

# Rehabilitation

**SUMMER 2008**

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## Complexities of Care

Detecting and managing medical problems of patients with dual diagnosis

■ GARY GALANG, M.D.

Up to 60 percent of the 11,000 patients admitted each year for spinal cord injury (SCI) in the U.S. will have concomitant traumatic brain injury (TBI), and 1 to 6 percent of the 250,000 patients admitted for TBI will have concomitant SCI. This translates to a total population of dual-diagnosis (DD) patients of about 7,500 per year—individuals who present special challenges in medical management during inpatient rehabilitation. Here are some of the considerations frequently faced by physicians, rehabilitation nurses and therapists in caring for this population.

### Medications

Prescription drug choices may be limited for clinicians treating DD patients, because those most often used to manage SCI-related conditions can have deleterious effects on the brain, and vice versa. Anticholinergic medications and H2-receptor blockers used routinely in SCI patients, for example, block acetylcholine and histamine, important neurotransmitters related to arousal and attention in TBI patients. Similarly, atypical antipsychotics and beta blockers, often used for post-TBI agitation and restlessness, can exacerbate the orthostatic hypotension common in SCI patients. Dopaminergic agents used to improve attention and initiation in TBI patients can increase pulmonary secretions and cause constipation, which are already problems in SCI patients.

### Abnormal Sodium Metabolism

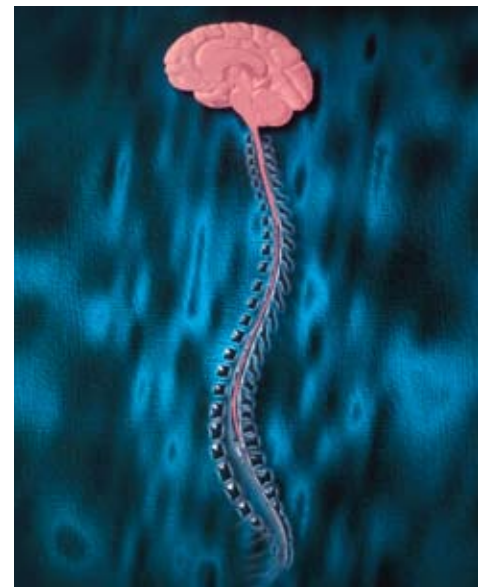
Pituitary gland injury—by direct trauma, ischemia or hemorrhage—is a common but frequently underdiagnosed complication of TBI that can cause multiple neuroendocrine disorders. The most common such disorder after TBI, and therefore frequently present in DD patients, is abnormal sodium metabolism. Hyponatremia in DD patients can result from syndrome of inappropriate antidiuretic hormone secretion

(SIADH) or cerebral salt wasting (CSW). These two conditions must be differentiated because their management requires opposite approaches: fluid restriction for SIADH, rehydration for CSW.

Central diabetes insipidus, on the other hand, results in hypernatremia. Desmopressin is the preferred treatment. Levels of thyroid hormone, growth hormone, cortisol and sex hormones also may be abnormal in TBI patients, implying injury to the pituitary axis. Symptoms of abnormal hormone levels can include mood disorders, fatigue, loss of lean body mass and sexual dysfunction—symptoms usually considered sequelae of severe trauma but that might actually be treated by careful hormone replacement.

### Hydrocephalus

Clinicians should suspect hydrocephalus in DD patients if cognition does not improve as expected, if behavior deteriorates, or if unexplained changes in bowel (continued on page 7)



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## FOCUS ON

# Rehabilitation

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## Evolve or Perish

**T**he health care system in the U.S. continues to evolve: The settings in which care is delivered and the roles of health workers are changing rapidly. For example, some types of treatment formerly delivered only in an ICU are now provided in regular medical/surgical units. This movement is occurring in post-acute care settings, too. Inpatient rehabilitation hospital/units (IRH/U) used to require that patients be medically stable before they could be accepted; now patients arrive using ventilators, receiving IV antibiotics or with multiple active medical problems. Skilled nursing facilities (SNF) also receive patients with more complex medical needs than before.

Some of these changes reflect a kind of medical inflation, with ambulances that resemble ICUs and ICUs that operate like recovery units. Even our IRH/Us now look a lot like the medical/surgical wards of hospitals in the good old days. Simultaneously with institutional medical inflation, our professional fields are demonstrating "degree creep," with an increasing emphasis on advanced credentials and sub-specialization. For example, physical therapists now obtain bachelor's *and* doctorate degrees. What's more, many rehabilitation professionals are seeking more autonomous practice and enhanced scopes of services, such as drug prescribing.

These trends allow our patients to pass through expensive care settings into less costly ones at ever greater speeds, despite being much sicker (e.g., an ICU to step-down care to a regular nursing unit to post-acute care). These seriously ill patients are experiencing more medical hand-offs and moving faster than ever into rehabilitation settings. A patient may move directly into a rehabilitation setting after arriving in the ED with a completed stroke, for example, or a patient with a hip replacement performed at an ambulatory surgery center might be moved directly to a SNF without ever entering a hospital.

Consequently, cracks in the system are showing up, including risks involved in patient movements that exceed the physiologic pace of recovery. The Institute of Medicine of the National Academies reported on the unnecessary deaths and injuries caused by our health care system ("To Err is Human," 2000).

Cost pressures mean that this trend of admitting patients into IRH/Us "quicker and sicker" will continue, if not increase. Our IRH/U must be prepared to serve well patients who are ever more medically complex and fragile. We need to protect access for these patients to medically sophisticated, high-quality services—such as diagnostic studies, imaging procedures and minor surgeries (like the placement of feeding tubes)—by providing them in our facilities. We must also assure that we have appropriate rapid-response emergency services. Furthermore, IRH/Us will likely come under the same policies that hospitals now face with regard to nonpayment for costs incurred because of so-called "never events" like treating the wrong patient. The Centers for Medicare & Medicaid Services is currently asking for comments on whether and how to implement these policies in rehabilitation hospitals.

The simple fact is that the IRH/U will need to evolve to meet these challenges or it will become extinct.

A handwritten signature in black ink that reads "Bruce M. Gans, MD". The signature is written in a cursive, flowing style.

Bruce M. Gans, M.D.  
Chief Medical Officer

# Battling Addiction

Substance abuse in patients with a dual diagnosis

■ LORAN C. VOCATURO, ED.D, ABPP (RP)

**S**ubstance abuse poses significant physical and emotional health risks for patients with a dual diagnosis (DD) of spinal cord injury (SCI) and traumatic brain injury (TBI). In fact, the use of alcohol or illicit drugs is often a causal factor in such injuries, and continued use after injury has significant long-term negative effects. For this reason, assessment and management of this behavior in DD patients requires special attention from rehabilitation professionals.

## Ask, Listen, Observe

Obtaining reliable information from patients regarding substance use can be difficult; however, there are methods that can be successful.

Among the most effective are clinical interviews, particularly the Structured Clinical Interview for the Spectrum of Substance Abuse (SCI-SUBS). This 1:1 session is designed to identify risks and consequences of alcohol and drug use after neurological disability. The approach creates a supportive, understanding atmosphere, allowing clinicians and patients to develop a strong rapport.

In addition, many of the scales available to assess substance use have been validated in the dual-diagnosis population. Among them are the four-item CAGE scale, the 25-item Michigan Alcohol Screening Test and the 93-item Substance Abuse Subtle Screening Inventory.

And finally, observable behaviors, such as noncompliance, irritability, angry outbursts and drug-seeking behaviors, also can help identify patients with alcohol or chemical dependencies. However, because these actions also can reflect cognitive dysfunction, mood states and symptom relief, clinicians must consider multiple factors before concluding that behavior alone proves substance abuse.

Of course, overt signs of substance abuse, whether detected via standardized

assessments or through observed intoxication and withdrawal behaviors, should prompt clinicians to include substance abuse rehabilitation goals in the treatment plan.

## The Right Intervention at the Right Time

While most patients resist substance abuse counseling during inpatient rehabilitation, they are generally amenable to education. This gives clinicians an opportunity to build a relationship with them and provide a base for future exploration, disclosure and treatment.

When patients do become receptive to counseling, various interventions are available. The most widely used model is motivational interviewing. FRAMES (Feedback, Responsibility, Advice, Menu of options, Empathy, Self-efficacy) is one example that uses specific strategies to develop coping skills, improve decision-making and manage stressors to address the problem.

Patients who cannot adequately regulate their mood states or cope with stress often seek to subdue their feelings through substance use. Coping and social-skills training focuses on improving listening and conversational abilities; identifying and expressing emotions; and giving, receiving and responding to criticism. This training, which has been adapted for TBI patients, is highly recommended for those with alcohol dependence.

Community Reinforcement Approaches (CRAs) use natural elements from a patient's environment—family and other interpersonal relationships, work, leisure activities—to facilitate change. By encouraging commitment to a "timeout" from substance abuse and promoting these natural reinforcers to help patients abstain from use and prevent relapse, this method can provide a valid alternative to the abstinence model for selected patients.

## Gaining and Maintaining Recovery

Peer support programs such as Alcoholics Anonymous and Narcotics Anonymous offer effective environments for encouragement and learning. Patients in early abstinence may attempt to avoid such groups, however. Clinicians must differentiate between true physical or cognitive accessibility issues and reluctance to attend because of denial or minimization of substance use.

Given the onset of the neurological disability and the corresponding distress, family members may excuse continued substance use, lower their expectations and partly enable the patient to continue using. For these reasons, individual and family counseling is essential.

And finally, because relapse is common in recovery, clinicians not only must help patients modify factors that contribute to this risk, they also must incorporate relapse-prevention models into the treatment plans of all patients with a history of substance use.

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## A MUST-READ

Compared with the general population, patients with neurological disability are more likely to have or develop substance abuse—25 percent of adults with SCI and 50 percent of those with TBI suffer from alcohol abuse alone. Rehabilitation professionals must consider the role of substance use in management of patients with neurological disability. Loran C. Vocaturo, Ed.D, ABPP (Rp), has authored a chapter on this topic to be included in an upcoming textbook, *Medical Management of the Neurologically Disabled Adult*. The book will be published later in 2008.

# On the Job

Vocational rehabilitation helps patients get back to work—and get back their lives

**T**he most desirable outcome for the patient with a spinal cord or traumatic brain injury (SCI or TBI) is to return to being a productive member of society. This goal is viable, but it involves a well-planned and comprehensive mix of vocational assessments, counseling, educational services, occupational skill upgrading or skills retraining, job development, selective competitive job placement and follow-up support services. But the process doesn't stop there; therapy is typically ongoing, as the patient confronts various new physical and emotional

leave the work site for a fresh change of clothing—which can be time-consuming. We work with patients to find ways to manage this type of issue.

**Jim Fasciani:** Because of these challenges, Kessler's Vocational Rehabilitation Services works closely with all members of the rehabilitation team while our inpatients are in their beginning stages of recovery. We compile a thorough knowledge of each patient's medical history and current medical status prior to being discharged. This information will become a vital part of our patients' vocational plans, providing continuity

priority lists when discussing quality of life. Patients wonder how they will pay their bills, whether they will be able to return to their prior occupation and, if not, how they will provide for their families. We begin to address these concerns, providing vital knowledge about the comprehensive array of vocational services available, along with the expectation that we will be there to assist in accessing such services.

**MB:** New inpatients are often withdrawn, and if they aren't prompted, they may not even share their anxieties regarding returning to work or school. So it's nice to have someone who's an expert in the area to help answer their questions, even before they've been asked.

**Focus:** How does your counseling address the emotional factors?

**JF:** They become a primary focus in their vocational rehabilitation plan. By developing a therapeutic and supportive counseling relationship with a patient, we are able to provide professional assessment and appropriate interventions, if needed. For some patients, this professional counseling service, along with the incorporation of objective feedback through vocational testing, is enough to help them over the initial hurdles. For others, more intensive psychological intervention may be recommended.

The primary governmental service for vocational services for individuals with disabilities is the Division of Vocational Rehabilitation Services (DVRS), which is housed under the Department of Labor in New Jersey. All states provide similar services, with the mission of assisting patients in reaching their maximum level of vocational functioning. By establishing a close working relationship with our state DVRS offices, Kessler is able to provide its patients with access to possible state funding for many of the needed services related to their return to work. The teamwork between the patient, the DVRS counselor and the Kessler vocational counselor is also a strong mechanism used in addressing patients' emotional needs.

**MB:** A good example is the state-run PASP program here in New Jersey, which provides for a personal assistant for up to 40 hours a week. This is for any patient who goes to school, volunteers or works in the community. The

This is an **opportunity to move forward**, maybe do things they had not thought of previously—with a **support system** in place to help them achieve their **greatest functional independence**.

issues. Often the most important first steps involve information and access to vocational rehabilitation services.

For an insight into this complex process, *Focus on Rehabilitation* spoke to Kessler's Monifa Brooks, M.D., staff physiatrist, Spinal Cord Injury Rehabilitation; and Jim Fasciani, M.S., CRC, LRC, LPC, clinical manager, Career Guidance and Placement Services.

**Focus on Rehabilitation:** Broadly speaking, what medical complications might affect an individual's return to school, work or community activities?

**Monifa Brooks:** Patients with a SCI or TBI face a wide range of physical and cognitive challenges. One that people often don't acknowledge is bowel and bladder management, which can lead to high absenteeism. With incontinence, for example, a patient may have to

as patients navigate their way back into the community and the world of work.

**Focus:** And how does vocational counseling work with patients, once the medical conditions are managed?

**JF:** Traditionally, vocational rehabilitation services may not be introduced to a patient during his or her inpatient status. However, we have found that patient access to them—as early as the referral stage—has resulted in an increased sense of security and psychological relief. It is evident that these therapies, initially provided to inpatients, are equally important as the services following discharge.

Many of our inpatients are faced with severe physical challenges coupled with anxiety, depression and fear with regard to their economic survival. Their careers are often at the top of their

minimum is 20 hours a month, which is not a lot of time. This program reflects an understanding at the state level of the importance of having people return to school or work and again become productive members of the community.

**Focus:** How do you counsel about economic and personal finance factors such as loss of income and ability to pay bills?

**JF:** By working closely with our case managers, many of our patients receive Social Security disability benefits, which help to alleviate some of their financial concerns. In some instances, counseling may focus on a temporary change in lifestyle or role reversal regarding who may now become the primary source of income. In addition, linking our patients with community-based agencies that offer a wide range of financial and legal advocacy services becomes a key component of our services. Patient and family education, regarding Social Security incentives for individuals interested in reentering the competitive labor market, is also an important part of vocational services because it helps dispel misconceptions and convey accurate information related to work incentives.

**Focus:** What is available to these patients in terms of vocational testing, evaluation and assessments?

**JF:** Our Career Guidance Department provides comprehensive vocational assessment using standardized interest, skill and aptitude testing. These tests measure analytical thinking and problem-solving, clerical abilities, mechanical aptitude, visual organizational skills, critical thinking appraisal, keyboarding skills, written expression skills, reasoning with numbers, and spatial relations skills. These tests provide our patients with an increased awareness of their areas of highest occupational interest coupled with their strongest levels of aptitude. Vocational counseling is an integral component of this assessment. It can help patients decide on a career that is within their functional and psychological abilities as well as a consistent match with their personality profile.

Academic testing is also available for those patients who are interested in furthering their formal education but who may be harboring doubts about their ability to face this challenge. For the majority of our patients, their

disability-imposed limitations have negatively altered their perception of their work skills. They tend to underestimate their aptitude and academic levels. With this in mind, our vocational assessment becomes a very strong mechanism to demonstrate each patient's true potential, thus providing a strong foundation for eventually returning to work.

**Focus:** Do counseling and treatments differ for patients across age groups and life situations?

**MB:** Definitely. For somebody with a brain injury, one of the most important things we do early on is recognize that their cognitive status has been compromised. We perform cognitive evaluations before discharge using intensive neuropsychological testing, which delineates areas of strength and impairment. In concert with their vocational assessment, we can then steer them in directions where they will be set up for success upon either returning to school for further training or going back into the workforce. To set realistic expectations, it is important that patients, families and employers understand the identified deficits and strengths.

Some people are able to return to their previous working environments with small modifications such as shorter workdays. They might go back for just three or four hours a day, and then increase the time as they improve. For somebody with a SCI, it may be a matter of physical modification of the workplace.

**Focus:** How do you counsel for career modification, such as moving from a warehouse to an office job?

**JF:** We continue to focus on abilities, strengths and interests. No patient should be left believing that he or she must now accept a career that is not a good match. Recommending an assistive technology assessment will clearly open many options for our patients. Career exploration plays a key role in our vocational assessment, particularly for patients with a limited exposure to the world of work. Many of our patients who have had long-term careers in fields with which they were not particularly satisfied actually use this time and service to make the career change they have always dreamed about.

**Focus:** How do you track and apply trends in the labor market?

**JF:** We use computerized software programs that provide labor-demand statistics across the country. In addition, since each patient's DVRS counselor is a member of our team, we have access to high-demand occupations for our local areas. Because our patients will want to earn competitive wages, it is important for them to know salary levels and availability of jobs upon completion of training.

**MB:** Generally there's been a trend of more technology being involved in almost every area of employment. So what we try to do, particularly with people who may be technologically naïve, is offer electronic Aids to Daily Living (ADL). It's high-tech therapeutic equipment that allows someone with a mobility impairment to access, for example, voice-activated computer software. Patients with significant physical impairment are still able to work at computer-based jobs.

**JF:** Although many patients reintegrate into the community by returning to work, for some the logistical difficulties are so great that working from home may be their only viable option. That is where the Home Work Program will make a difference. Funded by the Henry H. Kessler Foundation, this innovative endeavor connects professional job developers with local employers to provide remunerative jobs that allow patients to work from their homes.

**MB:** We try to give people realistic hope and realistic expectations for the future. Certainly there are many options, but they won't be the same options as before their injury. This is an opportunity for them to move forward, maybe do things they had not thought of previously—with a support system in place to help them achieve their greatest functional independence.

**JF:** The key word there is hope, and it is realistic hope. Our vocational service is helping patients become aware of their options and identify their goals. We support that with an ongoing program that provides the tools and guidance our patients need to attain those goals.

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# There Is a Difference

Distinguishing between IRH/U and SNF rehabilitation

■ BRUCE M. GANS, M.D.

The Centers for Medicare & Medicaid Services (CMS) must now use a compliance rate of 60 percent for determining a hospital's eligibility for payment as a rehabilitation hospital or unit (the new "75 Percent Rule"). The presence of co-morbidities is also a permanent element in determining compliance percentages. This represents a major legislative victory for rehabilitation providers. However, it is just a way-station in the continuing struggle to maintain access to inpatient rehabilitation hospital and unit (IRH/U) care

reimbursement. Here's how we can tell the difference between an IRH/U and a SNF.

## Differences Both Large and Small

Traditionally, we have focused on larger and more obvious elements of differentiation such as whether specialized physicians and nurses are available around the clock, which specific therapeutic services are provided and by whom, and patients' rehabilitation goals. For example, a SNF is less likely than an IRH/U to have doctors and registered nurses

also unlikely to have technologically advanced equipment.

## Approach to Care

Because patients are being admitted to rehabilitation "sicker and quicker," the facilities must be capable of rapidly responding to changes in a patient's medical status and quickly modifying the treatment program by having highly skilled licensed professionals providing medical, nursing and therapy services. A SNF is much less likely to have these capabilities.

The milieu in these two types of settings differs markedly, too. In the IRH/U, a patient is pushed to participate, make progress, succeed and go home. In the SNF, patients are more likely to experience a slower pace with less urgency to improve or to be discharged. IRH/Us have a higher degree of standardization of rehabilitation programs and activities than SNFs by virtue of regulations and licensing requirements. IRH/Us also have rapid-response teams ready to treat acute medical events. SNFs typically do not.

## Weighing the Metrics

IRH/Us and SNFs differ sharply in how they measure the effectiveness of their programs. The former use data from the Inpatient Rehabilitation Facility-Patient Assessment Instrument (IRF-PAI), required by Medicare for reimbursement, to manage their programs. In addition, by using intermediaries such as eRehabData<sup>SM</sup>, IRH/Us have access to aggregated data to evaluate inpatient rehabilitation programs. SNFs use equivalent data and lack these types of program-evaluation tools.

## Speak Up

To avoid being treated as just another undifferentiated piece of the post-acute care continuum, IRH/Us should emphasize their hospital-like features and the unique services they offer to clarify how different they are from SNFs and other providers. The setting for rehabilitation does matter.

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**IRH/Us should emphasize their hospital-like features and the unique services they offer to clarify how different they are from other providers.**

for appropriate patients. Medical necessity denial is now the greater challenge; we can think of this as the ultimate "100 Percent Rule" that enables CMS to completely deny coverage for any particular case.

The rehabilitation field continues to be challenged by the need to clearly differentiate among sites of care for rehabilitation. A frequent justification for denying coverage of a case is that the treatment could have occurred in a less intensive setting, usually code for a skilled nursing facility (SNF). So it's important that we are able to differentiate among rehabilitation sites and clarify the differences sufficiently to ensure proper placement of patients and appropriate

on site at all times and is more likely to have therapy aides or assistants provide treatments rather than licensed therapists. Patients in a SNF are less likely to be discharged to home and more likely to convert to long-term residents.

We need to further describe setting contrasts and articulate, both qualitatively and quantitatively, additional attributes that clearly make a difference in patient care. An IRH/U, for example, is likely to have more hospital-like resources on site, such as laboratories, radiology and a pharmacy, while a SNF may have only a portable X-ray machine and pharmacy and laboratory contracts. IRH/Us have large gyms with a wide variety of therapeutic equipment; SNFs have little if any such space, and are

## Complexities of Care

(continued from page 1)

or bladder function develop. However, hydrocephalus first must be differentiated from enlarged ventricles due to ex vacuo, which may be linked to atrophic changes resulting from TBI and is not typically associated with cognitive decline. DD patients with normal-pressure hydrocephalus also may show the classic symptoms of ataxia, incontinence and dementia. Unfortunately, which patients will benefit from ventriculoperitoneal shunting remains unclear.

## Spasticity

Spasticity in DD patients is both common and challenging to manage. Mechanical modalities (e.g., positioning, casts, splints) can help control tone, but they also can cause agitation. Pharmacological treatment of spasticity originating in the spinal cord often carries cognitive side effects in TBI patients. In TBI or DD patients in whom the use of centrally acting antispastic agents could affect cognition, treatment has shifted toward the use of local chemoneurolysis with alcohols or botulinum toxin injections. These agents target specific nerves and muscles rather than the central nervous system. In sicker patients with spastic tetraplegia or paraplegia, placement of intrathecal baclofen pumps is becoming favored.

## Autonomic Dysfunction

As in the SCI population, temperature dysregulation and other symptoms

of autonomic dysfunction occur in the DD population. A condition common in patients with more severe head trauma, paroxysmal autonomic instability with dystonia, can manifest as hypertension, tachycardia, hyperthermia and spasticity early during rehabilitation, reflecting a surge of

DVT prophylaxis are effective but insufficient. The standard pharmacological approach to DVT prophylaxis in SCI patients, the use of low-molecular-weight heparins (LMWHs), can increase the risk of intracranial hemorrhage in TBI patients. Clinicians should verify the absence of hemorrhage on intracranial

A focused, comprehensive, coordinated **rehabilitation strategy** can help patients with dual diagnosis achieve **maximal functioning** and **hasten recovery**.

circulating catecholamines released to autoregulatory centers from direct trauma. Apart from supportive, symptomatic treatment—intravenous fluids, antipyretics, anti-inflammatory drugs, cooling agents—the use of bromocriptine, propranolol and propantheline to control symptoms must be monitored for both effectiveness and generation of adverse cognitive effects.

## Deep Vein Thrombosis (DVT)

The risk of DVT is thought to be 100 percent in some analyses of SCI patients. Compression methods of

imaging before beginning LMWH prophylaxis or treatment for DVT.

## Post-Injury Behavior and Agitation

Disturbances in post-injury behavior, particularly agitation, can be the first overt marker of DD rather than SCI alone. Clinicians should assess patients with standard behavioral scales and consider the possibility of the neuro-medical conditions listed above, all of which can profoundly alter behavior.

Establishing good sleep patterns and controlling the environment are critical to optimal functioning in DD patients. Stimuli should be limited at first, with gradual introduction of more complex stimuli over time. Frequent breaks should be scheduled to prevent fatigue and irritability. Behavioral contracts among the patient, family and staff can help keep everyone informed and consistent with the rehabilitation plan.

Patients with dual diagnosis represent a group with special needs during rehabilitation. A focused, comprehensive, coordinated rehabilitation strategy can help them achieve maximal functioning and hasten recovery.

## The Kessler Approach

Kessler's specialized dual-diagnosis (DD) program is based in its West Orange, N.J., hospital. Among the benefits to patients:

- Physicians, nurses, therapists and residents are specially trained in the care of this unique patient population.
- Individualized care plans are carefully coordinated and implemented by a team of clinicians specializing in brain and spinal cord injury rehabilitation.
- Physical and occupational therapy in a gym-based setting are coupled with psychology/neuropsychology and other services.
- Family and caregivers are involved in planning and decision-making throughout the rehabilitation process.

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# It's a Dog's (Work) Life

Pet therapy aids in rehabilitation

■ SEAN MCCARTHY, OTR/L



**H**e never misses a staff meeting, team conference, family training or daily treatment session. He can be observed working on the exercise mats or perched atop a treatment table. Who is this reliable, adaptable employee at the Kessler West Orange, N.J., campus? His name is Pete, and he is a handsome 3-year-old Labrador/golden retriever who was trained to be a service dog by Canine Companions for Independence (CCI).

CCI, founded in 1975, pioneered the concept of training dogs to assist individuals with disabilities. Pete spent the first two years of his life in training, with volunteer puppy raisers and regional CCI staff, in order to master more than

50 specialized commands. Commands can be utilized for the completion of many routine activities of daily living, such as opening doors, retrieving items that have been dropped on the floor and even turning on the lights.

## Training for Positive Results

In August 2007, Pete and I completed two weeks of Team Training at CCI, where I learned how to successfully assume

the role of Pete's handler. Together, we commute to the West Orange campus to assist patients in their therapy sessions as well as to help improve their overall health and well-being. With physician orders, Pete serves as an alternative treatment modality oriented toward improving strength, balance, cognition, range of motion and other functional goals.

Pete can often be seen wiggling and wagging his tail in anticipation of one of his favorite interventions, fetch. The simple act of tossing objects of various sizes is carefully constructed to facilitate patients' functional reach, balance, hand dexterity and strength. Other examples of treatment interventions include having patients work on their hand function by applying and

removing Pete's collar, leash or vest. Speech and memory goals are also addressed by instructing patients to try to recall or vocalize some of Pete's commands during a structured task. Overall, intervention strategies with Pete are simple, goal-directed tasks that help make treatment lighthearted and fun.

## Canine Kudos

For many patients, just having Pete in the therapy gyms is a welcome distraction from the rigors of inpatient rehabilitation. He brings smiles to the faces of patients, families and staff on a daily basis. In fact, Pete was recently recognized as Employee of the Month for his positive impact on patient care.

In addition to his role in direct patient care, Pete demonstrates how a service dog can enhance the independence of Kessler's spinal cord-injured patients beyond rehabilitation. As Kessler's service dog, Pete has provided a source of unconditional companionship and a unique means to enhance the independence of our patients. Whether they are dog lovers by nature or find that Pete simply captures their hearts, patients try harder and often do things for Pete that they may not have done before. It is a privilege to have introduced the CCI service dog program at Kessler and to have witnessed the remarkable response from patients and staff. Personally I, too, have benefited from having a new "best friend" at work.

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## Rehabilitation

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