

PERCEPTION VERSUS REALITY:

Debunking The Myths About Medically-Induced Comas

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The practice of keeping patients alive on ventilators in the Intensive Care Unit (ICU) started in the 1950s. In the 1990s, medicine had advanced to the point where it was possible to care for far sicker patients, with conditions such as acute respiratory distress syndrome (ARDS).

Early ventilators and breathing tubes were primitive and uncomfortable. Patients could not tolerate the discomfort of a stiff tube down their throats, with mechanical air pumping into their lungs at unnatural rates, volumes, and rhythms.

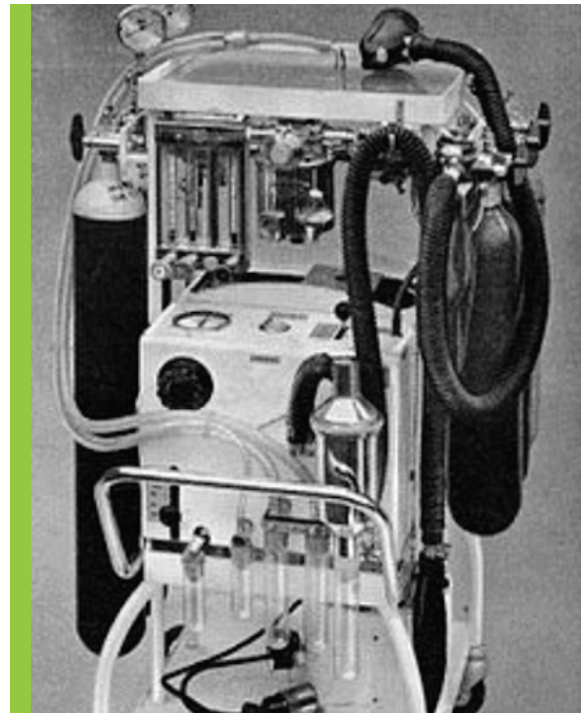
Today, standard practice for healthcare providers treating ventilated patients is to deeply sedate them into medically-induced comas. Unfortunately, over the years, while ventilator technology has evolved, our sedation practices have not.

From the bedside, patients in medically-induced comas appear calm, relaxed, and even peaceful. Their bed sheets are tidy, their intravenous (IV) lines are in order, their eyes are closed, and they seem to be unaware of the horror of their reality.

This makes us feel good. The medical community sometimes calls it “rest” or “sleep.” This naive view of sedation has allowed us to justify deeply sedating patients the moment they’re connected to a ventilator. We’ve been able to do this with a clear conscience for many decades, because we believe it’s the most humane form of care.

But our perception is not in line with reality. Current research and the experiences of many who have survived medically-induced comas expose the startling reality of what actually occurs when patients are deeply sedated.

With this in mind, it’s time to debunk some of the long-held myths about medically-induced comas and learn about the danger of unnecessary long-term sedation.



MYTH #1

Patients in medically-induced comas are “sleeping.”

Research shows the brain activity that occurs during sedation is not the same as it is during sleep.^{1, 2, 3} For one thing, sedation disrupts the brain and hinders one's ability to sleep. Therefore, it's unknown whether patients can achieve any restorative sleep during medically-induced comas. Their brains are often exhausted, broken, and stuck on a hamster wheel of terrifying delusions.⁴ Furthermore, sleeplessness can contribute to or cause ICU delirium⁵, and lead to long-term post-traumatic stress disorder (PTSD) and cognitive dysfunction.⁶



MYTH #2

It's best that patients remain “unaware of their surroundings” during critical illness.

Even if patients are not interacting with their environment, they can still be aware of their surroundings. Sedation can cause delirium, leading to morbid interpretations of what is experienced in the ICU.^{8, 9, 10} In fact, the sounds, stimulation, and smells of their environment are often mixed with and twisted into hallucinations.^{4, 7} Survivors often report that the horrors they experienced under sedation felt more real than reality itself.

Survivor Testimonial:



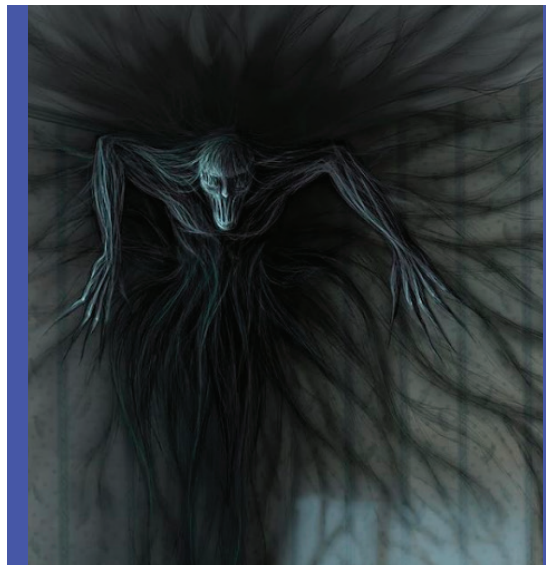
"During my coma, I was trapped in a world of continuous, vivid and terrifying nightmares - some of them recurring - that would become my reality over the following weeks. There was no peaceful sleep or feeling of serenity. It was just visions of pain, torment and general mayhem.

"One nightmare, which troubled me for a long time after recovering, was the kidnapping of my two young daughters. I would be tracking them down and get close to finding them only to discover they had been moved on and I would always be one step behind. This scenario would just

keep playing out over and over. The feeling of despair and hopelessness in this nightmare, believing I would never see my daughters again, felt so real. When they visited me in the ICU on the day after waking from the coma, I was in tears seeing them walking towards my bed. I still clearly remember them asking why I was crying.

"In another nightmare, I was in hospital when gunmen started attacking the building. They were chasing me through the corridors and shooting at me as I ran in fear for my life and I felt the bullets physically hitting me and entering my body as I fell to the floor dying. When I woke from the coma, I thought I was in hospital because I had been shot. Was this triggered by the sensation of having chest drains inserted into my sides when I suffered a double pneumothorax or ECMO cannulas fitted into my neck and groin, that prompted my brain to create this sequence of events?

"I also recall the feeling of solitude and isolation in what I can only describe as a white space of nothingness. I would hear voices that were familiar to me, but I couldn't place who was talking and wherever I looked I couldn't see anyone, as the voice was always coming from behind me and out of sight. This would lead to an overwhelming sense of frustration, sorrow and loneliness that seemed tangible. I also have other more extreme nightmares that I can't talk about, as I am too embarrassed and ashamed that my mind could conjure up such imagery.



“Though I know and understand these are false memories, I still have emotions attached to them due to the impact of their perceived authenticity. In the months following the hospital discharge, I experienced a psychological fallout that would lead to me being clinically diagnosed with PTSD.”

— David Richards

Anecdotes like this exemplify the intense terror experienced by some patients while they are under deep sedation. That being said, ICU patients are not necessarily better off remaining “unaware of their surroundings,” and they can benefit from being able to interact with their loved ones and hospital staff. Despite their critical illness, they should still be allowed to communicate and make decisions about their care,^{11,12} and if their time on the ventilator is their last mortal moment, they should be allowed the chance to say goodbye.¹³



MYTH #3

Sedation will help prevent post-ICU post-traumatic stress disorder (PTSD).

Many healthcare workers believe sedation prevents post-traumatic stress disorder (PTSD) associated with an ICU stay. However, post-ICU PTSD is directly linked to delirium and sedation.^{14,15} Research suggests patients' traumatic experiences while sedated in the ICU can actually precipitate PTSD.

Studies show PTSD is more likely related to the scary delusions patients experience while they're delirious from sedation.^{4,16} Research also shows real memories and understanding of time in the ICU is likely to be protective against post-ICU PTSD.¹⁷

MYTH #4

Medically-induced comas are harmless and more humane.

This assumption is patently false! When patients are sleepless and motionless in medically-induced comas, they experience muscular atrophy and mental decline, which have detrimental impacts on their chances to survive and thrive in the ICU.

Medically-induced comas increase patients' chances of:

- Dying in the ICU or after the ICU^{18,19}
- Infection^{20,21}
- Pressure sores²²
- Blood clots²³
- Delirium^{8,9,10}
- ICU-acquired weakness²⁴
- Having to spend more time on the ventilator²⁵
- Requiring more time in the hospital²⁶
- Tracheostomy²⁷
- Ending up in a rehabilitation center or nursing home²⁸
- Post-ICU PTSD^{14,15}
- Post-ICU dementia (cognitive dysfunction)²⁹
- Depression³⁰
- Being readmitted to the hospital and ICU³¹
- Post-intensive care syndrome³²

Medically-induced comas decrease patients' chances of:

- Being able to go home after being discharged from the hospital²⁸
- Being able to walk when being transferred from the ICU²⁴
- Having the ability to return to work³³
- Enjoying optimal quality of life³⁴

MYTH #5

Medically-induced comas are essential for all patients on the ventilator.

Circumstances in which patients must be deeply sedated on the ventilator are in the minority. Continuous sedation may be essential in cases such as intracranial hypertension, severe ARDS with an inability to oxygenate with movement, refractory status epilepticus, and prevention of awareness in patients treated with neuromuscular blocking agents.

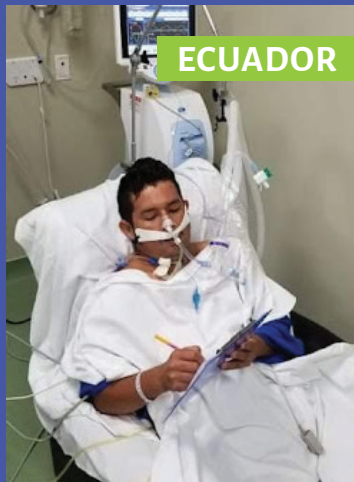
However, it is not necessary or beneficial in most situations where patients are connected to mechanical ventilation. Most ICU patients can and should be awake and moving while on the ventilator.³⁵

MYTH #6

Patients using a ventilator cannot be awake and moving.

Finally, a common misconception is that ventilated patients should be stationary. On the contrary, research has demonstrated the safety and feasibility of allowing patients on ventilators to walk during acute respiratory failure.³⁶

At the end of the day, the more patients mobilize on the ventilator, the sooner they will have the breathing tube removed, leave the hospital, and resume their life.³⁷ In fact, many intensive care units throughout the world have normalized allowing patients to be awake and moving while on the ventilator.³⁸



COLORADO



The “Awake and Walking ICU” Approach

“Awake and Walking ICUs” are being developed throughout the world.^{39, 40} This process of care allows nearly all patients to wake up after intubation and move. They are promptly allowed to sit, stand, or walk - according to their capacity - even when suffering from acute respiratory failure.⁴¹

Avoiding sedation and facilitating early mobility for patients in the ICU - with and without the ventilator - has been proven to decrease:

- Death⁴²
- Ventilator and hospital-associated pneumonia⁴³
- Central line and catheter infections⁴⁴
- Pressure injuries⁴⁵
- Falls^{46, 47}
- Delirium⁴²
- Aspiration pneumonia⁴⁸
- Constipation/ileus⁴⁹
- Intubation²⁸
- Re-intubation²⁸
- Tracheostomy and PEG tube placements⁵⁰
- Discharges to care facilities⁴²
- Hospital and ICU readmissions⁴²
- Diaphragm dysfunction⁵⁴
- ICU-acquired weakness⁵⁵

In addition, these practices have also been shown to increase/improve:

- Successful extubation⁴²
- Discharges from ICU⁴²
- Discharges home^{42, 57}
- Chance of survival⁴²
- Functional independence after discharge⁵²
- Quality of life⁵⁶
- Lung aeration⁵¹
- Secretion clearance⁵³

Clearly, the less sedation given, and the more patients are mobilized, the better their outcomes will be. However, the kind of treatment and outcomes available to patients on mechanical ventilation depends on how up-to-date ICU teams are on the latest research.

Automatic deep sedation for every patient on a ventilator is often more of a cultural practice than a medical necessity, and for most patients, its benefits are questionable at best. In order to improve outcomes, it is important to avoid prolonged deep sedation and mobilize patients in the ICU whenever possible. The less delirium and atrophy patients endure, the quicker they will be able to recover from critical illness and return home.²⁸





We work with ICU teams who struggle with the repercussions of sedation and immobility, and aspire to implement the “Awake and Walking ICU” method. Our goal is to guide critical care teams through the process of humanizing patient care by employing evidence-based practices that will greatly benefit institutions and radically improve patient outcomes.

We create transformational change through education and practical support by addressing barriers to best practices, such as knowledge gaps, cultural traditions, and interdisciplinary dynamics. By applying these changes, ICU teams will experience better results for their patients, improved workplace environments, decreased in-hospital complications, as well as fewer legal and financial liabilities.

Want to know more?

Contact me at info@daytonicuconsulting.com to book a free consultation, or visit daytonicuconsulting.com for more information.

Kali Dayton, DNP, AGACNP

is a critical care nurse practitioner, host of the *Walking Home From The ICU* and *Walking You Through The ICU* podcasts, and critical care outcomes consultant. She is dedicating her experiences in the “Awake and Walking ICU” and ICUs around the USA to elevate ICU sedation and mobility practices by working to align them with current research. She works with ICU teams internationally to transform patient outcomes through early mobility and management of delirium in the ICU.



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