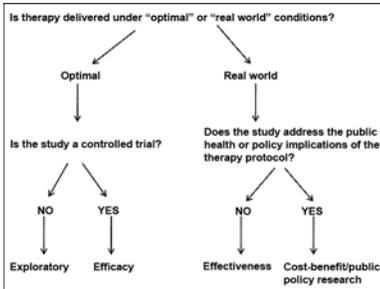


**Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments.**

**Part I—Background and methodology**

Tobi Frymark, MA, et al.



Systematic reviews are useful, time saving resources for clinicians seeking evidence. These reviews provide a transparent and systematic approach to finding and evaluating the state of the evidence on a

focused clinical question. By understanding the process used to conduct systematic reviews, Department of Veterans Affairs providers will be better able to read and evaluate research, minimize bias when interpreting the scientific literature, and incorporate research findings into the clinical decision-making process.

**Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments. Part II—Impact of dysphagia treatment on normal swallow function**

Karen Wheeler-Hegland, PhD, et al.

Dysphagia can result from a number of medical conditions that affect veterans, such as stroke, head and neck cancer, and traumatic brain injury. Because dysphagia can significantly affect overall health and quality of life, identifying effective treatment options is crucial. This systematic review analyzes the exploratory research of seven behavioral swallowing interventions for the swallowing physiology of nondisordered populations. The findings from this review identify key physiological changes and determine how effectively these interventions modify function. They also provide a framework for future research on populations with disorders.

**Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments.**

**Part III—Impact of dysphagia treatments on populations with neurological disorders**

John Ashford, PhD, et al.

Many veteran patients experience dysphagia because of neurological illnesses or injuries such as brain injury, stroke, or Parkinson disease. The type of treatment the speech-language pathologist provides to improve a patient’s swallowing function depends on the cause, type, and severity of dysphagia. In this article, we review evidence from seven behavioral treatment approaches for individuals with neurologically induced dysphagia. Although the number of studies is limited, some positive evidence has been found for the effects of these treatments on various swallowing outcomes. Findings from this review will support Department of Veterans Affairs providers engaging in evidence-based clinical decision making.

**Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments.**

**Part IV—Impact of dysphagia treatment on individuals’ postcancer treatments**

Daniel McCabe, DMA, et al.

Oropharyngeal dysphagia is a common symptom among veteran patients with head and neck cancer. A behavioral therapy approach is commonly used to reduce the effects of these symptoms on feeding and swallowing. This article, fourth in a series of five, examines existing data on the effects of six compensatory postures and maneuvers. While data are limited, several studies show positive evidence of the effects of specific interventions, while other studies show limited effects. These results provide clinicians with evidence-based support for using certain dysphagia intervention approaches to treat veterans with head and neck cancer.

### Evidence-based systematic review: Oropharyngeal dysphagia behavioral treatments. Part V—Applications for clinicians and researchers

Karen Wheeler-Hegland, PhD, et al.

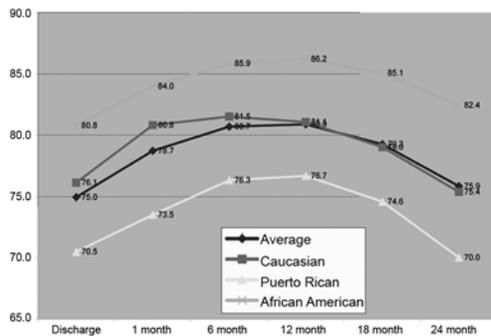


Scientific evidence is an important aspect of the evidence-based practice framework. Knowing the state of the evidence regarding dysphagia treatments in conjunction with clinical expertise and patient values and preferences

will help Department of Veterans Affairs providers determine the best course of treatment for their patients. This article presents a case scenario of a patient with dysphagia and provides treatment recommendations based on the findings from three evidence-based systematic reviews. Future directions in dysphagia research will also be discussed.

### Racial/ethnic variation in recovery of motor function in stroke survivors: Role of informal caregivers

Melanie Sberna Hinojosa, PhD, et al.



African-American and Latino stroke survivors recover more slowly than Caucasians in the United States. This study examines this variation in stroke recovery, the course of stroke recovery over time, and the role of caregivers in stroke recovery. We examined 125 veterans who suffered from stroke and were released home to an informal caregiver. Veterans with more than one caregiver have lower functional levels at baseline. Veterans who have more care provided to them (in hours) have lower baseline functioning and slower recovery across time.

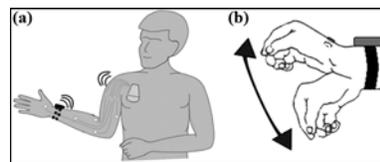
### Informal caregivers and racial/ethnic variation in health service use of stroke survivors

Melanie Sberna Hinojosa, PhD, et al.

The use of health services is affected by a number of factors and varies by race/ethnicity. The differences by race/ethnicity in health service use by veterans after acute stroke are poorly understood. We examined the health service use of 125 veterans who had a stroke and were released home to an informal caregiver for rehabilitation. We found different patterns of service use by race/ethnicity and by other factors such as level of disability and the informal caregiver context.

### Wireless wearable controller for upper-limb neuroprosthesis

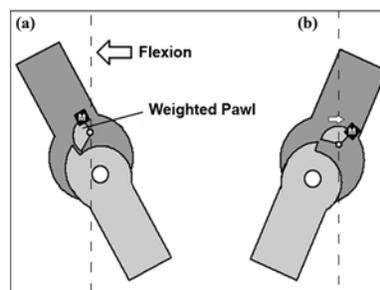
Christa A. Wheeler, MS; P. Hunter Peckham, PhD



When spinal cord injury occurs, the connection between the brain and the muscles is lost. If this injury occurs at the cervical level of the spine, it can cause loss of the ability to move the hands, leading to obvious challenges in performing normal daily activities, like eating and grooming. The technology discussed in this article uses electrical stimulation of the muscles in the forearm to form a functional hand grasp. Specifically, it describes a new method for controlling when the hand opens and closes by using a sensor that is worn like a wristwatch and detects wrist movement.

### Engineering design review of stance-control knee-ankle-foot orthoses

Terris Yakimovich, MASc, et al.

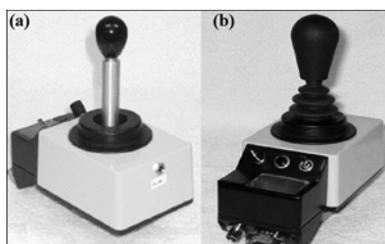


People with weakness about their knee often lack the strength to walk safely, since they may stumble or fall when the leg collapses under their own weight. A standard knee-ankle-foot orthosis (KAFO)

has been used to prevent knee collapse by locking the knee straight during walking. However, walking with a straight leg can lead to long-term joint injury, causing pain, loss of motion, increased fatigue, and difficulty navigating stairs, slopes, and obstacles. Stance-control KAFOs (SCKAFOs) are a new class of KAFO that stop the knee from collapsing when the foot is on the ground but allow the knee to bend when the leg is off the ground (i.e., when swinging the leg during walking). Many SCKAFO design approaches have been used, each with benefits and limitations. We describe and compare various stance-control approaches that will help veterans select the appropriate KAFO or SCKAFO for their needs.

### Joystick use for virtual power wheelchair driving in individuals with tremor: Pilot study

Brad E. Dicianno, MD, et al.

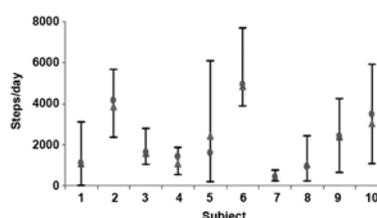


People with disabilities such as multiple sclerosis and Parkinson disease have difficulty operating control interfaces such as joysticks because of tremor. In this study, we compare a movement-sensing joystick, isometric joystick (IJ), and IJ with Weighted-Frequency Fourier Linear

Combiner filter in individuals with tremor performing a virtual wheelchair driving task. Although the filtering system did not improve driving performance in this study, the IJ without filter yielded better results than the conventional joystick, suggesting force-sensing controls may be useful for those with tremor.

### Free-living physical activity in COPD: Assessment with accelerometer and activity checklist

Marilyn L. Moy, MD, MSc, et al.



To assess disability in chronic obstructive pulmonary disease (COPD), we evaluated the use of an accelerometer and physical activity (PA) checklist to measure

free-living PA. In this article, we showed that prospectively measuring free-living PA in subjects with COPD with a simple activity checklist is feasible and, in the subgroup of subjects in whom the device is accurate, can be performed with the use of an unobtrusive, simple accelerometer. Using the accelerometer and the activity checklist, we found low daily variation in free-living PA that was significantly associated with clinical measures of COPD status.