

NURSING CARE OF THE CHRONIC CRITICALLY ILL PATIENT



CHRONIC CRITICAL ILLNESS (CCI) HAS MOVED FROM A NEBULOUS CLINICAL CONCEPT INTO A WELL-DEFINED CLINICAL SYNDROME. THE HISTORICAL PRECURSORS FOR CCIS (CHRONIC CRITICAL ILLNESS SYNDROME) INCLUDE SIRS (SYSTEMIC INFLAMMATORY RESPONSE SYNDROME) AND MODS (MULTIPLE ORGAN SYSTEM DYSFUNCTION SYNDROME). THESE TWO PRECURSORS TAKEN TOGETHER PROVIDE AN INCLUSIVE DESCRIPTION OF CCIS.

The acute phase of critical illness lasts between seven to 14 days post acute illness/event. The sympathetic nervous system and the endocrine and immune systems mediate the initial response that is designed to promote initial survival. Modern ICUs have allowed certain patients to survive without fully recovering. When this occurs, the patient transitions from the acute state to the chronically critically ill state. The chemical cascade that initially supports survival becomes the chemical mediator of CCIS. This can be thought of as a rampant, unabated inflammatory response. This inflammation results in diffuse organ damage and dysfunction.

Regardless of initial illness/injury, CCIS has common and predictable clinical manifestations:

- Severe nutritional deficits and a profound state of catabolism
- Bone loss
- Endocrine dysfunction including loss of glycemic control and hypothyroidism
- Immune exhaustion
- Delirium and other mental health issues
- Wounds
- Bone marrow exhaustion
- Anasarca
- Weakness, polyneuropathy
- Profound burden of suffering

As patients transition from acute to chronic critical illness, their care needs change. They have experienced sophisticated diagnostic testing and high-tech interventions. They still require monitoring and at least one third will be ventilator dependent. Their care needs, however, shift from

high-tech to high-intensity nursing, respiratory and rehabilitation services. Mobility with a focus on weight bearing and ambulation, nutrition and the artful de-escalation of technology as the patient is incrementally moved toward “normalcy” become the priorities. Mobility is a potent anti-inflammatory intervention and contributes to turning off the catabolic state. It also reduces delirium and helps restore glycemic control.

Delirium must be recognized in all phases: hypoactive, mixed and hyperactive. It will result in permanent cognitive dysfunction and contributes significantly to morbidity and mortality. Sedation, a common intervention for delirium, actually contributes to delirium and predisposes the patient to more immobility and its negative consequences. Due to Immune Exhaustion, CCIS patients are highly susceptible to infections. Removal of devices, such as central lines and Foley, reduce opportunities for infection. Nurses need to perform a daily sepsis screen looking for early markers of sepsis, as these fragile patients often do not have the capacity to survive another crisis.



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Antibiotic stewardship and strict enforcement of the CVC and VAP Bundles are significant priorities of care. The presence of wounds often complicates recovery and many of these patients require long and sophisticated wound care treatment. Reduction in the burden of suffering must be deliberate and planned. Restored speech by use of a speaking valve, restored oral feeding, restored continence and restored social and spiritual support should be considered.

The prolonged mechanical ventilation (PMV) patient group is the largest subset of patients with CCIS. PMV is defined as patients needing six or more hours of mechanical ventilation support for 21 or more days. This contrasts with the physiologic reality of CCIS, where the transition from acute to chronic critical illness occurs between seven to 10 days. This suggests that earlier discharge to a specialty venue of care may help synchronize the care provided with the patient's underlying pathophysiology. Current thinking leans toward the decision to place the trach as a pivotal line of demarcation. This decision indicates a belief that death is not imminent, but that the ventilator will be needed for some time.

The ethical climate in the ICU can predispose these patients as being viewed by their clinicians as futile. It is important to recognize that these patients can and do recover. A specialty venue of care where the models of care and the time to recover are provided is indicated for this specialty group of patients.

Weaning from the ventilator is less about managing the ventilator and more about managing the issues central to CCIS. Specific to the ventilator are RT-driven weaning protocols which allow progression of the weaning trials based upon patient readiness. Weaning style in the long-term acute care (LTAC) hospital setting is modeled after acute care self breathing trials (SBTs). The most prevalent weaning strategies include progressive

trach collar trials and pressure support reduction to trach collar trials. Nutrition, elimination of sedation and mobility are fundamental to success in the CCIS patient.

Stalled progress in weaning is caused most commonly by sepsis (usually a central line infection), VAP, over-sedation usually treating hyperactive delirium and fluid overload. In the LTAC hospital setting, there are daily screenings for early recognition and treatment protocols to restore stability.

The CCIS patient represents a patient with high nursing care needs. The clinical teams at Select Specialty Hospital and Regency Hospital are experts in managing the syndrome holistically and with the knowledge that all progress will be slow. Many CCIS patients will recover if supported clinically. A specialty environment contributes significantly to positive patient outcomes.



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