

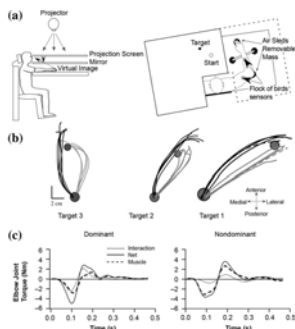
Clinical and cognitive predictors of swallowing recovery in stroke

Mae Fern Schroeder, BA, et al.

We examined whether the location of brain damage, neurocognitive deficits, and/or the number of clinical features identified during a swallowing study affected stroke patients' swallowing outcomes. Identification of at least four of six clinical features (cough after swallow, voice change after swallow, abnormal volitional cough, abnormal gag reflex, dysphonia, and dysarthria) was associated with poor swallowing outcomes at admission and discharge from the hospital. In addition, specific neurocognitive deficits seemed to be related to swallowing outcomes; however, location of brain damage was not associated. More information about clinical indicators, neuroanatomical locations, and behavioral features will lead to earlier detection of swallowing disorders.

Does motor lateralization have implications for stroke rehabilitation?

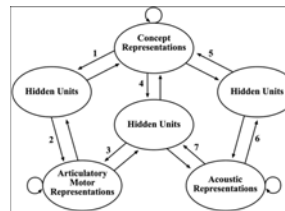
Robert L. Sainburg, PhD, MS, OTR;
Susan V. Duff, EdD, MS, OTR, LPT



This article describes current findings on the usefulness of dominance retraining strategies in poststroke patients with dominant-arm hemiplegia. We found consistent differences in control strategies used by both the dominant and nondominant hemisphere/limb systems. However, the nondominant arm may not spontaneously become an efficient dominant manipulator, indicated by persistent deficits in chronic stroke patients. Because ipsilesional deficits are usually mild compared with contralesional, they are not normally addressed in rehabilitation. We propose that the previously nondominant limb impeded by motor deficits could benefit from remedial therapy to help switch to a dominant controller.

Treatability of different components of aphasia—Insights from a case study

Diane L. Kendall, PhD, et al.



We studied the effects of an intensive poststroke phonological rehabilitation program on speech/language production in a subject with alexia and aphasia. In a single-subject design context, we studied whether treatment

improved phonological processing, reading, and generalization to untreated behaviors. While results showed a lack of generalization to real-word reading aloud, improvement was present in phonological processing, language function, and auditory processing. Improvement in the lexical-semantic system was attributed to informal forced-use language treatment. Results showed slight improvement in phonological function and clinically significant gains in the lexical-semantic system. We concluded that phonological therapies are likely to be unsuccessful if a minimum level of phonological sequence knowledge does not exist; therapies that pressure subjects to communicate verbally can achieve clinically important gains in communicative ability. This study also demonstrated the importance of a careful analysis of the patient's language ability before choosing a therapeutic strategy.

Monocular patching in subjects with right-hemisphere stroke affects perceptual-attentional bias

Anna M. Barrett, MD; Stephanie Burkholder, BA



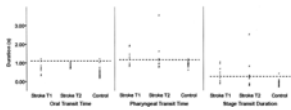
Spatial neglect (a failure to notice or respond to a stimulus on the opposite side of space from a brain injury) often happens after a stroke and may predict loss of independence. We examined whether eye patching primarily affected awareness or motor-action planning in people with spatial neglect. In this study, we

tested patients' visual-spatial abilities by asking them to mark the center of lines (line bisection). The patients viewed their hands and the lines on a video screen while wearing

(1) no eye patch, (2) a right eye patch, or (3) a left eye patch. The feedback-dependent portion of subjects' line-bisection errors improved with eye patching. We conclude that patching one eye primarily affects the perceptual-attentional component of spatial bias. This preliminary study suggests the need for more data on the effect of monocular patching in larger groups of well-characterized patients after stroke.

Dysphagia in stroke: Development of a standard method to examine swallowing recovery

Stephanie K. Daniels, PhD, et al.



Dysphagia, a disorder of swallowing, is associated with increased morbidity and mortality following stroke. This study

began development of a standard method to evaluate swallowing recovery after stroke based on a definition of dysphagia derived from three domains: bolus timing, bolus direction, and bolus clearance. We designed Experiment 1 to define normal versus disordered swallowing based on the range of scores in a sample of healthy adults. We designed Experiment 2 to apply these established thresholds to identify the presence of dysphagia in stroke patients. Results indicate that dysphagia may be more accurately detected by the identification of abnormalities on multiple objective measures of swallowing rather than reliance on laryngeal penetration or aspiration alone.

Animal-assisted therapy for persons with aphasia: A pilot study

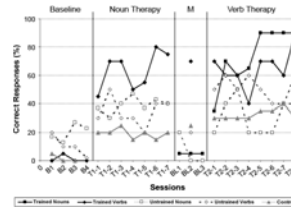
Beth L. Macauley, PhD, CCC-SLP, HPCS

We explored the effectiveness of animal-assisted therapy (AAT) for poststroke aphasia. Three men received one semester of traditional therapy followed by another of AAT. While both therapies effectively met treatment goals, no significant differences existed between test results following traditional therapy and AAT. Results of a client-satisfaction questionnaire indicated the participants were motivated, enjoyed the therapy sessions more, and felt the atmosphere of the sessions was less stressful during AAT. An unexpected benefit included an increase in the number of spontaneous communicative initiations produced during sessions; the dog may act as a unique catalyst to motivate the client and provide an atmosphere of unconditional acceptance for disordered speech. By

bringing animals into the therapy session, the sessions may be more pleasurable and less difficult.

Word-retrieval treatment in aphasia: Effects of sentence context

Anastasia Raymer, PhD; Francine Kohen, MS



We evaluated a sentence-based procedure for improving word retrieval in two poststroke individuals with contrasting forms of aphasia. Treatment incorporated sentence production in which we removed target words,

requiring participants to spontaneously retrieve them. Following sentence-based word-retrieval training, both participants demonstrated positive effects of treatment. This training led to improvements in word-retrieval measures during spontaneous sentence generation. These changes were greater following noun training than verb training. Changes were greater in sentence production than in picture naming for one of the participants, suggesting that sentence-embedded word-retrieval training addresses the word retrieval for nouns and verbs more effectively. These preliminary findings suggest word-retrieval training completed within a sentence context may be a good method for improving word-retrieval abilities in some individuals with aphasia.

Effects of two treatments for aprosodia secondary to acquired brain injury

John C. Rosenbek, PhD, et al.

Expressive aprosodia, caused by right-hemisphere brain damage, is the inability to change one's voice to express common emotions like joy, anger, and sadness. This study investigated two treatments for expressive aprosodia: cognitive-linguistic and imitative. Participants received the treatments in random order with a 1-month break between treatments. Statistical analysis confirmed that treatment effects were modest to substantial and that 12 participants responded to at least one treatment. Of the six participants who responded to treatment and were available for a 3-month follow-up, four continued to show treatment benefits. Regardless of which treatment came first, the first treatment usually had larger effects than the second treatment. Because aprosodia can cause miscommunication

with friends and family, effective treatments may improve quality of life for veterans with this condition.

A telerehabilitation approach to delivery of constraint-induced movement therapy

Peter S. Lum, PhD, et al.



We have developed AutoCITE, a computer workstation that delivers the training component of poststroke upper-limb constraint-induced (CI) therapy, better known as CI therapy, which can potentially be

used in the clinic or home without the need for direct supervision from a therapist. Our goal was to evaluate the effectiveness of AutoCITE training when participants were supervised remotely by a therapist who interacted only intermittently. Seven participants with chronic stroke trained with AutoCITE for 3 hours a day for 10 consecutive weekdays. The gains in motor ability and real-world function for participants treated using AutoCITE with remote supervision were comparable with the gains previously reported for participants who received an equal amount of directly supervised AutoCITE training or standard one-on-one CI therapy. Telerehabilitation of CI therapy would greatly decrease treatment costs and increase access for many patients.

Relationships between upper-limb functional limitation and self-reported disability 3 months after stroke

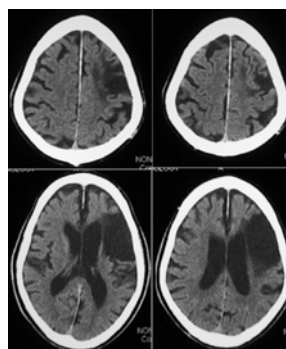
Alexander W. Dromerick, MD, et al.

We explored the relationship between upper-limb (UL) motor functional limitations and self-reported disability in a group of stroke patients with hemiparesis. Our goal was to evaluate the relationships among impairment,

functional limitation, and perceived disability assessments used in the Very Early Constraint Treatment for Recovery from Stroke clinical trial. Our results suggest that high scores on tests cannot be used as proxies for full recovery of everyday UL use on the affected side. Instead, they indicate that excellent motor recovery measured by functional limitation and impairment scales was not equivalent to restore everyday use. These findings help to further describe the relationship between measured components of UL motor function and self-reported UL use in real life.

Influence of intensive phonomotor rehabilitation on apraxia of speech

Diane L. Kendall, PhD, et al.



This rehabilitation study investigated the effects of an intensive phonomotor rehabilitation program on a 73-year-old male, 11 years poststroke, who exhibited apraxia of speech and aphasia. In the context of a single-subject design, research questions asked if treatment would improve phoneme production and generalize to repetition of multisyllabic words, words of increasing length, discourse, and measures of self-report. By the end of the treatment program, the subject could spontaneously produce 15/16 and 16/16 phonemes correctly, but treatment did not generalize to repetition of multisyllabic real words. Perceptual judgment of discourse production showed no difference in prosody, articulatory precision, and content or overall intelligibility. However, the subject was judged to speak at a slower rate with less effort, and with less naturalness posttreatment.