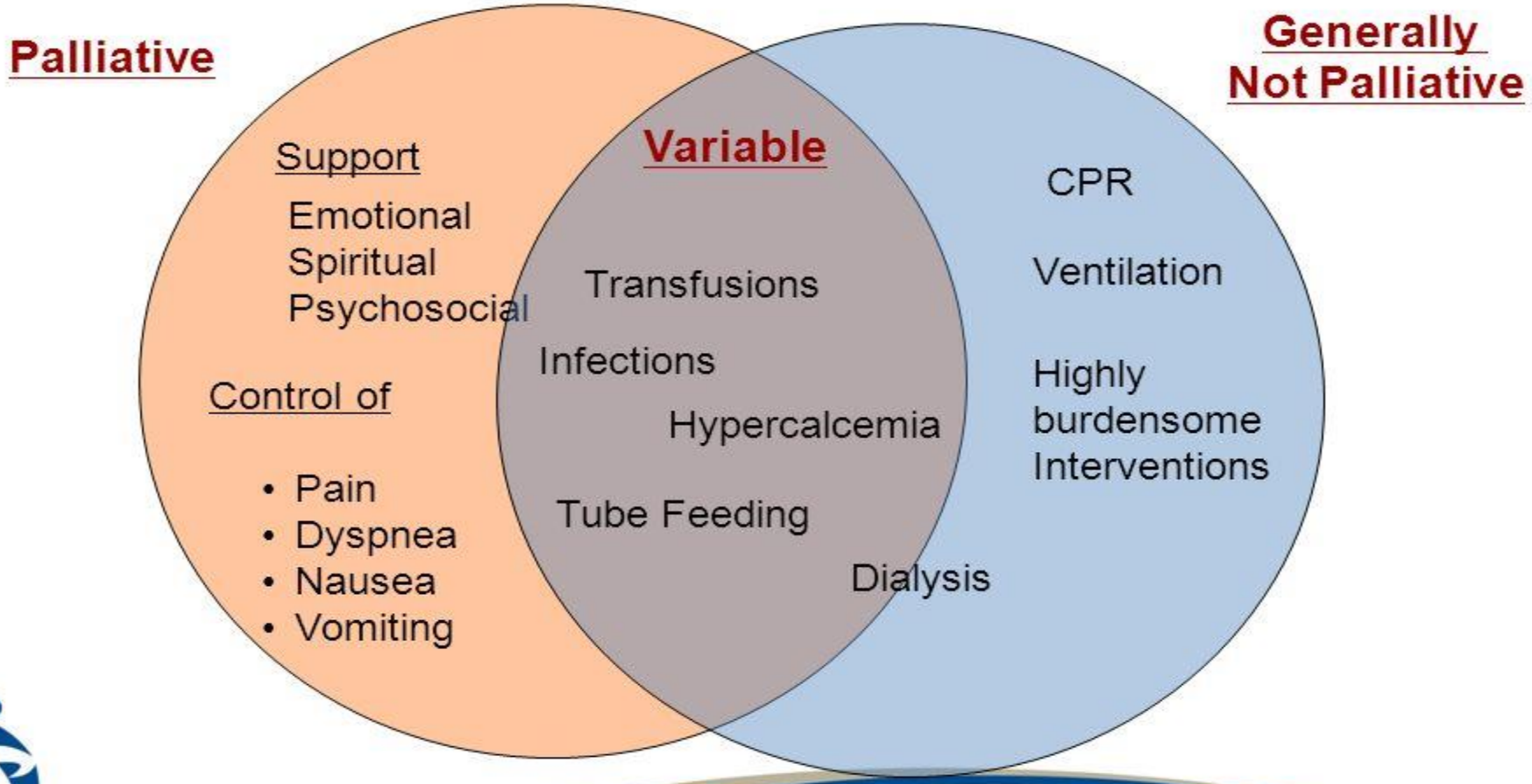
World Health Organization

The WHO definition of Palliative care

- **Providing relief from pain and other distressing symptoms.**
- **Affirming life and regarding dying as a normal process.**
- **Intending neither to hasten nor postpone death.**
- **Integrating the psychological and spiritual aspects of patient care.**
- **Offering a support system to help patients live as actively as possible until death.**
- **Offering a support system to help the family cope during the patient's illness and in their own bereavement.**

The Benefits of Palliative & Supportive Care

Potential Palliative Care Interventions

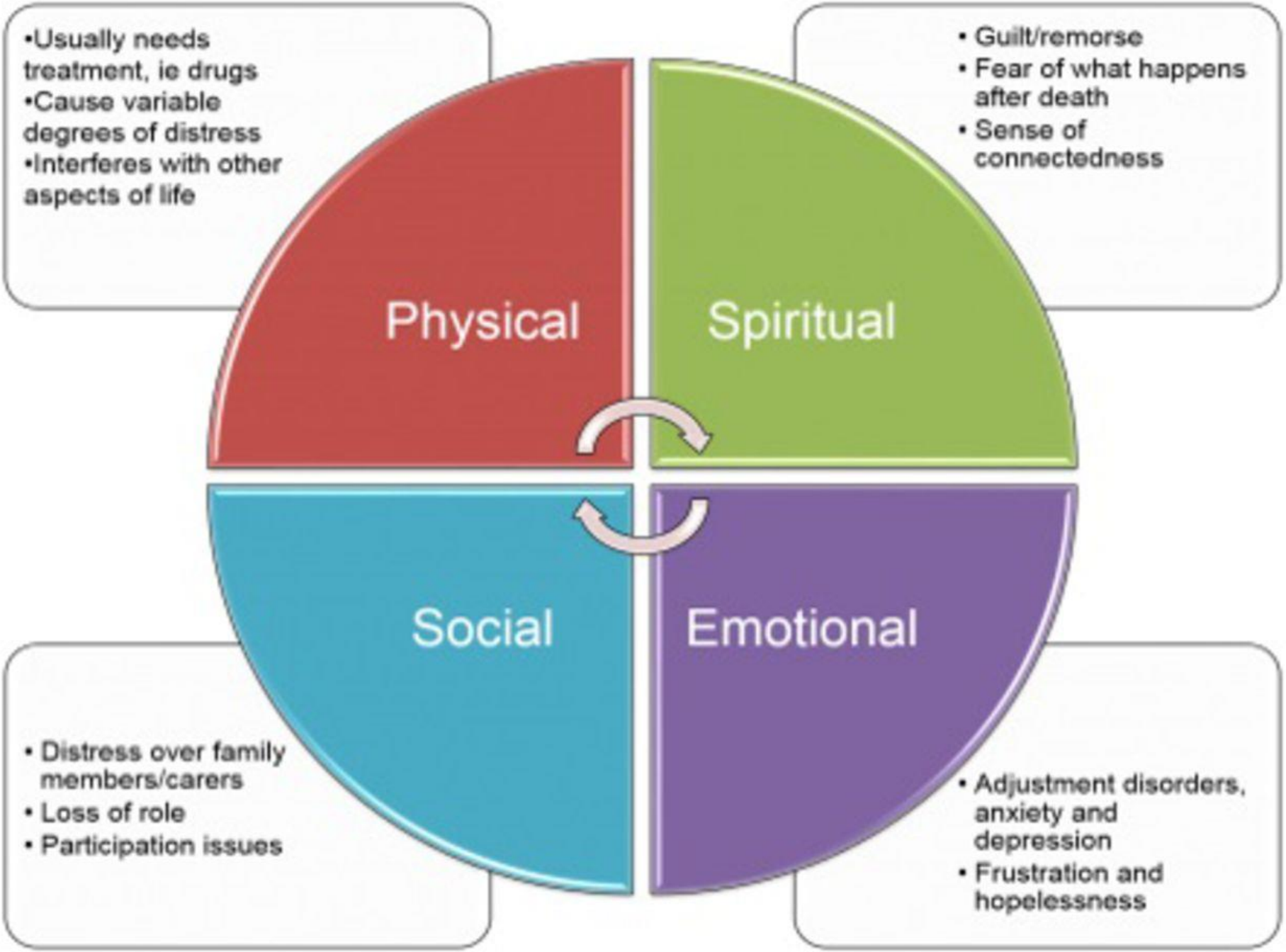


Common symptom in terminal illness

- Fatigue >90%
- Pain 35-90%
- Delirium 80% esp the last wk of life
- Dyspnea 75%
- Nausea 70%
- Depression 25-75%
- Insomnia 19-36%

Harrison's 17th ed. P 70-75


PAIN


•Usually needs treatment, ie drugs
•Cause variable degrees of distress
•Interferes with other aspects of life
Physical
Spiritual
• Guilt/remorse
• Fear of what happens after death
• Sense of connectedness
Social
Emotional
• Distress over family members/carers
• Loss of role
• Participation issues
• Adjustment disorders, anxiety and depression
• Frustration and hopelessness

WHO Analgesic ladder

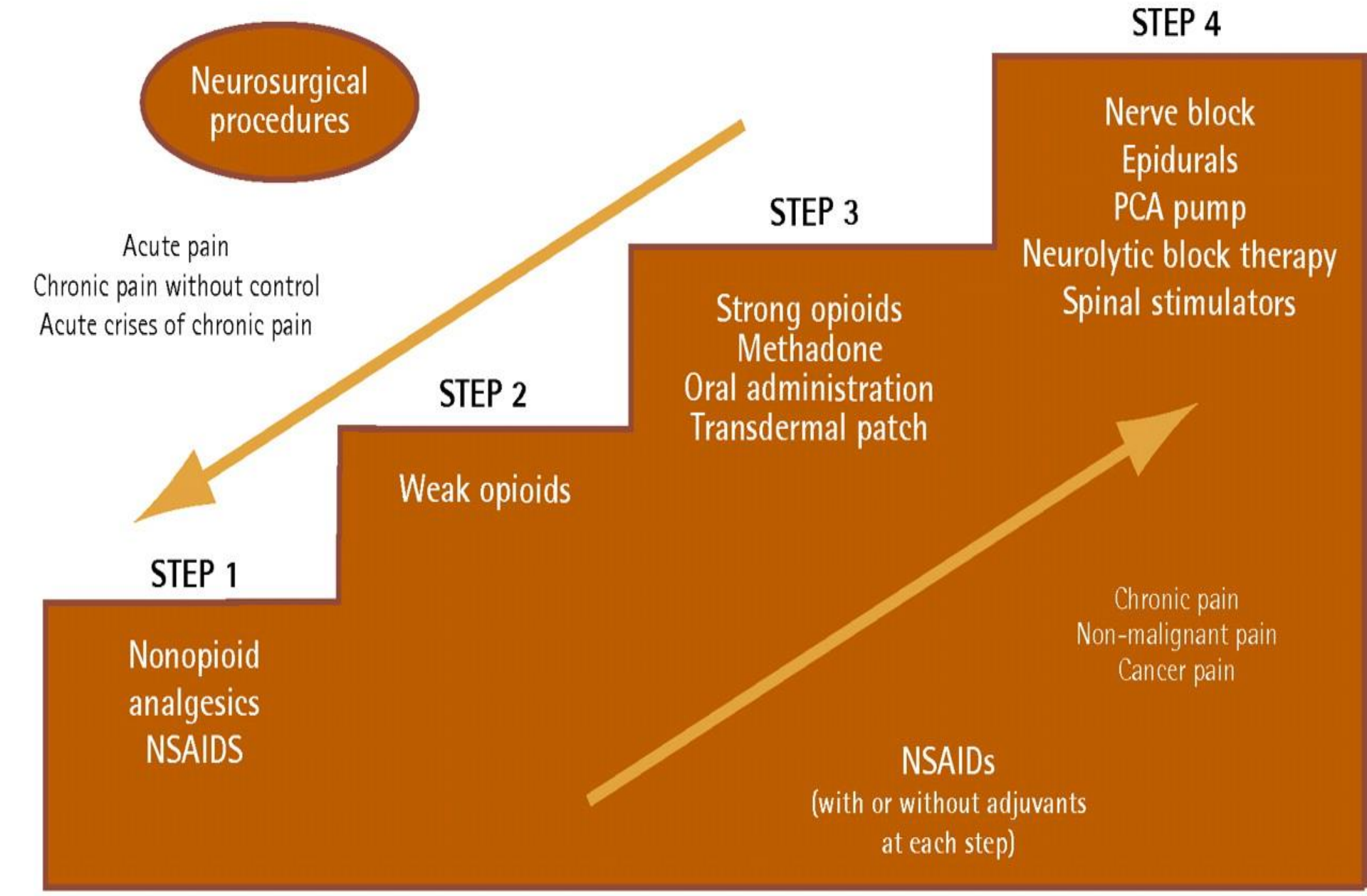


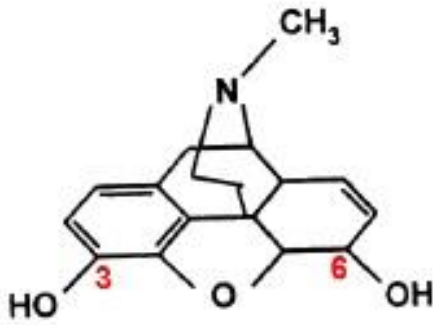
TABLE 2.
Critical Care Pain Observation Tool (CPOT)

Indicator	0	1	2
Facial description	No muscular tension observed: Relaxed, neutral	Presence of frowning, brow lowering, orbit tightening, and levator contraction: Tense	All of the above facial movements plus eyelid tightly closed: Grimacing
Body movements	Does not move at all (does not necessarily mean absence of pain): Absence of movements	Slow cautious movements, touching or rubbing the pain site, seeking attention through movements: Protection	Pulling tube, attempting to sit up, moving limbs/ thrashing, not following commands, striking at staff, trying to climb out of bed: Restlessness
Muscle tension (evaluation by passive flexion and extension of upper extremities)	No resistance to passive movements: Relaxed	Resistance to passive movements: Tense, rigid	Strong resistance to passive movements, inability to complete them: Very tense or rigid
Compliance with the ventilator (intubated patients), *OR*	Alarms not activated, easy ventilation: Tolerating ventilator or movement	Alarms stop spontaneously: Coughing but tolerating	Asynchrony: blocking ventilation, alarms frequently activated: Fighting ventilator
Vocalization (extubated patients)	Talking in normal tone or no sound	Sighing, moaning	Crying out, sobbing

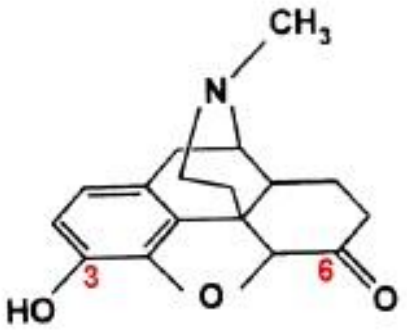
From Gelinas, C., Fillion, L., Puntillo, K., Viens, C., & Fortier, M. (2006). Validation of the critical-care pain observation tool in adults. *American Journal of Critical Care, 15*(4), 421.

IV Analgesics

Opioid Metabolites



Morphine



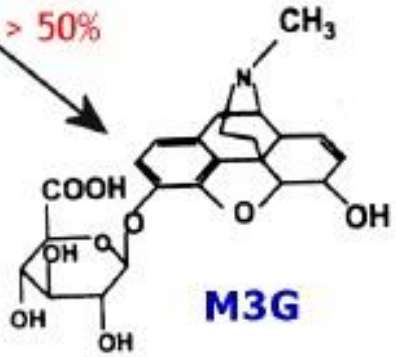
Hydromorphone

10%

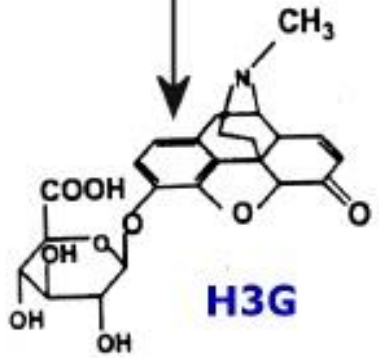
> 50%

M6G

- analgesic



M3G



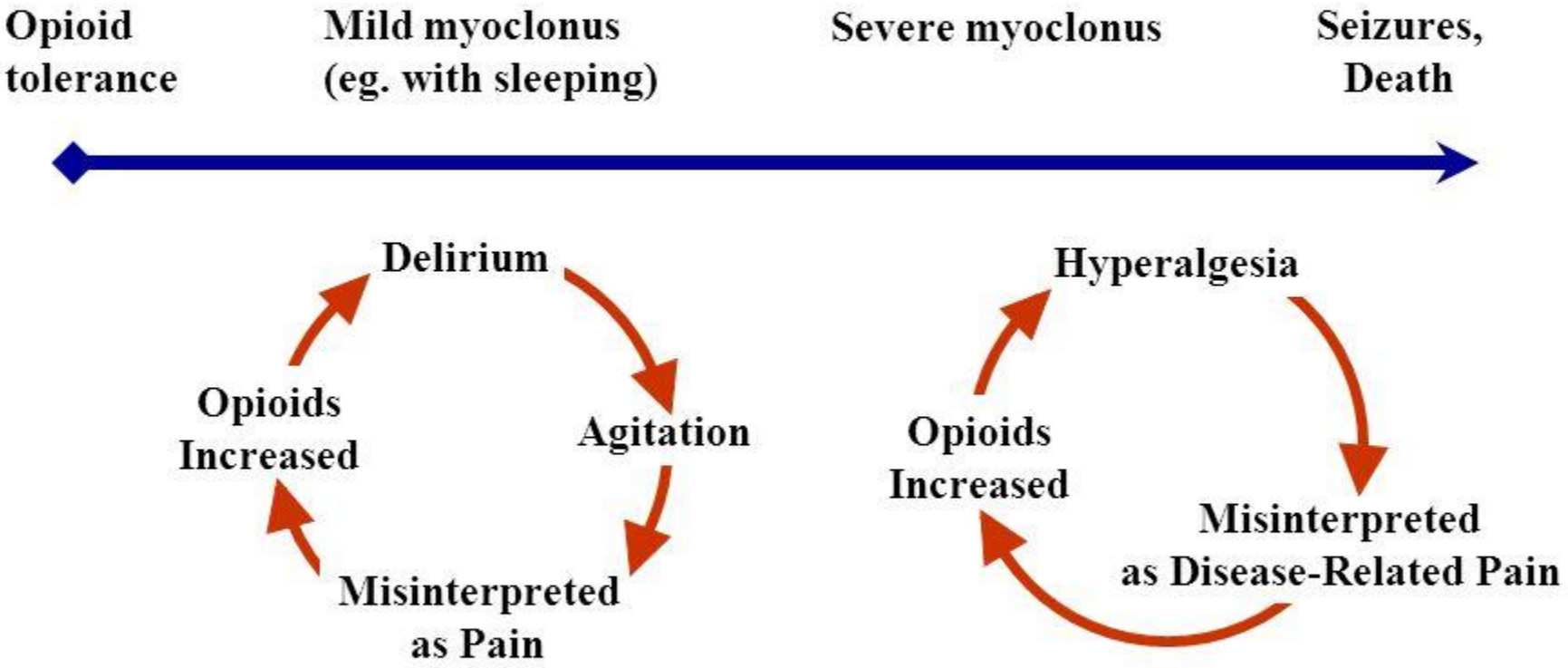
H3G

3-glucuronide metabolites

- no analgesic effects
- potent neuroexcitants (10x parent opioid)
- CSF level 2x parent opioid in chronic dosing

*After Smith MT. Clinical and Experimental Pharmacology and Physiology 2000

Spectrum of Opioid-Induced Neurotoxicity



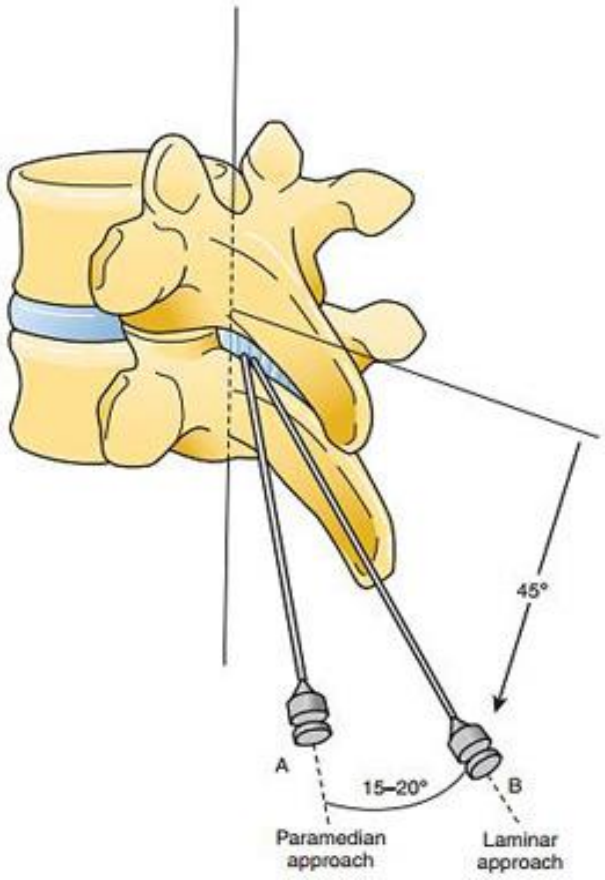
Regional anesthetic techniques

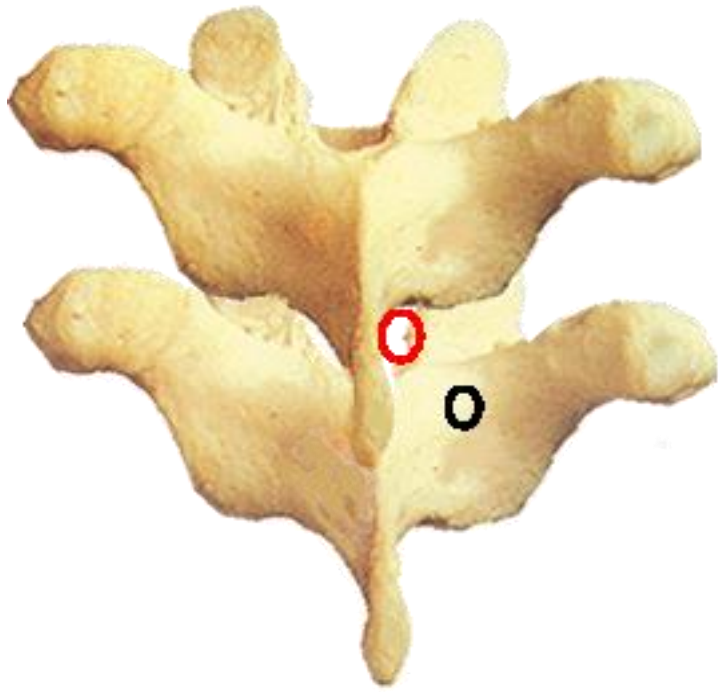
Regional anesthetic techniques

- **Central**
- **Better quality of Analgesia**
- **More difficult to perform**
- **More grave complications**
- **Thoracic Epidural**
- **Can not be performed in anticoagulated patients.**
- **Can not be performed in patients with spine injury.**

- **Peripheral**
- **Less quality of Analgesia**
- **Easier to perform**
- **Less grave complications**
- **Paravertebral Block, ICNB, ESPB and SAPB.**
- **ESPB and SAPB can be performed in anticoagulated patients.**
- **Can be performed inpatients with spine injuries.**

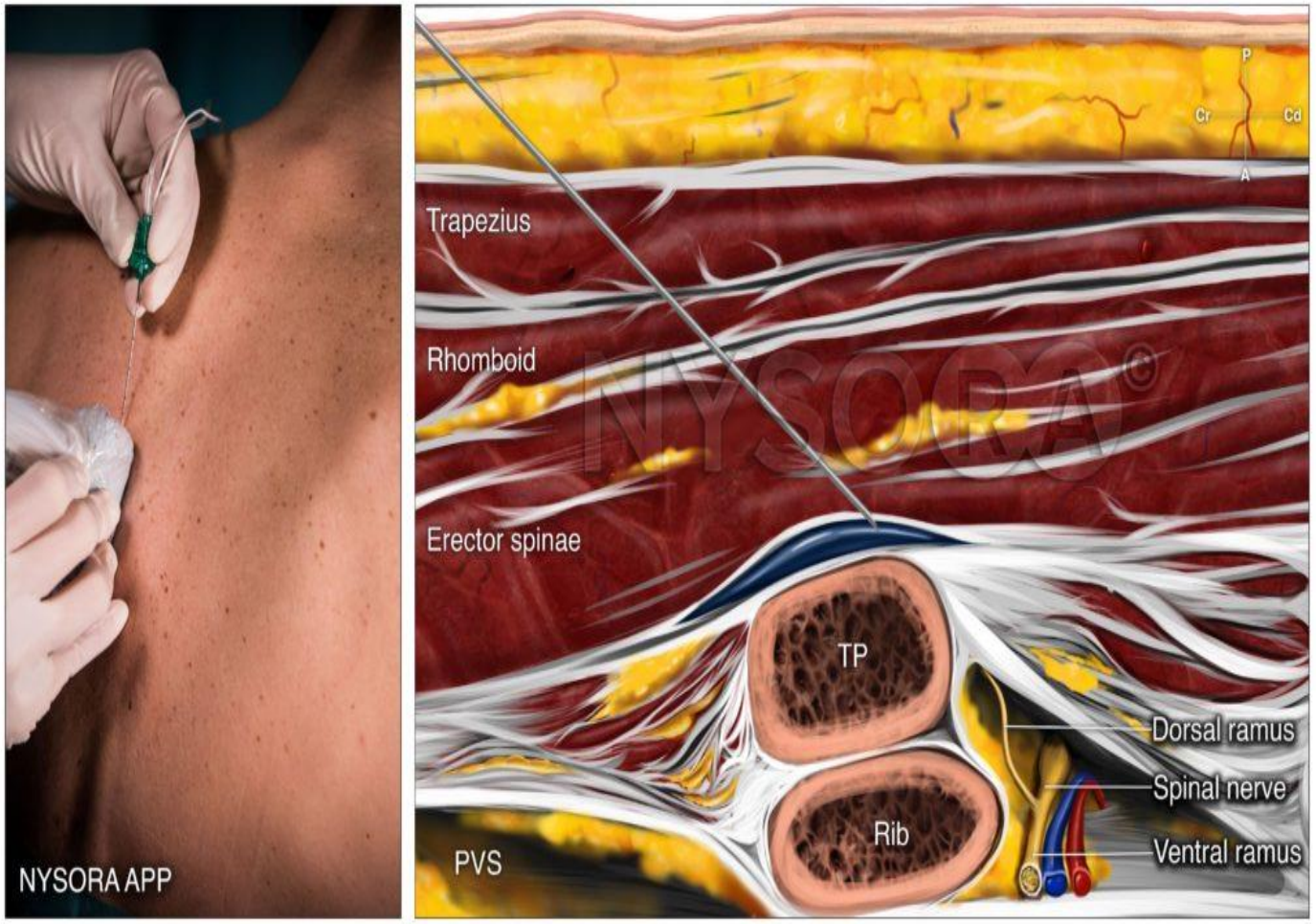
Thoracic Epidural Analgesia





The needle is initially directed at the black circle (lamina) and then redirected cranially and medially towards the red circle.

Erector Spinae Plane Block(ESPB)

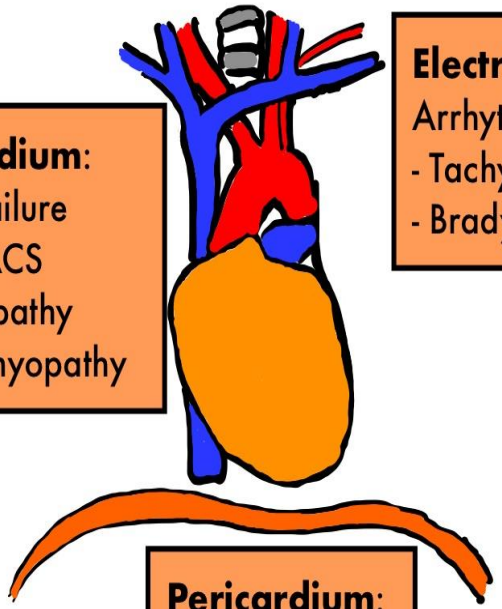


Serratus Anterior Plane Block(SAPB)

@rav7ks

Dyspnea

Cardiovascular

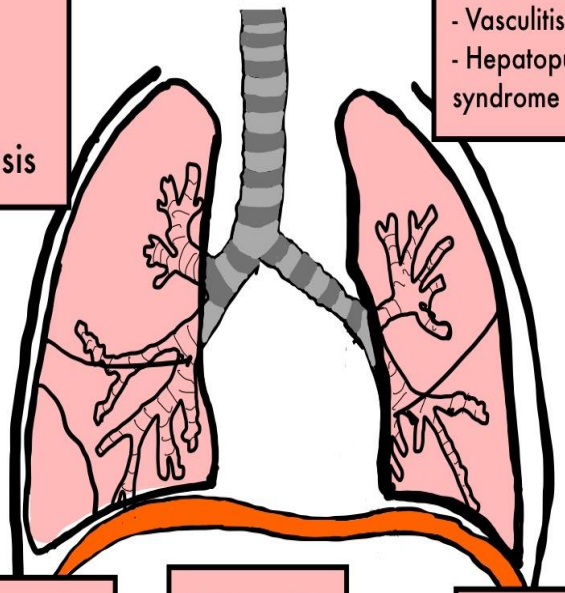


Myocardium:
- Heart failure
- CAD/ ACS
- Valvulopathy
- Cardiomyopathy

Electrical:
Arrhythmia
- Tachyarrythmias
- Bradyarrythmias

Pericardium:
- Constrictive
- Tamponade

Pulmonary



Airways:
- Asthma
- COPD
- Bronchiectasis

Vasculature:
- PE
- Pulmonary HTN
- Vasculitis
- Hepatopulmonary syndrome

Parenchyma:
- ILD

Alveoli:
- Water
- Pus
- Blood

Pleura
- Effusion
- Pneumothorax

Chest wall:
- Kyphoscoliosis
- Obesity
- Flail chest

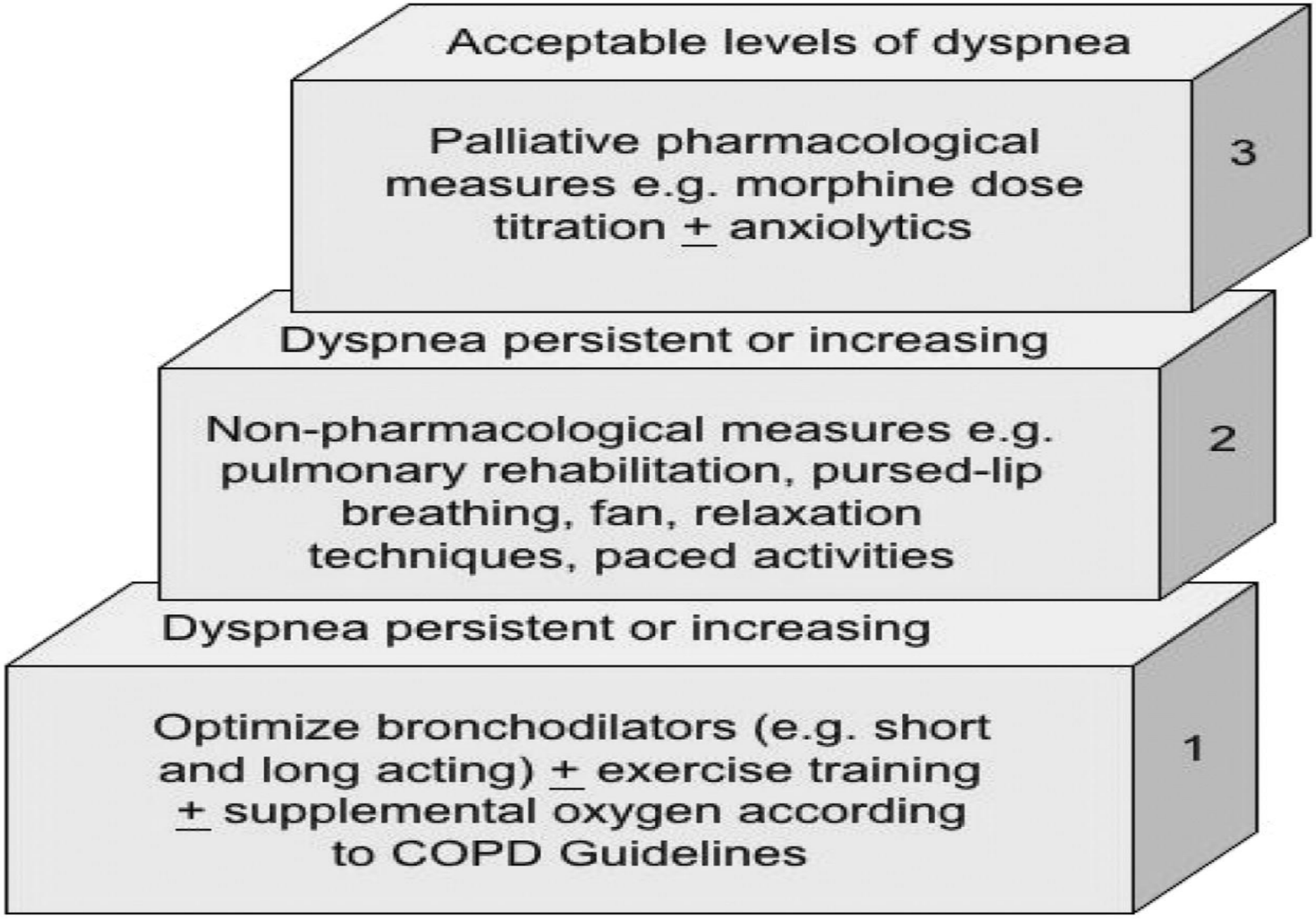
Neuromuscular:
- Myasthenia
- Guillan Barre
- ALS
- Transverse myelitis

Hematology:
- Anemia

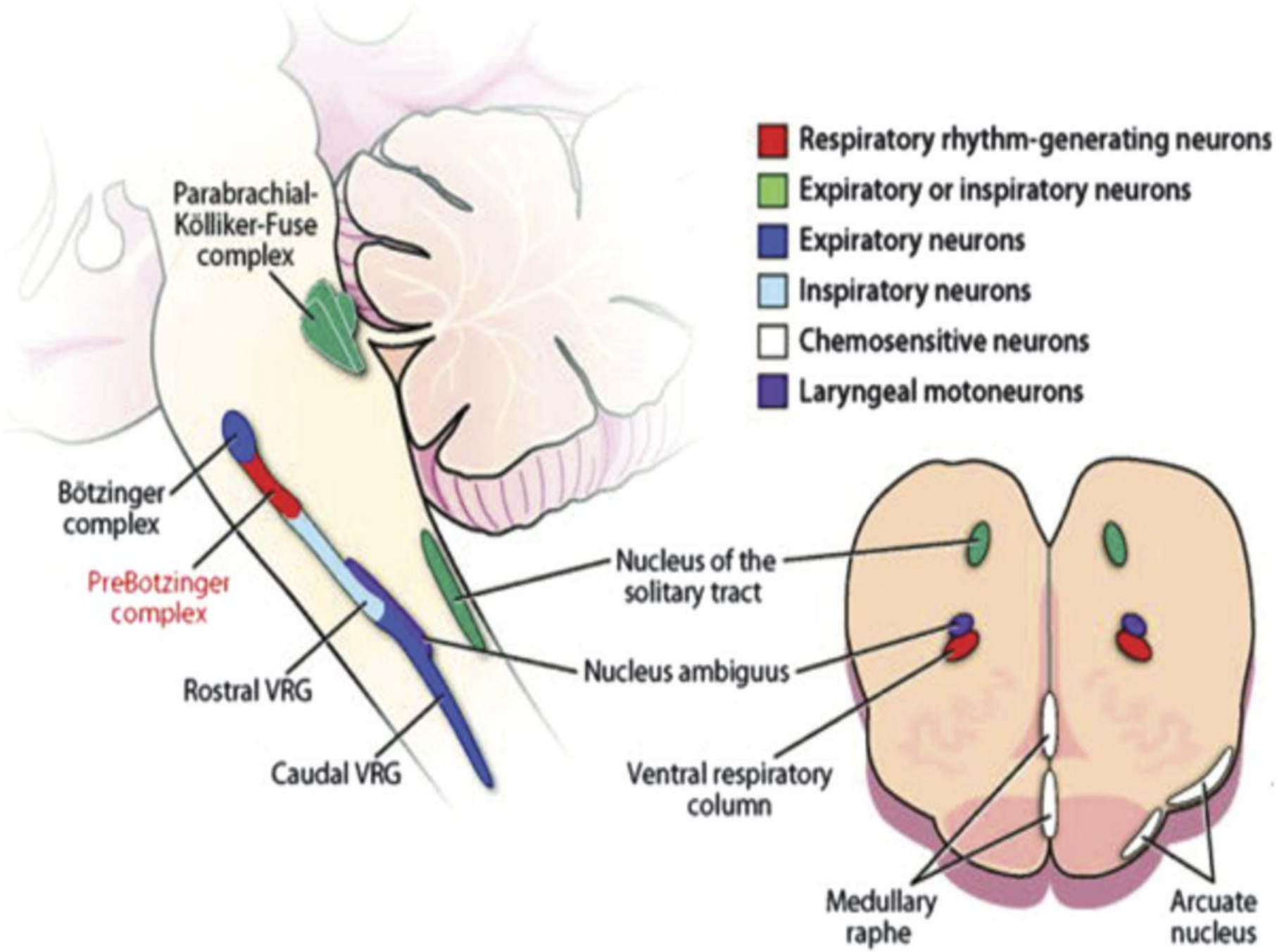
Other:
- Acidosis
- T4
- Anxiety
- Deconditioning
- Pain

Dyspnea(Breathlessness)

- **The definition of dyspnea has recently been divided into breakthrough or episodic and continuous dyspnea. Episodic breathlessness is "characterized by a severe worsening of breathlessness intensity or unpleasantness beyond usual fluctuations in the patient's perception" .**
- **Refractory dyspnea is a debilitating symptom of an advanced pulmonary and cardiovascular disease that is characterized by difficulty breathing persisting at rest or with minimal exertion despite optimal therapy of the underlying condition.**
- **"Dyspnea crisis" is defined as a "sustained and severe resting breathing discomfort that occurs in patients with advanced, often life-limiting illness and overwhelms the patient and caregivers' ability to achieve symptom relief."**

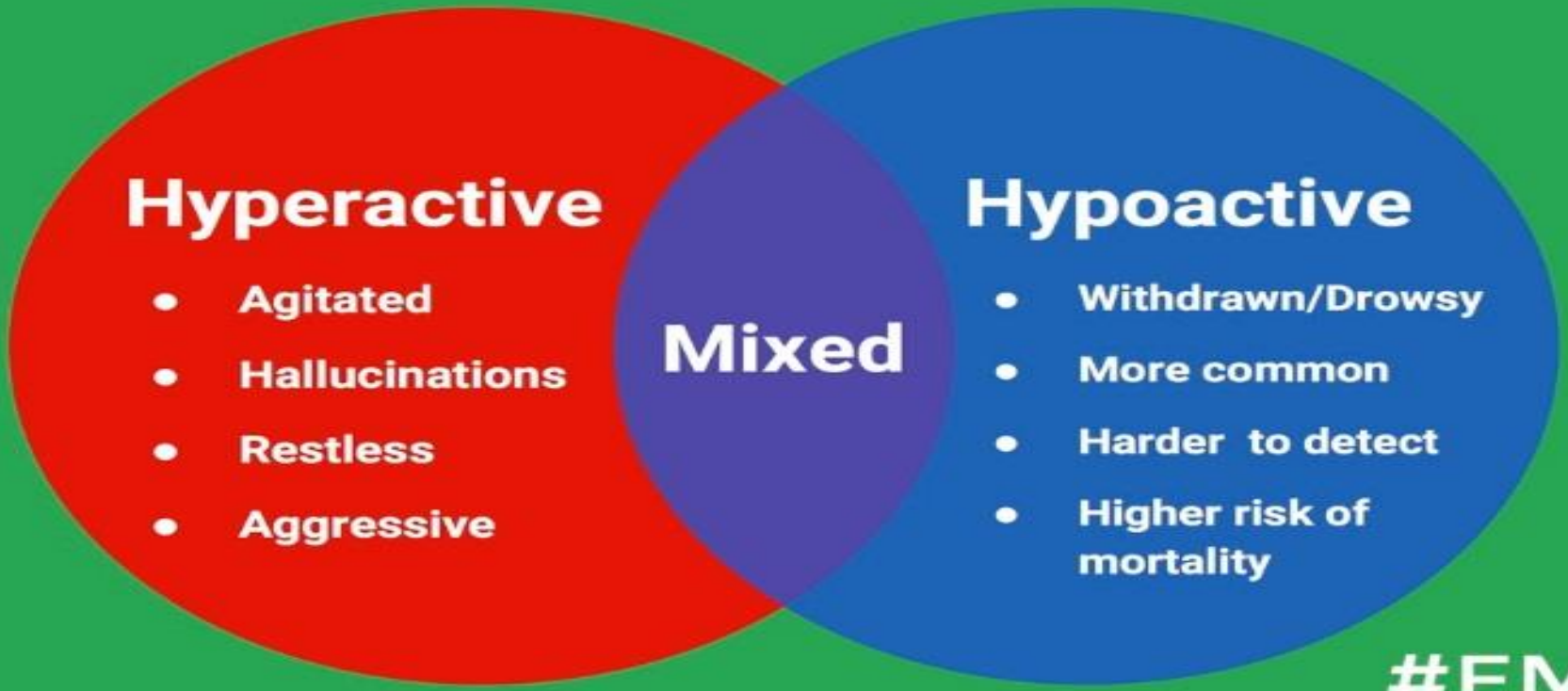


DYSPNEA MANAGEMENT IN SEVERE COPD


Respiratory rhythm-generating neurons
Expiratory or inspiratory neurons
Expiratory neurons
Inspiratory neurons
Chemosensitive neurons
Laryngeal motoneurons
Parabrachial-
Kölliker-Fuse
complex
Bötzinger
complex
PreBotzinger
complex
Rostral VRG
Caudal VRG
Nucleus of the
solitary tract
Nucleus ambiguus
Ventral respiratory
column
Medullary
raphe
Arcuate
nucleus

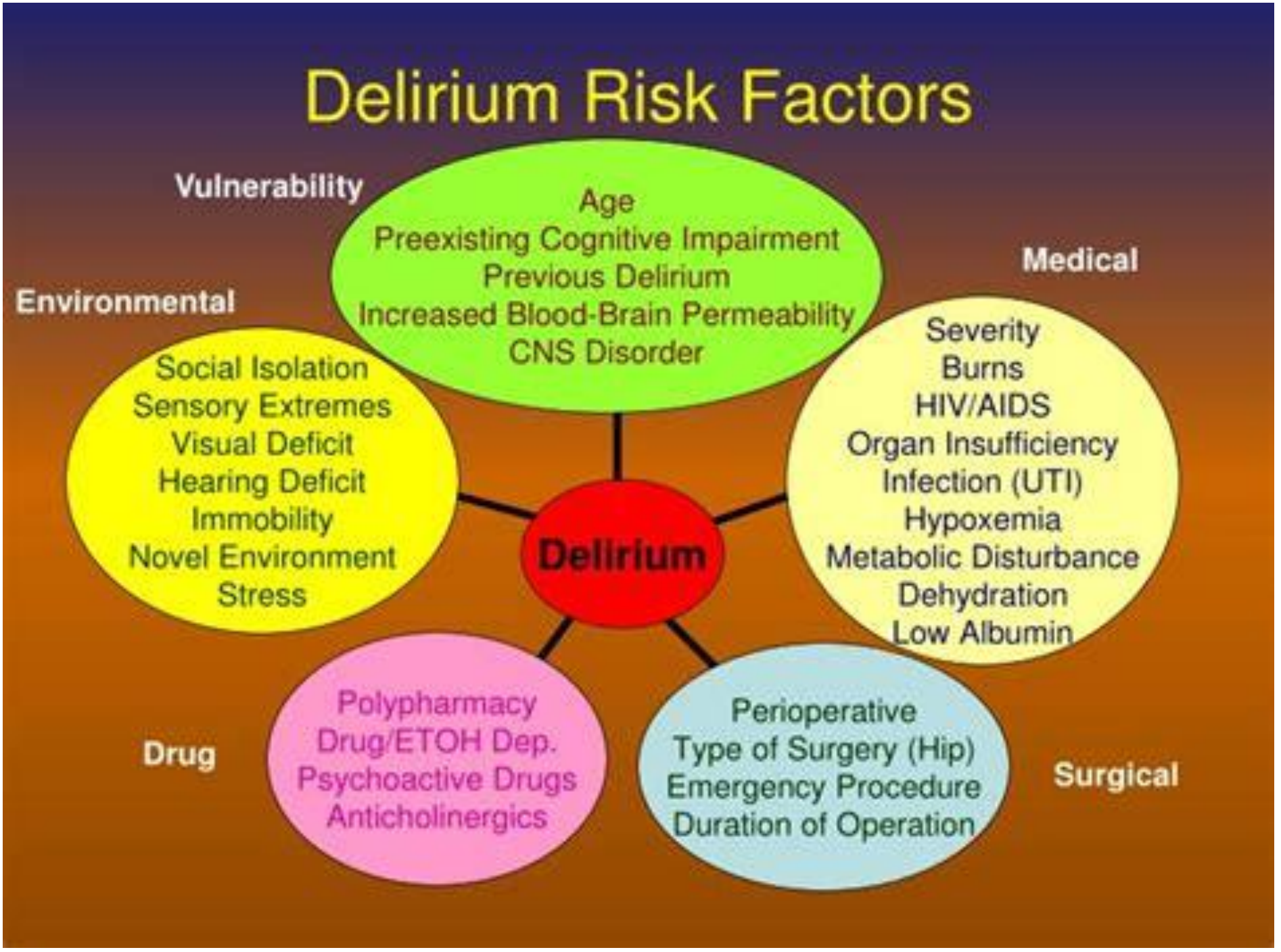
Recognising Delirium in the ED

"Acute onset and fluctuating course of disturbance in attention, level of arousal, and other aspects of mental status"

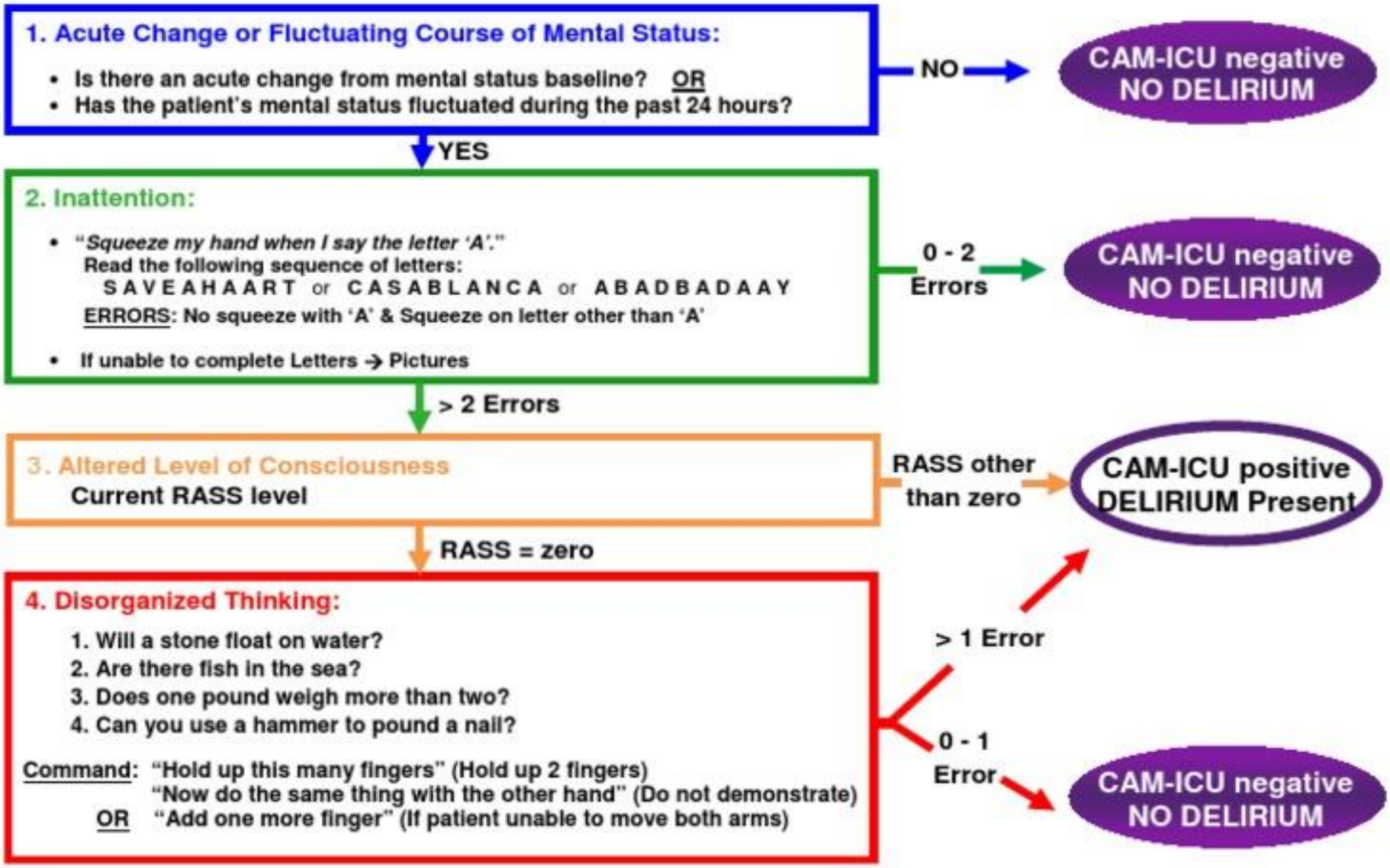


Rapid screening in the ED:

- "Months of the year backwards" and "What is the day of the week?"
- When used in combination a study showed it identified 93% of delirium cases.


Delirium Risk Factors
Vulnerability
Age
Preexisting Cognitive Impairment
Previous Delirium
Increased Blood-Brain Permeability
CNS Disorder
Environmental
Social Isolation
Sensory Extremes
Visual Deficit
Hearing Deficit
Immobility
Novel Environment
Stress
Medical
Severity
Burns
HIV/AIDS
Organ Insufficiency
Infection (UTI)
Hypoxemia
Metabolic Disturbance
Dehydration
Low Albumin
Delirium
Drug
Polypharmacy
Drug/ETOH Dep.
Psychoactive Drugs
Anticholinergics
Surgical
Perioperative
Type of Surgery (Hip)
Emergency Procedure
Duration of Operation

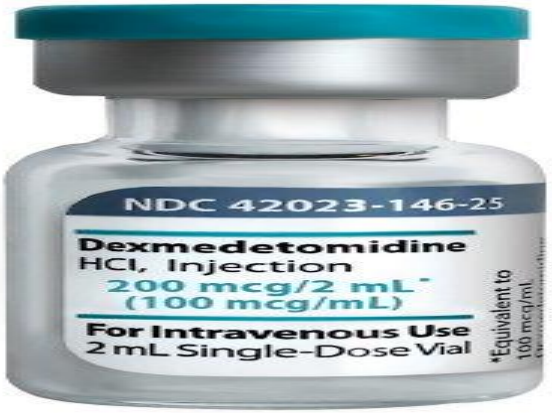
Confusion Assessment Method for the ICU (CAM-ICU) Flowsheet



RASS score

Richmond Agitation & Sedation Scale				CAM-ICU
Score	Description			
+4	Combative	Violent, immediate danger to staff		RASS ≥ -2 Proceed to CAM-ICU assessment
+3	Very agitated	Pulls at or removes tubes, aggressive		
+2	Agitated	Frequent non-purposeful movements, fights ventilator		
+1	Restless	Anxious, apprehensive but movements not aggressive or vigorous		
0	Alert & calm			
-1	Drowsy	Not fully alert, sustained awakening to voice (eye opening & contact >10 secs)	Voice	
-2	Light sedation	Briefly awakens to voice (eye opening & contact < 10 secs)		
-3	Moderate sedation	Movement or eye-opening to voice (no eye contact)		RASS < -2 STOP Recheck later
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation	Touch	
-5	Un-rousable	No response to voice or physical stimulation		

IV Sedatives



Propofol-related infusion syndrome

- High dose infusion >5 mg/kg/hr for > 48 hrs

symptoms

- Abrupt onset of profound bradycardia, metabolic acidosis lipemic plasma,
- renal failure, fatty liver, rhabdomyolysis or myoglobinuria

- Risk factors : poor oxygen delivery, sepsis serious cerebral injury

- Monitor : acidosis, K+, renal function


BEREAVEMENT
COLOR AND B&W - PNG - HIGH RESOLUTION
Educlips CLIPART

The Five Stages of Grief
Elisabeth Kübler-Ross

Denial

Anger

Bargaining

Depression

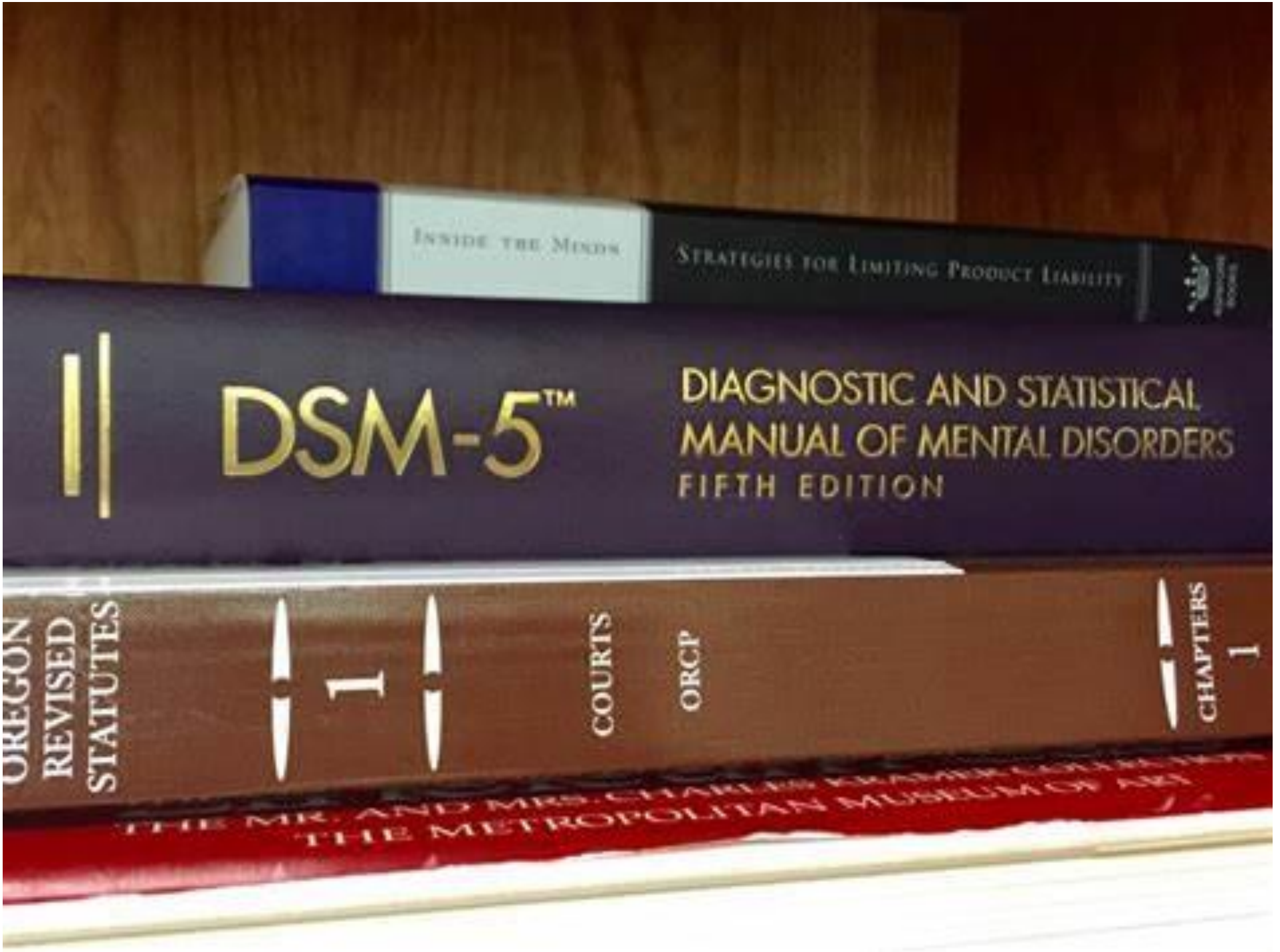
Acceptance

Grief, Mourning and Bereavement

Grief is our personal experience of loss. Grief is multifaceted and can literally affect all areas of our life: spiritual, psychological, behavioral, social, and physical. In grieving, we come to terms with what has changed our life and how our life has changed.

Mourning is a public expression of our grief. It is the societal process by which we adapt to loss. Examples of mourning include funeral and memorial services, flying flags at half-staff, temporarily closing a place of business in honor of the person who has died, and many other rituals that help us feel that we are doing something to recognize our loss.

Bereavement is the period after a loss during which mourning occurs (usually a relatively brief time) and grief is experienced (often for a much longer time).


Inside the Minds
Strategies for Limiting Product Liability
DSM-5™
DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS
FIFTH EDITION
OREGON REVISED STATUTES
1
COURTS
ORCP
CHAPTERS 1
THE MR. AND MRS. CHARLES
THE METROPOLITAN MUSEUM OF ART

Persistent Complex bereavement disorder(DSM V)

- **A. The individual experienced the death of someone with whom he or she had a close relationship.**
- **B. Since the death, at least one of the following symptoms is experienced on more days than not and to a clinically significant degree and has persisted for at least 12 months after the death in the case of bereaved adults and 6 months for bereaved children:**
- **Persistent yearning/longing for the deceased.**
- **Intense sorrow and emotional pain in response to the death.**
- **Preoccupation with the deceased.**
- **Preoccupation with the circumstances of the death.**

Persistent Complex bereavement disorder(DSM V)

- **C. Since the death, at least six of the following symptoms are experienced on more days than not and to a clinically significant degree, and have persisted for at least 12 months after the death in the case of bereaved adults and 6 months for bereaved children:**
- **Reactive distress to the death**
- **Marked difficulty accepting the death.**
- **Experiencing disbelief or emotional numbness over the loss.**
- **Difficulty with positive reminiscing about the deceased.**
- **Bitterness or anger related to the loss.**
- **Maladaptive appraisals about oneself in relation to the deceased or the death (e.g., self-blame).**
- **Excessive avoidance of reminders of the loss (e.g., avoidance of individuals, places, or situations associated with the deceased.**
- **D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.**
- **E. The bereavement reaction is out of proportion is out of proportion to or inconsistent with cultural, religious, or age-appropriate norms.**


Sleep
disorder

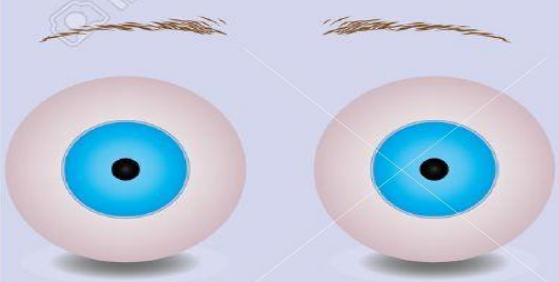
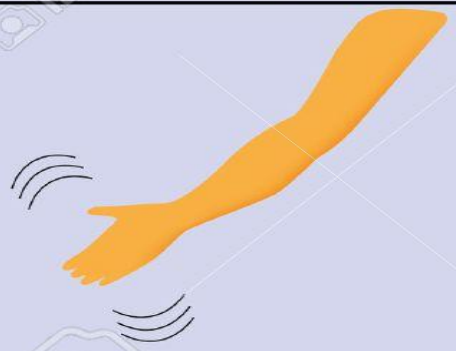

SLEEP WAKE DISORDERS
Insomnia Disorder
Hyper - somnolence Disorder
Narcolepsy
Breathing-related sleep disorders
Circadian Rhythm sleep-wake disorders
Non-REM sleep arousal disorders
Nightmare disorder
REM sleep behavior disorder
Restless Leg Syndrome
Substance /Medication induced sleep disorder


Distractibility
Poor attention span
Poor organizational skills
Poor motivation
Irritable
Easily frustrated
Depression
Anxiety
Defiance
Insufficient sleep


PROGNOSTICATION

Widely used ICU prognostic models

- **Glasgow Coma scale(GCS)**
- **Acute Physiologic and Chronic Health Evaluation (APACHE) score.**
- **Simplified Acute Physiology Score (SAPS).**
- **Sequential Organ Failure Assessment (SOFA) score.**
- **Quick Sequential Organ Failure Assessment (qSOFA) score.**
- **Prognosis for prolonged Ventilation (ProVent) score.**
- **Shock index (SI)for Hypovolemic Shock and 28 day mortality.**

Behaviour	Response
 Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
 Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
 Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

The APACHE II Score

Physiologic Variable	High Abnormal Range					Low Abnormal Range			
	+4	+3	+2	+1	0	+1	+2	+3	+4
Rectal Temp (°C)	≥41	39-40.9		38.5-38.9	36-38.4	34-35.9	32-33.9	30-31.9	≤29.9
Mean Arterial Pressure (mmHg)	≥160	130-159	110-129		70-109		50-69		≤49
Heart Rate	≥100	140-179	110-139		70-109		50-69	40-54	≤39
Respiratory Rate	≥50	35-49		25-34	12-24	10-11	6-9		≤5
Oxygenatation a) FIO_2≥0.5 record A-aDO_2 b) FIO_2<0.5 record PaO_2	≥500	350-499	200-349		<200 PO_2>70	PO_2 61-70		PO_2 55-60	PO_2<55
Arterial pH	≥7.7	7.6-7.69		7.5-7.59	7.33-7.49		7.25-7.32	7.15-7.24	<7.15
HCO_3 (mEq/l)	≥52	41-51.9		32-40.9	22-31.9		18-21.9	15-17.9	<15
K (mEq/l)	≥7	6-6.9		5.5-5.9	3.5-5.4	3-3.4	2.5-2.9		<2.5
Na (mEq/l)	≥100	160-179	155-159	150-154	130-149		120-129	111-119	≤110
S. Creat (mqm/dl)	≥3.5	2-3.4	1.5-1.9		0.6-1.4		<0.6		
Hematocrit (%)	≥60		50-59.9	46-49.9	30.45.9		20-29.9		<20
TLC (10^3/cc)	≥40		20-39.9	15-19.9	3-14.9		1-2.9		<1
GCS									

Age -score

<44 → 0
45-54 → 2
55-64 → 3
65-74 → 5
≥75 → 6

GCS:

15 → 0
14 → 1
13 → 2
12 → 3
11 → 4
10 → 5
9 → 6
8 → 7
7 → 8
6 → 9
5 → 10
4 → 11
3 → 12

JAMA 1993;270(24):2957-2963

SAPS II Score

Parameter	Value (score)						
HR			<40 (11)	40-69 (2)	70-119 (0)	120-159 (4)	>160 (7)
SBP			<70 (13)	70-99 (5)	100-199 (0)	>200 (2)	
Temp					<39°C (0)	>39°C (3)	
PaO_2/FIO_2	<100 (11)	100-199 (9)	>200 (6)				
UO (ml)		<500 (11)	>500 (4)		>1000 (0)		
S. Urea					<28 (0)	28-83 (6)	>84 (10)
TLC (10^3/cc)				<1 (12)	1-20 (0)	>20 (3)	
K				<3 (3)	3-4.9 (0)	>5 (3)	
Na				<125 (5)	125-144 (0)	>145 (1)	
Bicarb			<15 (6)	15-19 (3)	>20 (0)		
Bil					<4 (0)	4-5.9 (4)	>6 (9)
GCS	<6 (26)	6-8 (13)	9-10 (7)	11-13 (5)	14-15 (0)		

Age -score

<40 → 0
40-59 → 7
60-69 → 12
70-74 → 15
75-79 → 16
≥80 → 18

Chronic disease:

Metastatic cancer → 9
Hemat.malig → 10
AIDS → 17

Type of admission:

Sched. Surgical → 0
Medical → 6
Emer.surgical → 8

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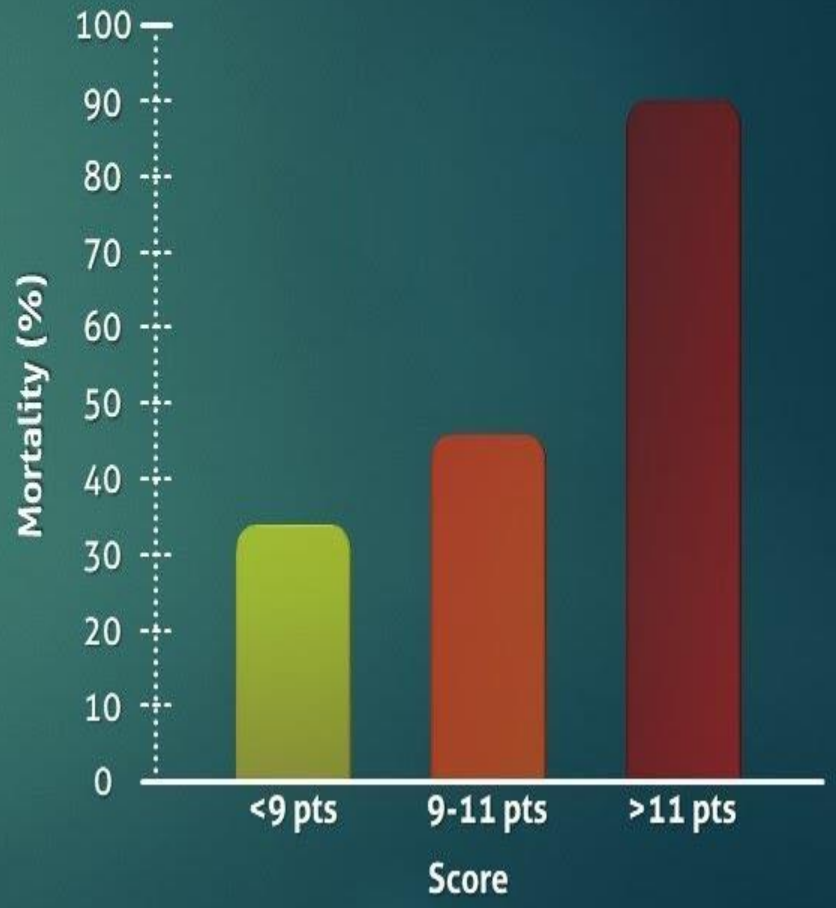
Sepsis: *SOFA Score*

	0	1	2	3	4
Cardiovascular System *(Blood Pressure)*	No hypotension	MAP <70 mmHg	Vasopressors[A]	Vasopressors[B]	Vasopressors[C]
Central Nervous System *(Glasgow Coma Scale)*	15	13-14	10-12	6-9	<6
Respiratory System *(PaO_2/FiO_2)*	>400	301 - 400	≤300	101–200+VS[D]	≤100+VS[D]
Coagulation *(Platelets x103/mm3)*	>150	101 - 150	51 - 100	21 - 50	≤20
Liver *(Bilirubin mcmol/L)*	<20	20 - 32	33 - 101	102 - 204	>204
Kidney *(Creatinine mcmol/L)*	110	110 - 170	171 - 299	300 - 440[E]	>440[F]



Sepsis: *qSOFA Score*

Not high risk

0 *or* 1 Points

Continue management as appropriate

2 *or* 3 Points

High risk of poor outcome

Assess for evidence of organ dysfunction

identification of SHOCK INDEX

= HR / SBP

NORMAL SI <0.7

SHOCK INDEX >1.0

Most specific predictor of hyperlactatemia & 28-day mortality

Prognosis for prolonged Ventilation(ICU)

- **ProVent (at 3 weeks)** — **Score**
  - Age>50 years — 1
  - Currently on Vasopressors — 1
  - Current platelet count <150,000 k — 1
  - Currently on Hemodialysis — 1

- **1-year mortality** — **Total score**
  - 15% — 0
  - 42% — 1
  - 88% — 2
  - 95% — 3
  - 100% — 4


CPR
TRAINING

Cardiac arrest resulting in CPR

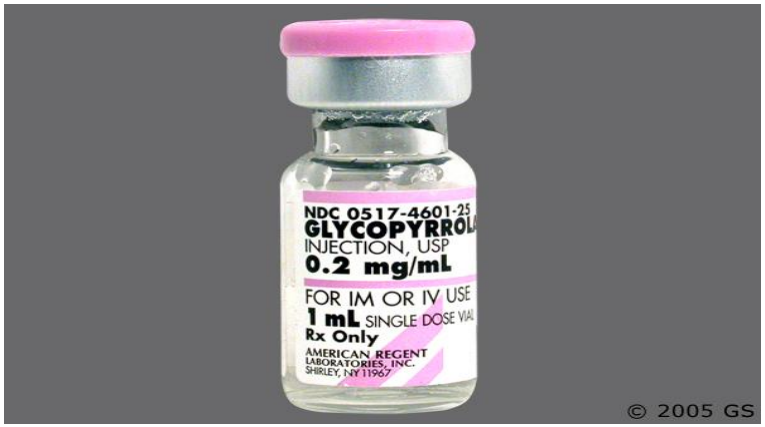
- **Patients already in ICU at the time of arrest:**
  - **On vasopressors at the time: 9.3% survival to discharge.**
  - **Not on Vasopressors at the time: 21.2% survival to discharge.**
  - **Overall:15.9% survival to Hospital discharge.**

Compassionate (Terminal) Extubation

Compassionate (Terminal) Extubation

- **Definition:**
  Withdrawal of mechanical ventilation from critically ill patients.
- **Patients are not expected to survive without respiratory support.**
  Patient has to be DNR/DNI .
- **Must be approved by surrogate.**
- **Start by weaning off Vasopressors ,stop antibiotics and any unnecessary meds .**
- **Make sure No muscle relaxant is given in the last 24 hours.**
- **Oxygenation, suction should proceed extubation.**
- **Be ready with IV Anticholinergic, Benzodiazepine and Opioid.**
- **Allow family to enter the room after the extubation and Keep the Monitor away from family.**
- **Ask for Religious counselor to be present after taking permission from family.**
- **The patient may survive either method of withdrawal for minutes, hours, or, occasionally, days.**

IV Supportive meds



DNR/DNI, Palliative sedation , Physician assisted suicide and Euthanasia

DNR/DNI, Palliative sedation , Physician assisted suicide and Euthanasia

- **DNR/DNI: is a legal order written either in the hospital or on a legal form to withhold cardiopulmonary resuscitation (CPR) or advanced cardiac life support (ACLS), in respect of the wishes of a patient in case their heart were to stop or they were to stop breathing (withdrawal vs withholding).**
- **Palliative Sedation :Controlled administration of sedative medications to reduce patient consciousness to the minimum extent necessary to render intolerable and refractory suffering tolerable.**
- **Physician assisted suicide the physician provides the prescription of the lethal drug(s) with instructions of how to use, but the patient is the agent who decides when and if to take it and self administers.**
- **It is best to limit use of the term "Euthanasia" to those cases in which the life of the patient is terminated actively (i.e., by lethal medication) and directly (intentionally).**

A Tale of two specialties – Merging Palliative care into Critical Care

Dr. Cora WS Yau

ICU – Journal presentation

30/8/2011

PC-ICU Integration

- **Three separate models have been proposed to aid better PC-ICU integration: improving palliative care by ICU clinicians, as part of routine ICU practice (integrative model); improving palliative care by utilizing specialist PC teams (consultative model); and a (mixed model)that incorporates both of these strategies.**
- **Recently, existing evidence was organized to address: (1) opportunities to alleviate physical and emotional symptoms, improve communication, and provide support for patients and families; (2) models and specific interventions for improving ICU palliative care; (3) available resources for ICU palliative care improvement; and (4) ongoing challenges and targets for future research.**

A Paradigm Shift in Management Goals- survival is not the only objective

-As long as it is Ethically and Legally justified

Autonomy

- Respect patient self-determination
- Patients have the right to accept /reject recommendations for medical care if they have appropriate decision-making capacity

Beneficence

- Doing what is best for the patient
- Definition of 'what is best' may derive from the physician's judgment or the patient's wishes (Autonomy)

Non-Maleficence

- *Primum non nocere* - "First, do no harm"
- Physicians are fallable, we are equally capable of harming as we are helping our patients

Justice

- Fair allocation of resources
- Patients in similar situations should have access to the same care

Double effect

Double effect is usually regarded as the combined effect of beneficence and non-maleficence.

MORPHINE

Beneficial effect - easing the pain and suffering of the patient,

Maleficent effect - hastening the death of the patient through suppression of the respiratory system.

KEY LEARNING POINTS
Why Integrating Palliative care in ICU practices?

- **PC is a Patient Centered approach**
- **PC improves communication**
- **PC alleviates distress**
- **PC can help aligning medical decisions with Goals and values**
- **PC Improves Symptoms and QOL**
- **PC decreases Care giver burden**
- **PC improves family satisfaction**
- **PC reduces cost and lowers intensity of care**
- **PC enhances continuity of care**
- **PC can assist in DNR discussion**
- **PC can assist in identifying Bereavement risk**
- **Palliative care shortens ICU stay**
- **PC does not affect Mortality**
- **PC Provides patients the Bigger picture and option of opting out**

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REVIEW Open Access

Palliative care in intensive care units: why, where, what, who, when, how

Sebastiano Mercadante[1], Cesare Gregoretti[2] and Andrea Cortegiani[2*]

Abstract

Palliative care is patient and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering when "curative" therapies are futile. In the Intensive Care Unit (ICU), critically ill patients receive life-sustaining therapies with the goal of restoring or maintaining organ function. Palliative Care in the ICU is a widely discussed topic and it is increasingly applied in clinics. It encompasses symptoms control and end-of-life management, communication with relatives and setting goals of care ensuring dignity in death and decision-making power. However, effective application of Palliative Care in ICU presupposes specific knowledge and training which anesthesiologists and critical care physicians may lack. Moreover, logistic issues such protocols for patients' selection, application models and triggers for consultation of external experts are still matter of debate.

The aim of this review is to provide the anesthesiologists and intensivists an overview of the aims, current evidence and practical advices about the application of palliative care in ICU.

Keywords: Palliative care, Intensive care unit, ICU, Patient-centered care, End-of-life care

Background

The aim of intensive care is the maintenance of vital functions to reduce mortality and prevent morbidity in patients with a severe critical illness. Despite the development of new technologies and the improvement of care, death rate in the intensive care unit (ICU) remains high [1, 2], ranging 20–35%, with variations according geographical regions. Mortality rate was higher in upper-middle income countries than to ICUs in low and lower-middle or high-income [3]. In the latest years, ICU admissions in the last month of life have been growing up to 30% [1, 4]. When the organ dysfunction of critical illness does not respond to treatment, and the goals of care cannot be achieved anymore, or when life support becomes to be non proportional to expected prognosis, ICU physicians should provide an acceptable death [5, 6]. When life-sustaining therapies are unable to meet the patient's goals, or paradoxically may result to be more burdensome than beneficial, withdrawal and withholding of therapies is a commonplace among ICU physicians [7]. In general, dying patients lack decision-making capacity. Advanced directives, when available, should guide the decision-making process, although it is often a medical team decision. This process may be complex and emotionally draining. Physician training in graduate and continuing medical education may provide guidance and support. Moreover, complications of polypharmacy, no realistic overview, poor attention for quality of life, and communication with relatives, are of concern. However, it is often difficult for physicians to initiate an appropriate discussion with patients' relatives. Thus, ICU clinicians require knowledge and competence on the many aspects of withholding/withdrawing interventions and, in general, on end of life supports [7–11], including adoption of some treatment limiting the suffering, good communication with relatives, and how to afford some ethical issues. The use of sedatives, analgesics, and other non-pharmacological methods to ease distressing symptoms, as well as careful communication to support the decision-making process, including autonomy, capacity determination, and surrogacy, are of paramount importance, even during the phase of active treatments [12, 13]. Moreover, ICU staying is also an unpleasant experience. Many symptoms commonly encountered in palliative care practice, such

* Correspondence: cortegiania@gmail.com
[2]Department of Biopathology and Medical Biotechnologies (DIBIMED), Section of Anestesia, Analgesia, Intensive Care and Emergency. Policlinico Paolo Giaccone, University of Palermo, Via del vespro 129, 90127 Palermo, Italy
Full list of author information is available at the end of the article

Palliative care in the ICU 2006

S Cox, JM Handy, A Blay

This is a review of the role of palliative care with intensive care patients. End-of-life care challenges are explored such as identifying patients at the end of life on ICU and involving patients, families and health professionals in decision-making. Ethical issues around withholding and withdrawing treatment are also discussed. Integration of palliative care into ICU practice is recommended to support the patient, family and ICU team during a patient's end-of-life care and in bereavement.

Keywords: palliative care; intensive care; end of life

Introduction

Palliative and intensive care appear superficially to have very little in common. On the intensive care unit (ICU), the very latest technological innovation and skill are used to retrieve seriously ill patients from the brink of death. In contrast, palliative care tends to minimise burdensome interventions for individuals in whom death is the expected and accepted outcome. However, an increasing proportion of patients admitted to ICU will die after withdrawal of aggressive treatment and for these patients attention to symptom control, psychological support of families and support for staff become the most important interventions. These aspects of care can be provided by close integration with existing palliative care services or by incorporating palliative care skills into intensive care training. This paper reviews the evidence of current practice around end-of-life care in the ICU and proposes an integrated model between ICU and the palliative care and intensive care outreach teams.

Patients (Singer 1999)	ICU nurses (Bratcher 2010)
• Adequate pain and symptom management	• Managing pain and other symptoms
• Avoiding inappropriate prolongation of dying	• Promoting earlier cessation of treatment or not initiating aggressive treatment at all
• Achieving a sense of control	• Knowing and following patients' wishes for end-of-life care
• Relieving burden on others	
• Strengthening relationship with loved ones	
	• Communicating effectively as a healthcare team

Table 1 Patients' and ICU nurses' priorities for a good death.

What are the issues in end-of-life care on the ICU?

Providing a good death

In the 1990s, the SUPPORT study team reported their prospective observation of over 9,000 seriously ill hospitalised patients.[4] The authors identified over-aggressive management, inadequate pain control and poor communication among a significant number of those who went on to die. There was evidence that physicians were often not aware of patients' wishes around medical care.

The literature agrees that a good death is one which is free from pain and other symptoms but also where the patient retains some degree of control, autonomy and independence.[2,5] For patients dying on ICU, the last three are difficult to achieve. However, authors suggest delivering treatment which supports the patients' values and beliefs, including appropriate limitation of the use of aggressive treatments. Surveys of patients and ICU nurses suggest a clear overlap in the priority of avoiding prolongation of dying[2,6] (**Table 1**).

For relatives of patients dying on ICU, a good death requires attention to comfort, and more particularly to pain management.[3] Families rate whole-person concerns highly, including feeling that their relative was at peace and retained dignity and self-respect.[6] Increased satisfaction of families is also related to clarity around the processes of limiting treatment, with trials of treatment being explained and withdrawal or withholding of treatment occurring as expected.[7]

Identifying patients who may be at the end of life

There is great variability between services and cultures in identification of an end-of-life phase.[8,9] Around 5% of deaths in the UK and 20% of deaths in the USA occur on the intensive care unit. While this difference might be explained by the greater availability of ICU beds in America or less selective admission criteria, it is likely that they reflect, at least in part, cultural differences in expectations of treatment. Not all of these deaths could or should be predicted, but the proportions that follow a period of withdrawal of treatment are increasing both in USA and Europe.[10,11] This proportion varies widely between countries, with up to 90% of deaths in North American ICUs happening after decisions to limit life-sustaining treatment. In Northern Europe the figure is lower, at around 50%, and 20% in Southern Europe.[10,11]

Scores such as APACHE III have been developed to help

The situation looks like therapeutic obstinacy ...

Is it time to withhold life supports?

How should I discuss with his family?

Should I call the palliative care service for consultation?

Thank you