

# Rehabilitation

SPRING 2010

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## NEW DRUGS FOR DVT PROPHYLAXIS



Heparin's limitations have spurred the development of alternatives to prevent this potentially fatal complication

ROBERT KLECZ, M.D., AND NEIL SCHULMAN, PHARM.D.

WITHOUT PROPHYLAXIS, up to 80 percent of patients with major trauma can develop deep-vein thrombosis (DVT), increasing the risk of fatal pulmonary embolism and other complications. For decades, the primary drug used to prevent DVT was unfractionated heparin (UFH), given by subcutaneous injection. This agent has several drawbacks, however, including the need for frequent invasive monitoring, short half-life, possible immune reactions and variable anticoagulant effects. Consequently, several new compounds were developed. Reviewing their advantages and disadvantages will help inpatient rehabilitation centers make the most appropriate prescribing decisions.

**Early Substitutes**

The first replacements for UFH were the low-molecular-weight heparins (LMWHs), fragments of UFH that have equivalent safety and efficacy but a longer half-life, more predictable anticoagulant action, greater bioavailability, lesser effects on platelet and immune function, and the ability to be given subcutaneously. Drugs in this class approved in the U.S. for DVT prophylaxis include enoxaparin (Lovenox) and dalteparin (Fragmin). Also, the pentasaccharide fondaparinux (Arixtra) is usually included in this class, although it is not a true LMWH.

Large clinical trials have shown the LMWHs to have equivalent or better safety and efficacy compared with UFH. As a result, groups such as the American College of Chest Physicians, the American Society for Clinical Oncology and the National

Quality Forum have incorporated these drugs into their guidelines for DVT prevention.

A main limitation of the LMWHs is the lack of a complete antidote, should anticoagulant effects require rapid reversal. Also, a concern with fondaparinux is that it is cleared renally, making its use inappropriate for patients with impaired kidney function.

A newer drug class, the direct thrombin inhibitors (DTIs), offered the hope of more targeted prevention of thrombosis with reduced bleeding risk. Large trials, however, showed no important advantages with most DTIs compared with LMWHs, except in cases of known or suspected heparin-induced thrombocytopenia (HIT). The DTIs argatroban and lepirudin (Refludan) are indicated for prophylaxis in such cases. Desirudin (Iprivask) is also approved for DVT prevention in elective hip-replacement surgery. These intravenous treatments have relatively short half-lives, lack antidotes, entail monitoring of coagulation *(continued on page 7)*



FOCUS ON

# Rehabilitation

Editor-in-Chief

**Bruce M. Gans, M.D.**Chief Medical Officer  
Kessler Institute for Rehabilitation  
bgans@kessler-rehab.com

Managing Editor

**Gail Mallor Solomon**AVP, Corporate Communications  
Kessler Institute for Rehabilitation  
gsolomon@kessler-rehab.com

Editorial Advisers

**Uri Adler, M.D.**Director of Stroke Rehabilitation  
Kessler Institute for Rehabilitation  
uadler@kessler-rehab.com**Jonathan Fellus, M.D.**Director of Brain Injury  
Rehabilitation  
Kessler Institute for Rehabilitation  
jfellus@kessler-rehab.com**Steven Kirshblum, M.D.**Medical Director and Director of  
Spinal Cord Injury Rehabilitation  
Kessler Institute for Rehabilitation  
skirshblum@kessler-rehab.com**Bruce Pomeranz, M.D.**Medical Director and Director  
of Amputee Rehabilitation  
Kessler Institute for Rehabilitation  
bpomeranz@kessler-rehab.com

Contributors

Patricia A. French; Mary E. King,  
Ph.D.; Emily Kuhl, Ph.D.

## Kessler

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# HELP WANTED



As the population of rehabilitation patients grows, attracting physicians to the inpatient setting is a priority



A LOOMING CONCERN for the field of physical medicine and rehabilitation (PM&R), especially for inpatient facilities, is the anticipated skyrocketing demand for treatment as baby boomers continue to age and develop disabling conditions that necessitate inpatient care. The inpatient practice of PM&R has a particularly high need for physicians but is not seeing enough applicants to meet current demands, much less future requirements. Physicians entering the field are more likely to accept positions in outpatient settings rather than choose to work with inpatients.

The reasons are numerous. Psychiatrists are probably in short supply altogether, with more jobs available than qualified individuals, due in part to the shortfall of physicians in this country. Many psychiatrists, like physicians in other specialties, are looking for an overall quality of life that includes an office lifestyle with regular hours, something not afforded by many current inpatient positions. Inpatient work is also thought by some to be less diagnostically challenging. The choice of geographic location can be important as well, and setting up an outpatient practice offers a psychiatrist many more location alternatives than the relatively limited 1,100 inpatient rehabilitation hospitals.

Economics also play a role. New physicians often believe that outpatient work will bring them higher income because it involves more procedures. There likely will be, however, continued reduction in reimbursement for outpatient treatments, or at least increased denials of coverage, especially if the current trend toward comparative effectiveness research takes hold. We also anticipate more competition for outpatient care from other types of medical practices. These economic factors eventually may make the demand for inpatient positions relatively bright, while outpatient openings may become much less desirable.

To make inpatient work more attractive now, regardless of potential shifts in economic factors, the field can take several specific steps. First, we can create hospitalist-like work schedules for psychiatrists in our facilities. Second, it should be stressed that inpatient positions offer economic security away from the financial risks of fee-for-service medicine. Third, work environments can be standardized by implementing electronic medical records, standard order sets, practice guidelines and other tools that may make the workday easier and less burdensome.

Further possibilities to enhance the appeal of inpatient practice include the judicious use of physician extenders, such as nurse practitioners and physician assistants. This will allow the doctor who chooses to work in an inpatient setting more opportunities to balance personal lifestyle desires with the needs of the patients and institution. We also can make sure our physicians have easy access to consultant resources (such as internists) and to enhanced supportive services from the nursing staff.

The balance of post-acute inpatient settings may change, but inpatient rehabilitation hospitals and units are here to stay and will be compelled to expand as the baby boomer generation increases the demand for such care. It is essential that we plan now for our future workforce needs.

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

# RULE RELIEF



By efficiently utilizing staff and resources, rehabilitation facilities can ease the demanding regulatory burdens of 2010 IRF Rule compliance

## BRUCE POMERANZ, M.D.

IN 2009, the Centers for Medicare and Medicaid Services changed the rules for inpatient rehabilitation facilities (IRFs), requiring that they demonstrate medical appropriateness to justify coverage for patient admissions, effective January 1, 2010. To be eligible to receive payment for inpatient care, facilities must now show that admissions are “reasonable and medically necessary.” The 2010 IRF Rule imposes additional responsibilities on rehabilitation physicians; therefore, it is important to explore various means of managing compliance, including the role of physician extenders.

### Admissions: Reasonable and Necessary

Before the IRF can admit a patient, a clinician specializing in rehabilitation must confirm that the hospitalization meets the reasonable and necessary standard. Physicians need not personally perform all activities required for this step, however. By relying on other personnel, centers can trim administrative time spent on compliance. Specifically, although a specialist ultimately must approve the admission, nurses, residents and other professionals can coordinate with referring facilities, review records, interview patients and families, and collect data to facilitate decision-making.

Within 24 hours after an individual arrives, a rehabilitation physician must compare the patient’s actual status with findings from the preadmission screening and reaffirm its reasonableness and medical necessity; begin designing the care plan; and document both tasks in the medical record. At Kessler Institute for Rehabilitation, appropriate activities, such as reviewing the preadmission evaluation, have been incorporated into the standard history and physical examination performed

by physicians shortly after admission. Thus this requirement represents no undue burden.

By Day 4 after admission, an Individualized Overall Plan of Care (IOPC) must be created. Although this comprehensive strategy for patient management—including prognosis, anticipated interventions, expected outcomes, discharge plans and expected treatment duration—must be recorded and approved by a rehabilitation clinician, the individual disciplines, such as occupational therapy, physical therapy, speech therapy and psychology, can provide input formatted for easy utilization.

Kessler began modifying its information systems in September 2009 to accommodate IOPC requirements. A goal was to compile needed information during the usual interdisciplinary assessments. In the last quarter of 2009, the new tools underwent user testing and refining, and staff at Kessler and its sister institutions received training through live demonstrations and Webinars. Consequently, the data needed by Day 4 are now routinely available to rehabilitation physicians.

Finally, the 2010 IRF Rule requires that a team of qualified personnel, including a rehabilitation nurse, social worker or case manager, and representatives from other relevant disciplines, meet at least weekly to review the patient’s progress and modify the IOPC accordingly. Such conferences have always been standard at Kessler, including the Rule’s

requirement that a rehabilitation physician document results of these discussions. Again, individual providers can compile data to aid clinicians in this task.

### Implications for Patient Access, Reimbursement

The Rule’s requirements can involve substantial time taken from patient care. To minimize this disruption, nurses, physician assistants, residents, therapists and others can collect needed data, and systems can be created to maximize physician efficiency in using information to complete required documentation. Rehabilitation specialists may then focus on the overall picture. This will pertain particularly to facilities that have limited staffing of clinicians to meet Rule specifications. To avoid possibly jeopardizing client access and reimbursement, facilities must find ways to use available staff and resources to fulfill patient-care needs and regulatory requirements.

Kessler’s strategy has been to incorporate compliance into new and existing systems and procedures, with information technology being applied in creative, efficient ways. Centers should leverage existing platforms to support gathering and reporting of required data. Staffing patterns also might need adjustment to ensure the availability of rehabilitation physicians and other staff. Finally, as with any new procedure, ongoing education, monitoring and feedback will be crucial to the success of compliance efforts.



**Bruce Pomeranz, M.D.**, is medical director at Kessler Institute for Rehabilitation. He earned his medical degree from the University of Illinois in Chicago and completed his residency in physical medicine and rehabilitation (PM&R) at Mount Sinai Medical Center in New York. Pomeranz is board-certified in PM&R and electrodiagnostic medicine. You can reach him at [bpomeranz@kessler-rehab.com](mailto:bpomeranz@kessler-rehab.com).

# OUT AND ABOUT



Recreational therapy complements other forms of treatment and improves skills, spirit and confidence as patients work to resume normal activities

**ELINOR ANAN, M.D., AND MARY MAMRAK, CTRS**

A CREATIVE, ENGAGING recreational therapy program can help patients identify and overcome obstacles that might keep them from returning to full participation in life. Individuals who participate in these programs improve their physical, mental and emotional well-being. Unfortunately, although it is an important part of rehabilitation for patients, this form of treatment is not reimbursed separately. Therefore, rehabilitation facilities have to “think outside the box” to find ways to support recreational therapy even as health care as a whole faces an increasingly difficult economic situation.

*Focus on Rehabilitation* discussed the role of therapeutic recreation in

the rehabilitation environment, its benefits and challenges, and how organizations can support the cost in an ever-tightening fiscal climate, with two experts from Kessler Institute for Rehabilitation: Elinor Anan, M.D., clinical chief, Amputee Services, and Mary Mamrak, CTRS, a proficient level recreational therapist at Kessler’s West Orange campus.

### **Focus on Rehabilitation:**

Recreational therapy is not always understood to be an important component of rehabilitation programs. Why do you find it so essential to patient care?

**Elinor Anan, M.D.:** Our patients have been through a variety of surgeries and traumas, and recreational therapy not

only gives them a pleasurable activity but also provides an important diversion from these difficulties. We consistently find that this treatment improves mood while providing excellent opportunities for other forms of therapy. It complements the physical and occupational therapy that we offer.

Recreational therapy also reminds patients that they will be leaving the hospital and resuming regular activities. It can help prepare individuals for eventual discharge in several ways, including trips into the community that allow them to practice using appropriate assistive devices. Patients and families can gain confidence while learning more about the skills or equipment needed for safe walking or transferring from wheelchairs.

During these outings, patients can also identify any other challenges they may encounter in the real world setting and learn to resolve these issues with new tools and techniques. We consider all of our patients for recreational therapy, and we integrate the program into our care plans as appropriate.

**Mary Mamrak, CTRS:** Recreational therapy provides activities to enhance a person’s well-being physically, emotionally and spiritually, and we offer individualized programs to help with each of these facets of life. For example, a cooking group not only gives pleasure to someone who likes to cook but also helps with standing and balancing while working at the countertop. Cooking can assist with more subtle aspects of therapy, too, such as following directions, sequencing and improving memory as the patient organizes the ingredients and follows a recipe correctly.

We also offer many adapted sports activities for individuals at all levels of physical and functional ability, including

## FIRST SWING GOLF CLINIC

The collaboration with the First Swing Golf Clinic is a good example of how recreational therapists at Kessler Institute for Rehabilitation partnered with a community-based program to provide patients with a new option. Sponsored by the National Amputee Golf Association (NAGA) in conjunction with the Disabled American Veterans Charitable Trust, the Professional Golf Association and the United States Golf Association, these one- or two-day clinics bring together volunteer golf professionals, physical and recreational therapists, and the physically challenged to learn golf. This national program was developed in 1988 by a double below-knee amputee, Bob Wilson, the executive director of NAGA.

The First Swing clinic takes a two-pronged approach to teaching golf. Therapists first are taught the game themselves. They can try swinging a club standing on one leg or sitting in a wheelchair, or while simulating other physical challenges to help them better appreciate the difficulties their patients face. First Swing provides therapists with additional direct experience teaching physically challenged members of the community under the supervision of NAGA instructors. All participants enjoy a day of playing golf in a friendly, supportive environment, and the program is offered at no cost to the host facility. More information can be found at the NAGA website, [nagagolf.org](http://nagagolf.org).

those with severe spinal cord injuries. We can modify or adapt most any sport or recreational activity to enable a patient to participate, whether it's mouth-stick painting, gardening, tennis or bowling, or even wheelchair racing.



*Kessler's recreational therapists help individuals explore a wide range of leisure activities adapted to their needs and interests.*

We provide community reintegration programs, as Dr. Anan mentioned, that might include, for example, a trip to a bank so the individual can learn to maneuver through the building and use the ATM while working with assistive equipment. We often see amazing changes in mood as people try activities they may have thought they could never do again. Some patients come full circle from anger to renewed enthusiasm for life.

**Focus:** How does the fact that recreational therapy is not reimbursed separately affect your decision to request this therapy, Dr. Anan?

**Anan:** Recreational therapy is an important part of rehabilitation and its benefits for our patients far outweigh the cost. Recreational therapy is too important to patient care to let reimbursement policies limit its availability for individuals.

**Focus:** What are some of the other challenges that rehabilitation facilities such as Kessler face in offering recreational therapy?

**Mamrak:** In addition to economic challenges, we often face practical issues when we take individuals out into the community to use their adaptive equipment in "real life" situations. For example, the church they wish to attend may

not be adequately accessible, or they may have difficulty maneuvering through a store or other building. We provide education about their rights as patients, including information on the Americans with Disabilities Act, so they know how to advocate for themselves once they leave our facility.

**Focus:** How has Kessler overcome the economic challenges of providing high-quality recreational therapy?

**Anan:** Our recreational therapists have taken great initiative in reaching out to community groups and volunteers to help us stretch our health care dollars while supporting this type of therapy. I want to stress that if a facility doesn't have a recreational therapy program, it should definitely consider adding one, and leaders can look to some of our examples for ways to fund it creatively. As one example, the Amputee Coalition of America, a national, nonprofit amputee consumer educational organization, serves as a resource for some of our patients by providing extensive resources, peer support,

outreach and education to amputees and their loved ones.

**Mamrak:** We are very creative in the ways that we use volunteers and community-based programs to maintain and even expand our recreational therapy. We participate in Life Rolls On, a surfing clinic that provides an opportunity for our outpatients to get back into the water and enjoy surfing, or to learn it for the first time.

The First Swing Golf Clinic is another example of Kessler partnering with a national organization. Recreational, physical and occupational therapists are taught the basics of golf plus special adaptive techniques and then partner with outpatients to help them learn to play or just enjoy the game again. For the past two years, Kessler also has hosted an Adapted Abilities Exposition that is open to the community. This Expo is a showplace for vendors of many types of adapted sports equipment, from hippotherapy to adapted pinball machines, automobiles, off-road wheelchairs and hand-cycles. Individuals can trial the products during the Expo; they tell us they love this opportunity to try new activities.

At Kessler, we take every patient request for a specific type of recreational therapy very seriously. We will do the necessary research to see what is needed and how we can provide the opportunity to participate in almost any activity a person would like to try, and we contact the volunteers or organizations that may be able to help. We are happy to share what we have learned with other recreational programs.



**Elinor Anan, M.D.**, received her medical degree from Temple University in Philadelphia, and completed a residency in physical medicine and rehabilitation at the University of Medicine and Dentistry of New Jersey. Anan is a board-certified psychiatrist with subspecialty certification in spinal cord injury medicine. She can be reached at [info@kessler-rehab.com](mailto:info@kessler-rehab.com).



**Mary Mamrak, CTRS (Certified Therapeutic Recreation Specialist)**, earned her undergraduate degree in recreation administration with a concentration in therapeutic recreation at Kean University in Union, New Jersey. She earned her certification in therapeutic recreation by completing a 480-hour internship and a national examination. You can contact her at [mmamrak@kessler-rehab.com](mailto:mmamrak@kessler-rehab.com).

# LEGISLATION MATTERS



A look at the changes that are on the way for physical medicine and rehabilitation due to health care reform

**BRUCE M. GANS, M.D.**

**HEALTH CARE REFORM** legislation has now been passed, and aspects of the new law have the clear potential to strongly affect the practice of physical medicine and rehabilitation (PM&R) for many years to come. Even if the predominant impact is payment reform rather than innovation in service delivery, it is likely that we will see significant changes in the access to, and payment for, rehabilitation services.

Access to inpatient rehabilitation care is a critical aspect of this new health care legislation for our patients. One demonstration project that survived in the final bill is testing the bundling of post-acute care with acute care services. The significant risk for the individuals we serve, depending on how this concept is implemented, is that hospitals may find themselves under great pressure to move patients to the least expensive, rather than the medically most appropriate, post-acute care setting.

Another demonstration project that will be mandated for testing as an alternative to bundling is the Continuing Care Hospital. This innovative new service delivery model provides easier access to appropriate post-acute care and eliminates regulatory barriers and economic constraints that could prove to be a significant advantage for patients.

## The Medicare Factor

Further compounding the issue of access is the potential impact that cuts in Medicare coverage or reimbursement will have. A driving legislative intent behind the reforms was to reduce the overall growth of Medicare costs, and this may have significant adverse consequences for providing rehabilitation care and services, both

to inpatients and outpatients. The effect on access to commercial health insurance may be positive; if the legislation does create standards for basic health insurance benefit plans that include rehabilitation services, it could be a plus for patients and for the field of PM&R.

Reimbursement issues are intertwined with issues of access, but we can consider some aspects of the former separately. What is not provided for in the new bill is a fix for the Medicare Part B fee schedule Sustainable Growth Rate problem. If nothing is done regarding this situation, there will be more than a 20 percent reduction in payments for all Part B providers when the current short term extensions lapse.

Another unresolved issue is the therapy cap limits on access to physical, occupational and speech language therapies under Medicare. Legislation is still needed to permanently improve patient access to outpatient rehabilitation therapy services that are restricted by the current caps.

The final impact on Medicaid, which is another key aspect of reimbursement for many persons with a disability, remains uncertain; legislation ultimately could prove favorable or unfavorable depending on how individual states choose to implement their new programs.

The regulatory impact of this legislation will be huge. It is necessary that as providers, we fully understand these new regulations in order to comply with them. Auditing and

retrospective reviews and denials for medical necessity may become substantially more complicated as well, adding to this burden.

## Forgotten Groups

A major concern for PM&R is that the requirements of special populations may not be addressed in the final health care reform initiative. Little of the debate to date has dealt with special needs groups, such as persons with disabilities, and many of these special needs are not addressed in the bill as

*The significant risk for the individuals we serve ... is that hospitals may find themselves under great pressure to move patients to the least expensive, rather than the most medically appropriate, post-acute care setting.*

passed by Congress and signed into law by the President. Undocumented aliens will continue to require care as well, including rehabilitation services, whether or not legislation has been enacted to address the economic realities of this issue.

One certainty is that it will take years to determine the real outcome of this legislation and we will not see instant change. In fact, many of the transformations will have long delays in implementation or will require further study. We can anticipate extended periods of inaction followed by intervals of rapid implementation that will challenge us as a field to stay diligent for a very long time.

## NEW DRUGS FOR DVT PROPHYLAXIS

(continued from page 1)

status, and require dose adjustment for liver dysfunction (argatroban) or renal impairment (lepirudin, desirudin).

Kessler Institute for Rehabilitation incorporates recommendations from professional society guidelines into its quality-control algorithms, which call for a formal, institution-wide thromboprophylaxis policy that leverages technology (preprinted orders, computerized decision-support systems) to automate the process. The recommendations also specify the use of mechanical or pharmacological methods of prophylaxis in all inpatients undergoing surgery and in medical inpatients at risk for DVT. Given that the typical rehabilitation patient has multiple medical problems, surgeries and prolonged immobility, nearly all inpatients at Kessler require some form of thrombosis prevention.

### Choosing a Medication

Drug selection reflects several factors, including patient medical history and current condition, anticipated hospital course, and referring physician preference. The LMWHs are generally preferred over UFH because of their ease of use and more reliable anticoagulation. Patients who meet weight and renal-function criteria are switched from enoxaparin to fondaparinux upon admission to Kessler, except for those with spinal-cord injury (SCI). Fondaparinux is usually preferred over enoxaparin because of its longer half-life and lack of immunogenicity (evidence is lacking for the use of fondaparinux over LMWHs in SCI cases).

The choice of agent also reflects its availability at Kessler. Formulary selections are recommended by the hospital's Pharmacy and Therapeutics (P&T) Committee, which grants certain drugs preferred status. Criteria include safety and efficacy data, cost-effectiveness, and ease in obtaining them. Reimbursement for one medication over another is not of primary concern, as charges for most inpatient stays are determined by the diagnoses.

The P&T Committee meets 10 times yearly to review the formulary, and physicians can request addition or deletion of drugs. The committee stocks drugs

## HEPARIN & COMMON ALTERNATIVES

	HEPARIN	ENOXAPARIN	DALTEPARIN	FONDAPARINUX
Target	FIIa, FIXa, FXa, FXIa	FXa, FIIa	FXa, FIIa	FXa
Antithrombin dependence	•	•	•	•
Administration route	IV, SC	SC	SC	SC
Half-life, hours	1.5*	5.7	2.2	19
Renal clearance		•	•	•
Coagulation monitoring needed	•			
Relative cost/day	\$1	\$13	\$6	\$9
Antidote	Yes	Partial	Partial	None
Potential for immune HIT	High	Low	Low	None

\*Average; dose-dependent

used most often for specific conditions while eliminating others, with the goal of maintaining a steady inventory overall.

Thromboprophylaxis typically continues until the patient is ambulatory or has sufficient muscle tone in the extremities. Throughout hospitalization, the index of suspicion remains high for DVT occurrence. A Doppler ultrasound will be performed if there is any indication of developing thrombosis.

Two new compounds have been approved in Europe and Canada for prevention of venous thromboembolism, including DVT, after elective total

hip- or knee-replacement: dabigatran etexilate (Pradaxa, Rendix) and rivaroxaban (Xarelto). Dabigatran is a DTI; rivaroxaban, a DFXI. These drugs can be given in fixed oral doses without coagulation monitoring, although issues of renal clearance remain. Dabigatran is undergoing Phase III testing in the U.S., while the U.S. Food and Drug Administration is considering rivaroxaban for approval. Another oral DFXI, apixaban, is also in Phase III testing. These drugs could represent substantial advances over existing therapies for prevention of this disabling condition.



**Robert Klecz, M.D.**, is the clinical chief of orthopedic rehabilitation at Kessler Institute for Rehabilitation. He received his medical degree from the Medical Academy of Warsaw, Poland, and completed his residency at the University of Medicine and Dentistry of New Jersey. He is board-certified in physical medicine and rehabilitation. You can reach him at [rklecz@kessler-rehab.com](mailto:rklecz@kessler-rehab.com).



**Neil Schulman, Pharm.D.**, is director of pharmacy at Kessler Institute for Rehabilitation, West Orange campus. He received his bachelor's degree in pharmacy from the Arnold and Marie Schwartz College of Pharmacy, Long Island University; his master's degree from St. John's University; and his doctoral degree from the University of Arkansas for Medical Sciences. You can reach him at [nschulman@kessler-rehab.com](mailto:nschulman@kessler-rehab.com).

## KEEP MOVING



Recent advances in the design and construction of manual wheelchairs have made portability issues a problem of the past

**MARY SHEA, OTR/L, ATP**

THE ABILITY TO MANEUVER with ease is a significant contributor to quality of life for those who use manual wheelchairs. Thanks to recent innovations, these individuals are enjoying greater ease of transportation and greater independence when traveling by automobile or plane.

In fact, the portability of wheelchairs has been significantly enhanced by the use of lighter materials and a more compact design. For instance, new ultra-lightweight models typically weigh less than 20 pounds without wheels. At the same time, titanium and composite elements have made these new wheelchairs stronger, lighter and less bulky than older versions produced from aluminum and steel.

Updated structural design also has improved portability and allowed for storage in smaller spaces. For example, although manufacturers build today's products to be more rigid to optimize propulsion, cross-brace frames permit some models to be collapsed to the thickness of a carry-on suitcase. In addition, a wheelchair often can be conveniently disassembled to fit in the storage space in airplane cabin closets rather than

having to be placed in the cargo hold. Airlines usually can accept one or two wheelchairs in this space.

### Behind the Wheel

Manufacturers are utilizing cantilever frames made from large-diameter tubing, eliminating the need for a weighty undercarriage but without sacrificing stability. As a result, a person can readily maneuver a folded wheelchair over an automobile's steering wheel for easier loading and unloading and with less strain on the shoulders and back, which helps to minimize the risk of repetitive stress injuries.

This is especially important given that many of today's cars are smaller in size. Individuals with folding wheelchairs used to be relegated to older, larger vehicles. These automobiles provided greater interior room and wider doors that allowed a person

to maneuver the folded wheelchair directly into the back seat area. In contrast, today's compact cars present challenges in terms of loading and unloading simply due to space limitations. The use of lighter materials, more compact frames and a different loading technique provides clients with the option of having a smaller, more efficient vehicle.

Although advances in technology have given those who use manual wheelchairs more freedom, the improvements have come at a price. Funding sources such as Medicare and some private insurance companies do not automatically cover the higher costs of newer, lightweight models. That being said, as portability continues to improve, the primary problem facing clients will not be in getting to where they're going; it will be in deciding where to go next.



*Mary Shea, OTR/L, ATP, is an occupational therapist and clinical manager of wheelchair services at Kessler Institute for Rehabilitation. She also is adjunct professor at New York University and Mercy College and a guest lecturer for assistive technology and spinal cord injury at Long Island University and SUNY Downstate Medical Center. She can be reached at [mshea@kessler-rehab.com](mailto:mshea@kessler-rehab.com).*