My family and I have needed counseling for psychological trauma stemming from my ICU experience. It wasn’t the car accident itself (which I don’t remember) that caused my post-intensive care syndrome (PICS). It wasn’t even the risk of death, which I overcame. It was the fear I felt in the ICU that created the horrible memories I’ve had such trouble dealing with.

My mind took 6 months to recover normal function. I’ve returned to nursing school to get my bachelor’s degree and will graduate this semester—a sure sign that my cognitive abilities are finally back on track. No one would have believed this was possible if they’d seen me the first year after the accident. As for my body, it’s still healing 5 years later. I wear a leg brace because of muscle-nerve conduction problems. I wear special shoes and continue to struggle with chronic pain. I’ve experienced every element of PICS, but I’m healing gradually over time.

I invited my mother to help write this story with me and share her experience. But for her, the trauma was so great she couldn’t approach it directly to put her words on paper. It’s still too painful. She has encouraged me to share our story and let caregivers know how important it is to allow family presence during a loved one’s hospital stay and to keep the family informed, particularly at transfer points. My mother and I both know hospital discharge is, in a way, just the beginning of the journey. It was after my discharge that we realized we really needed help coping with the residual effects of my critical illness. Thankfully, the rehab staff were there for us.

What you’ve just read is an excerpt from one patient’s true story of her physical, cognitive, and mental-health problems stemming from her stay in the intensive care unit. (You can read the complete account online.) The constellation of problems she experienced, called PICS, can occur not just in patients but in their family members (called PICS-F), and may persist for an undetermined time after discharge. The cause of PICS and PICS-F remains unknown. (See Functional, cognitive, and psychosocial components of PICS.)

At least one-third of ICU patients and their families experience PICS or PICS-F. Incidence is at least 50% among patients who’ve had sepsis or acute respiratory distress syndrome or were on a mechanical ventilator for more than 5 days. At least half of PICS patients still need some form of care 1 year after hospital discharge.

The past decade has seen a tremendous increase in our understanding of the long-term effects of critical illness on patients and their...
families. As our PICS knowledge base continues to expand, the challenge is to inform healthcare providers who care for critically ill patients during and after their hospital stay of the potential consequences of ICU admission.

How nurses can help
PICS isn’t just an ICU issue. As a nurse, you can make a positive impact in various settings throughout the continuum of care. The strongest evidence to date supports that, for families of ICU patients, communication and information help minimize adverse outcomes. What caregivers say, how they say it, how soon, how often, and how it’s perceived by patients and families are factors that have been studied and seem to affect long-term consequences of critical illness. Early mobility is known to minimize both physical problems and delirium in ICU patients. Although more research is needed to verify which interventions can improve patient outcomes, the best evidence suggests clinicians can use certain strategies to minimize the negative effects of hospital stays.

ABCDE: Mitigating PICS in the ICU
Heavy sedation, delirium, and immobility are the main risk factors for PICS. Others include sepsis, hypoxia, and hypoglycemia. After assessing the patient’s and family’s risk factors for PICS and PICS-F respectively, the ICU team should implement strategies to mitigate them. The ABCDE bundle is a group of interventions that addresses the risks of sedation, delirium, and immobility. This tool supports the new guidelines on pain, agitation, and delirium published by the Society of Critical Care Medicine (SCCM).

A, B, and C
A, B, and C stand for airway management, spontaneous breathing trials, and coordination of care and communication among disciplines. To provide optimal ventilator management, the lightest levels of sedation, if any, should be used so patients can communicate and engage in activities. Heavy sedation causes immobility and resulting debilitation. Also, a heavily sedated brain may suffer cognitive or mental-health problems later. Analgesic, based on the concept that pain commonly causes agitation, may be used to address pain and discomfort before sedatives or hypnotics are given, decreasing the need for benzodiazepines.

Using light sedation, in which the patient is calm yet awake and able to participate actively in care, helps optimizes outcomes. Daily awakenings (“holidays”) from sedation are an additional option. These should be coordinated so nurses and therapists are present to ensure patient safety and allow quick response to the needs of a more fully awake intubated patient.

Be aware that many medications used to treat pain have sedative effects. Using standardized tools to monitor pain, agitation, and sedation at routine intervals can allow

Functional, cognitive, and psychosocial components of PICS
Post-intensive care syndrome (PICS) commonly causes functional, cognitive, and psychosocial problems.

Functional deficits
- ICU-acquired weakness (ICU-AW) occurs in 35% of mechanically ventilated patients, 50% of sepsis patients, and 15% to 50% of patients who stay in the ICU for at least 1 week. A disabling neuromuscular weakness that follows an ICU stay, ICU-AW may be diagnosed as critical-illness myopathy, polynuropathy, or neuromyopathy. Causes may include severe systemic inflammation, use of neuromuscular-blocking agents or corticosteroids, poor glycemic control, and immobility. About 15% of ICU patients are still weak 2 years after discharge.
- About 50% of ICU patients and 75% of those who were on mechanical ventilation in the ICU still have difficulty with activities of daily living (ADLs) or instrumental ADLs 1 year after discharge.

Cognitive impairment
About 30% to 80% of patients have cognitive impairment after their ICU stays. Cognitive function improves in some patients during the first year after discharge, but some patients may never regain their pre-ICU level of cognitive functioning.

Psychosocial problems
- Roughly 10% to 50% of ICU survivors experience new symptoms of depression, anxiety, posttraumatic stress disorder (PTSD), and sleep problems.
- About 50% don’t return to work within the first year after discharge, and 33% never return.
- Approximately 50% still require caregiver assistance 1 year after discharge to cope with long-term cognitive, mental health, or physical complications of critical illness.

How PICS affects family members
- One-third of family members of ICU patients and 50% of bereaved family members of ICU patients who died suffer signs and symptoms of depression. About 70% experience signs and symptoms of anxiety.
- About one-third of family members of ICU patients have PTSD symptoms within 90 days after the patient is discharged from or dies in the ICU. Psychological problems may persist for years.
the use of lighter sedation levels that enable patients to be somewhat physically active and keep the brain engaged. Of course, keeping patients occupied without self-extubating may mean more work for nurses. Family members can play a role in this regard; encouraging them to be involved can help safeguard their mental health while helping the nurse deal with a more fully awake patient.

D and E

D stands for delirium assessment and prevention. The new sedation guideline from the American College of Critical Care Medicine and SCCM suggests clinicians should avoid benzodiazepines in ICU patients (except in cases of alcohol or benzodiazepine withdrawal) because these drugs may be delirigenic. No evidence supports using haloperidol to treat confusion or delirium. On the contrary, we know it can cause heart rhythm problems, including QTc prolongation and torsades de pointes (a type of ventricular tachycardia). Current recommendations are to:

• help prevent delirium by avoiding medications with delirigenic risk
• perform vigilant medication reconciliation to reinstate medications taken before admission, when indicated
• promote early mobility.

E reflects the new focus on early mobility—the only strategy known to decrease delirium incidence. Early mobility also is linked to maintenance of cognitive and physical functions. The patient’s family can promote mobility by helping with passive range-of-motion exercises when out-of-bed activities aren’t possible; they can encourage active range-of-motion exercises when the patient is able to do these. Even intubated patients should increase their activity level as soon as possible. (Be aware, though, that insufficient therapists may be available to accomplish this, as getting an intubated patient out of bed requires a team effort. This means nurses can expect to spend more time assisting with the patient’s mobility efforts.)

The American Association of Critical-Care Nurses has posted evidence-based tools to help nurses use its “ABCDE bundle at the bedside” (www.aacn.org/pearl-abcde). For delirium-specific tools, visit www.mc.vanderbilt.edu/icudelirium/overview.html. Although these websites originally were meant for ICU staff, their tools and other resources are appropriate for every nurse.

Transitioning out of the ICU and hospital

The ABCDE bundle is part of a more extensive bundle called the ABCDEFGH bundle. (See Elements of the ABCDEFGH bundle.) The FGH elements apply as the patient improves and transitions out of the ICU.

**Elements of the ABCDEFGH bundle**

The intervention bundle summarized below can help optimize care of ventilated patients and reduce the risk of post-intensive care syndrome (PICS).

- **Airway management**
- **Breathing trials (spontaneous)**
- **Coordination of care and communication**
- **Delirium assessment and prevention**
- **Early mobility**
- **Follow-up referrals, functional reconciliation, and family involvement**
- **Good handoff communication**
- **Hand the patient and family written information about possible components of PICS and PICS-F.** (*F* denotes PICS in family members of patients).

**PICS model**

This model shows the physical, cognitive, and mental-health problems affecting quality of life in patients with post-intensive care syndrome (PICS). It was developed in 2010 by the Long-Term Consequences Task Force of the Society of Critical Care Medicine (SCCM).

ASR = Acute stress reaction
PTSD = Posttraumatic stress disorder
PTSS = Posttraumatic stress symptoms
Hospital nurses should use a structured approach to pass this communication along shift to shift and across care-level transitions. When the patient first comes to the hospital, a baseline assessment should be done, just as it for medications, and then reconciled at each transition. Was the patient able to walk at home? Did any functional deficits exist before hospitalization? If so, what were they? Did he or she need adaptive devices, such as a cane or walker? Was the patient able to drive? Manage his or her own finances? Go shopping? Go to work? What activities would help the patient regain previous functional status?

Functional reconciliation requires close collaboration between nurses and therapists. Nurses should review therapists' documentation, note the patient's functional independence measure, and add a formal functional assessment to the handoff report to allow trending and adjustment of treatments and referrals.

Family involvement can aid baseline assessment and functional reconciliation at each transition point. Family members also can monitor follow-up referrals to verify that these occur and ensure the patient's history and needs are communicated clearly.

G
G stands for good handoff communication. The handoff report should go beyond the standard head-to-toe format, making sure to include the family in its own section in every report. Med-surg nurses should consider PICS and PICS-F elements that may have been overlooked in the past, such as functional reconciliation of cognitive and mental function, mental-health problems, and physical problems.

H
H stands for hand the patient and family written information about the elements of PICS or PICS-F, as well as the patient's potential needs. Unusual thoughts, mental-illness symptoms, and cognitive and functional losses can be frightening to the person experiencing them. Knowing that other ICU patients have had these problems can be comforting and could motivate the patient and family to find the outpatient care they need. Most patients with PICS would find comfort in knowing they're not alone, abnormal, or unusual in experiencing this syndrome. As appropriate, refer patients and families to available resources. (See Web resources for PICS patients and families.)

Lending an ear
Many PICS survivors and their families have long-term needs to talk to healthcare providers about their lingering problems after discharge. They may feel that only ICU clinicians can adequately address their questions 3 to 6 months after discharge. To help meet this need for communication, ICU team members should considering making follow-up phone calls to discharged pa-
A survivor’s story

This account of a survivor’s story is true—not coached or prompted. Gary Black has suffered long-term consequences of post-intensive care syndrome (PICS). Gary is an artist, musician, educator, author, and sepsis-awareness advocate. His illustration above depicts his experience of PICS.

This self-portrait represents the impact of the physical, cognitive, and mental-health problems I’ve had after sepsis and hospitalization. In the illustration, I’m slumped over a desk. Fragments of my life are shattered into blank, colorless pieces on the ground in total disarray. My fears, challenges, and limitations were a multidimensional collision of great magnitude. My complications were endless—posttraumatic stress disorder, nightmares, flashbacks, fatigue, withdrawal, anxiety, pain, despair, muscle wasting, weight loss, sexual dysfunction, immunosuppression, isolation, alienation, anger, poor attention span... The list goes on.

In the self-portrait, the mirror has shattered from the weight of my image. I felt I’d been “erased.” I developed an identity crisis; someone else was looking back at me. This is how it feels when your quality of life has been altered and you drift about in a huge abyss, a prison of affliction. Severe sepsis tried to destroy everything I used to see in that mirror, reducing it to painful rubble. The impact has been devastating in every possible way. I had to claw back from the abyss an inch at a time.

More than 3 years have passed since I left the hospital. I now live with an adjusted quality of life and a “new normal” that I must accept as I do my best to be productive and happy. I’m blessed to have recovered to the extent I have so I could write my book, Gyroscope: A Survival of Sepsis, and create a website. Both the book and my website (www.sepsisawarenessstoday.com) describe my experience with sepsis and its aftermath.
POST-TEST • Post-intensive care syndrome: What it is and how to help prevent it
Earn contact hour credit online at www.AmericanNurseToday.com/ContinuingEducation.aspx

Please mark the correct answer online.

1. What is the incidence of post-intensive care syndrome (PICS) among ICU patients who’ve had sepsis or acute respiratory distress syndrome?
   a. 30%
   b. 40%
   c. 50%
   d. 60%

2. How many family members of ICU patients have posttraumatic stress disorder (PTSD) within 90 days after the patient is discharged or dies in the ICU?
   a. One-eighth
   b. One-fourth
   c. One-third
   d. One-half

3. How many ICU patients return to work 1 year after discharge?
   a. One-eighth
   b. One-fourth
   c. One-third
   d. One-half

4. What percentage of ICU patients require caregiver assistance 1 year after discharge?
   a. 30%
   b. 40%
   c. 50%
   d. 60%

5. Which sedation strategy for ICU patients on mechanical ventilation can help mitigate PICS?
   a. Keep the patient heavily sedated.
   b. Use the lightest level of sedation possible.
   c. Do not awaken the patient during sedation.
   d. Awaken the sedated patient every 3 days.

6. Which statement about drugs and delirium is correct?
   a. Avoid benzodiazepines in ICU patients.
   b. Administer benzodiazepines to ICU patients.
   c. Haloperidol is effective in treating delirium.
   d. Haloperidol can cause QTc shortening.

7. What is the only strategy known to decrease the incidence of delirium?
   a. Early mobility
   b. Early feeding
   c. Keeping the patient in bed
   d. Limited range-of-motion exercises

8. Which statement about referrals for patients with possible PICS is correct?
   a. Families do not require referrals.
   b. A physiatrist referral may be needed.
   c. Referrals should be made the day before discharge.
   d. Occupational therapy referral rarely is needed.

9. Which of the following questions relates to a functional reconciliation?
   a. Does the patient know when the next doctor appointment is?
   b. Is the family able to visit the patient in the hospital?
   c. Which drugs did the patient take at home?
   d. Was the patient able to walk at home?

10. Which statement about patient handoff from the ICU nurse to the med-surg nurse is correct?
    a. The handoff should be done as quickly as possible.
    b. The med-surg nurse should ask about cognitive function and physical problems.
    c. The physician and therapist should be present for the handoff.
    d. The nurse manager should be present for the handoff.

11. Which of the following does not help address PICS-related issues?
    a. Diaries kept jointly by family, ICU staff, and physicians
    b. Post-ICU clinics for patients and families
    c. Follow-up phone calls to discharged patients and their families
    d. Reducing family visiting time during hospitalization

12. Which statement about PICS education is correct?
    a. Teaching patients about PICS can alarm them unnecessarily.
    b. Knowing that others have had PICS symptoms can be comforting.
    c. Only patients should receive education about PICS.
    d. PICS education should be deferred until after discharge.
“My life changed forever”: A nurse’s account of her own PICS

Jessica, a nurse, is a survivor of post-intensive care syndrome (PICS). Below, she recounts her experiences in the ICU and after discharge. As you read her story, think about how you and your peers provide care to critically ill patients—and how you might be able to prevent some of the negative effects experienced by ICU patients.

Although I’ve been a registered nurse for 8 years, I’ve been able to work only 3 of those years due to a terrible car accident. My life changed forever on April 16, 2007. The crash scene was so horrific that paramedics presumed I was dead. On admission, my prognosis was extremely poor. I was given a 5% chance of survival.

I stayed in this critical stage for approximately 2 months—semicomatose, on a respirator, with chest tubes. I had multiple surgeries to repair my injuries. The physicians had no idea what the long-term effects of my injuries would be. At that point, their main goal was to keep me alive. Some of my major injuries resulted in lifelong disability and pain. I still have memory gaps, but the worst moments are there forever, emblazoned in my memory. I remember my entire family by my side in the hospital. All of them left their normal lives to be with me and support me through this difficult time.

Each minute, hour, and day seemed endless. I was terrified, unable to move any part of my body except my right hand. This left me petrified. I can’t put into words what it’s like to feel complete powerlessness, especially over your own body. The feelings are overwhelming. The stress and anxiety made my physical condition worse. A specialized turn team came every 2 hours to shift me slightly from side to side. I lost control of the smallest abilities and became a prisoner in my own body. I held on to my family’s love and support and relied on the medical team and nursing staff to get me through each day.

My mother stayed at my bedside as much as possible, despite the ICU policy that barred family from staying past 7 PM. She tried to stay with me at night by being extremely quiet during the night-shift change. She’d hide under my bed and hope we’d be assigned a nurse who’d look past her presence. She’d sleep under my bed on the hard, cold floor curled up in a ball, resting her hand on mine so I knew she was there. She urinated in a urinal and didn’t move all night, just so she could stay by my side.

Even though I was in and out of consciousness, I could feel my family’s presence—and that put me at ease. At one point, they almost flew me to another hospital where family members could stay overnight, because the pain and fear of not having them with me hit me like a ton of bricks. And my crushed spirit and unstable emotional state were affecting my physical well-being.

I’ve suffered posttraumatic stress resulting from my feelings of helplessness, being trapped and out of control in the ICU. I’m still haunted by recurring nightmares and flashbacks. Since becoming a nurse, I’ve understood the importance of the nurse’s role in enhancing patient outcomes. But not until the roles were reversed and I was the patient did I realize how much power nurses have to create a positive—or negative—experience for patients.

Most of the care I received in the ICU exceeded my expectations and made a tremendous difference in my emotional status and physical well-being. I could always tell when a nurse or physician saw me as just another body or diagnostic code and not a real person. Fortunately, though, most caregivers were able to ease my distress and address my fears so I could focus on healing. This taught me about the human side of nursing—and to never underestimate how we can affect the lives we touch. The greatest impact came from the little things that showed me my nurses truly cared about me and saw me as a human being. They took their time with me, sat down for a moment, made eye contact, actively listened, treated me with respect, and expressed empathy.

Being trustworthy went a long way, too. One nurse told me that if I needed my mother at night, I could just ask and she’d get her for me. But when that situation arose, she kept telling me she’d called my mother and that she was on her way. She continued to tell me this over the next few hours, thinking I was so out of it I wouldn’t know the difference or even remember I’d asked. But I did remember—and as soon as I realized she’d been lying to me, fear and panic took over my entire body. I lay there in despair staring at the clock, waiting until morning when my family could come back.

The way nurses spoke to me made a difference, too. Were they speaking to me or just at me? Did they make human contact with me? Just a touch on my shoulder or leg showed me they cared. I know nursing is just a job for some nurses. But we all have the power to affect human lives every day. Treat patients as you’d like to be treated yourself. Recognize a patient might be experiencing the scariest, most traumatic event of her or his life.

Patients need nurses who are both competent and caring, who can truly feel empathy for them. Try to put yourself in their situation for a moment and understand what they might be going through—and act accordingly. I found out nurses could make or break my day. So try to remember the power you have the next time you care for patients.

After spending a few months in the ICU and a few more months in the step-down unit, I was sent to a rehab hospital for 6 months, where I got rigorous physical and occupational therapy to recover from my injuries. I also received referrals for outpatient physical therapy and occupational therapy, as well as psychiatric and psychotherapy for posttraumatic stress, anxiety, and depression. I got referrals for alternative therapies (including hypnosis, acupuncture, massage therapy, meditation, and yoga) to ensure a holistic approach to healing. I’m thankful for these resources, because I know that without them, I wouldn’t be doing as well as I am.

My family and I have needed counseling for psychological trauma stemming from my ICU experience. It wasn’t the car accident itself (which I don’t remember) that caused my PICS. It wasn’t even the risk of death, which I overcame. It was the fear I felt in the ICU that created the horrible memories I’ve had such trouble dealing with.

My mind took 6 months to recover normal function. I’ve returned to nursing school to get my bachelor’s degree and will graduate this semester—a sure sign that my cognitive abilities are finally back on track. No one would have believed this was possible if they’d seen me the first year after the accident. As for my body, it’s still healing 5 years later. I wear a leg brace because of muscle-nerve conduction problems. I wear special shoes and continue to struggle with chronic pain. I’ve experienced every element of PICS, but I’m healing gradually over time.

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I hope I’ve helped you see and understand the human side of nursing, and that you’ll remember to treat patients with dignity and as equals. Take a few extra minutes with each patient to show you care. Never underestimate the impact you can have on the lives you touch. We hold the power to change our patients’ experience each day. Use it wisely.