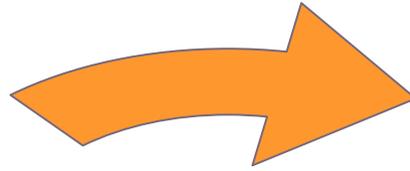
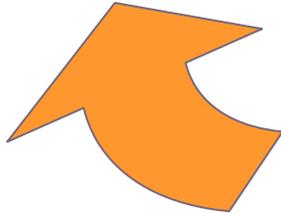


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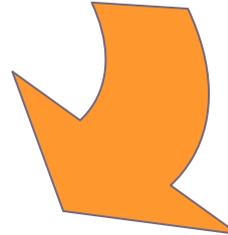
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SPEECH & LANGUAGE THERAPY UPDATE 6: SUMMER 2017



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Articles (January 2017 – JUNE 2017)

APHASIA

Cohesive and coherent connected speech deficits in mild stroke.

Author(s): Barker, Megan S.; Young, Breanne; Robinson, Gail A.

Source: Brain & Language; May 2017; vol. 168 ; p. 23-36

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28113106

Abstract:Spoken language production theories and lesion studies highlight several important prelinguistic conceptual preparation processes involved in the production of cohesive and coherent connected speech. Cohesion and coherence broadly connect sentences with preceding ideas and the overall topic. Broader cognitive mechanisms may mediate these processes. This study aims to investigate (1) whether stroke patients without aphasia exhibit impairments in cohesion and coherence in connected speech, and (2) the role of attention and executive functions in the production of connected speech. Eighteen stroke patients (8 right hemisphere stroke [RHS]; 6 left [LHS]) and 21 healthy controls completed two self-generated narrative tasks to elicit connected speech. A multi-level analysis of within and between-sentence processing ability was conducted. Cohesion and coherence impairments were found in the stroke group, particularly RHS patients, relative to controls. In the whole stroke group, better performance on the Hayling Test of executive function, which taps verbal initiation/suppression, was related to fewer propositional repetitions and global coherence errors. Better performance on attention tasks was related to fewer propositional repetitions, and decreased global coherence errors. In the RHS group, aspects of cohesive and coherent speech were associated with better performance on attention tasks. Better Hayling Test scores were related to more cohesive and coherent speech in RHS patients, and more coherent speech in LHS patients. Thus, we documented connected speech deficits in a heterogeneous stroke group without prominent aphasia. Our results suggest that broader cognitive processes may play a role in producing connected speech at the early conceptual preparation stage.

Database: CINAHL

Temporal acoustic measures distinguish primary progressive apraxia of speech from primary progressive aphasia.

Author(s): Duffy, Joseph R.; Hanley, Holly; Utianski, Rene; Clark, Heather; Strand, Edythe; Josephs, Keith A.; Whitwell, Jennifer L.

Source: Brain & Language; May 2017; vol. 168 ; p. 84-94

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28187331

Abstract:The purpose of this study was to determine if acoustic measures of duration and syllable rate during word and sentence repetition, and a measure of within-word lexical stress, distinguish speakers with primary progressive apraxia of speech (PPAOS) from nonapraxic speakers with the agrammatic or logopenic variants of primary progressive aphasia (PPA), and control speakers. Results revealed that the PPAOS group had longer durations and reduced rate of syllable production for most words and sentences, and the measure of lexical stress. Sensitivity and specificity indices

for the PPAOS versus the other groups were highest for longer multisyllabic words and sentences. For the PPAOS group, correlations between acoustic measures and perceptual ratings of AOS were moderately high to high. Several temporal measures used in this study may aid differential diagnosis and help quantify features of PPAOS that are distinct from those associated with PPA in which AOS is not present.

Database: CINAHL

Three- and four-dimensional mapping of speech and language in patients with epilepsy.

Author(s): Nakai, Yasuo; Jeong, Jeong-won; Brown, Erik C.; Rotherme, Robert; Kojima, Katsuaki; Kambara, Toshimune; Shah, Aashit; Mitta, Sandeep; Sood, Sandeep; Asano, Eishi; Rothermel, Robert; Mittal, Sandeep

Source: Brain: A Journal of Neurology; May 2017; vol. 140 (no. 5); p. 1351-1370

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28334963

Available in full text at [Brain](#) - from Highwire Press

Abstract:We have provided 3-D and 4D mapping of speech and language function based upon the results of direct cortical stimulation and event-related modulation of electrocorticography signals. Patients estimated to have right-hemispheric language dominance were excluded. Thus, 100 patients who underwent two-stage epilepsy surgery with chronic electrocorticography recording were studied. An older group consisted of 84 patients at least 10 years of age (7367 artefact-free non-epileptic electrodes), whereas a younger group included 16 children younger than age 10 (1438 electrodes). The probability of symptoms transiently induced by electrical stimulation was delineated on a 3D average surface image. The electrocorticography amplitude changes of high-gamma (70-110 Hz) and beta (15-30 Hz) activities during an auditory-naming task were animated on the average surface image in a 4D manner. Thereby, high-gamma augmentation and beta attenuation were treated as summary measures of cortical activation. Stimulation data indicated the causal relationship between (i) superior-temporal gyrus of either hemisphere and auditory hallucination; (ii) left superior-/middle-temporal gyri and receptive aphasia; (iii) widespread temporal/frontal lobe regions of the left hemisphere and expressive aphasia; and (iv) bilateral precentral/left posterior superior-frontal regions and speech arrest. On electrocorticography analysis, high-gamma augmentation involved the bilateral superior-temporal and precentral gyri immediately following question onset; at the same time, high-gamma activity was attenuated in the left orbitofrontal gyrus. High-gamma activity was augmented in the left temporal/frontal lobe regions, as well as left inferior-parietal and cingulate regions, maximally around question offset, with high-gamma augmentation in the left pars orbitalis inferior-frontal, middle-frontal, and inferior-parietal regions preceded by high-gamma attenuation in the contralateral homotopic regions. Immediately before verbal response, high-gamma augmentation involved the posterior superior-frontal and pre/postcentral regions, bilaterally. Beta-attenuation was spatially and temporally correlated with high-gamma augmentation in general but with exceptions. The younger and older groups shared similar spatial-temporal profiles of high-gamma and beta modulation; except, the younger group failed to show left-dominant activation in the rostral middle-frontal and pars orbitalis inferior-frontal regions around stimulus offset. The human brain may rapidly and alternately activate and deactivate cortical areas advantageous or obtrusive to function directed toward speech and language at a given moment. Increased left-dominant activation in the anterior frontal structures in the older age group may reflect developmental consolidation of the language system. The results of our functional mapping may be useful in predicting, across not only space but also time and patient age, sites specific to language function for presurgical evaluation of focal epilepsy. awx051media15361817553001.

Database: CINAHL

Intensive speech and language therapy in patients with chronic aphasia after stroke: a randomised, open-label, blinded-endpoint, controlled trial in a health-care setting.

Author(s): Breitenstein, Caterina; Ringelstein, E. Bernd; Thomas, Marion; Rocker, Roman; Wigbers, Franziska; Rühmkorf, Christina; Hempen, Indra; Willmes, Klaus; Abel, Stefanie; Glindemann, Ralf; Domahs, Frank; Regenbrecht, Frank; Obrig, Hellmuth; Schlenck, Klaus-Jürgen; de Langen, Ernst; Grewe, Tanja; Baumgaertner, Annette; List, Jonathan; Flöel, Agnes; Haeusler, Karl Georg

Source: Lancet; Apr 2017; vol. 389 (no. 10078); p. 1528-1538

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28256356

Abstract:Background: Treatment guidelines for aphasia recommend intensive speech and language therapy for chronic (≥ 6 months) aphasia after stroke, but large-scale, class 1 randomised controlled trials on treatment effectiveness are scarce. We aimed to examine whether 3 weeks of intensive speech and language therapy under routine clinical conditions improved verbal communication in daily-life situations in people with chronic aphasia after stroke.Methods: In this multicentre, parallel group, superiority, open-label, blinded-endpoint, randomised controlled trial, patients aged 70 years or younger with aphasia after stroke lasting for 6 months or more were recruited from 19 inpatient or outpatient rehabilitation centres in Germany. An external biostatistician used a computer-generated permuted block randomisation method, stratified by treatment centre, to randomly assign participants to either 3 weeks or more of intensive speech and language therapy (≥ 10 h per week) or 3 weeks deferral of intensive speech and language therapy. The primary endpoint was between-group difference in the change in verbal communication effectiveness in everyday life scenarios (Amsterdam-Nijmegen Everyday Language Test A-scale) from baseline to immediately after 3 weeks of treatment or treatment deferral. All analyses were done using the modified intention-to-treat population (those who received 1 day or more of intensive treatment or treatment deferral). This study is registered with ClinicalTrials.gov, number NCT01540383.Findings: We randomly assigned 158 patients between April 1, 2012, and May 31, 2014. The modified intention-to-treat population comprised 156 patients (78 per group). Verbal communication was significantly improved from baseline to after intensive speech and language treatment (mean difference 2.61 points [SD 4.94]; 95% CI 1.49 to 3.72), but not from baseline to after treatment deferral (-0.03 points [4.04]; -0.94 to 0.88; between-group difference Cohen's d 0.58; $p=0.0004$). Eight patients had adverse events during therapy or treatment deferral (one car accident [in the control group], two common cold [one patient per group], three gastrointestinal or cardiac symptoms [all intervention group], two recurrent stroke [one in intervention group before initiation of treatment, and one before group assignment had occurred]); all were unrelated to study participation.Interpretation: 3 weeks of intensive speech and language therapy significantly enhanced verbal communication in people aged 70 years or younger with chronic aphasia after stroke, providing an effective evidence-based treatment approach in this population. Future studies should examine the minimum treatment intensity required for meaningful treatment effects, and determine whether treatment effects cumulate over repeated intervention periods.Funding: German Federal Ministry of Education and Research and the German Society for Aphasia Research and Treatment.

Database: CINAHL

Verbal and musical short-term memory: Variety of auditory disorders after stroke.

Author(s): Hirel, Catherine; Nighoghossian, Norbert; Lévêque, Yohana; Hannoun, Salem; Fornoni, Lesly; Daligault, Sébastien; Bouchet, Patrick; Jung, Julien; Tillmann, Barbara; Caclin, Anne

Source: Brain & Cognition; Apr 2017; vol. 113 ; p. 10-22

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28088063

Abstract: Auditory cognitive deficits after stroke may concern language and/or music processing, resulting in aphasia and/or amusia. The aim of the present study was to assess the potential deficits of auditory short-term memory for verbal and musical material after stroke and their underlying cerebral correlates with a Voxel-based Lesion Symptom Mapping approach (VLSM). Patients with an ischemic stroke in the right (N=10) or left (N=10) middle cerebral artery territory and matched control participants (N=14) were tested with a detailed neuropsychological assessment including global cognitive functions, music perception and language tasks. All participants then performed verbal and musical auditory short-term memory (STM) tasks that were implemented in the same way for both materials. Participants had to indicate whether series of four words or four tones presented in pairs, were the same or different. To detect domain-general STM deficits, they also had to perform a visual STM task. Behavioral results showed that patients had lower performance for the STM tasks in comparison with control participants, regardless of the material (words, tones, visual) and the lesion side. The individual patient data showed a double dissociation between some patients exhibiting verbal deficits without musical deficits or the reverse. Exploratory VLSM analyses suggested that dorsal pathways are involved in verbal (phonetic), musical (melodic), and visual STM, while the ventral auditory pathway is involved in musical STM.

Database: CINAHL

Lesion localization of speech comprehension deficits in chronic aphasia.

Author(s): Pillay, Sara B.; Binder, Jeffrey R.; Humphries, Colin; Gross, William L.; Book, Diane S.

Source: Neurology; Mar 2017; vol. 88 (no. 10); p. 970-975

Publication Date: Mar 2017

Publication Type(s): Academic Journal

PubMedID: 28179469

Available in full text at [Neurology](#) - from Ovid

Abstract: Objective: Voxel-based lesion-symptom mapping (VLSM) was used to localize impairments specific to multiword (phrase and sentence) spoken language comprehension. Methods: Participants were 51 right-handed patients with chronic left hemisphere stroke. They performed an auditory description naming (ADN) task requiring comprehension of a verbal description, an auditory sentence comprehension (ASC) task, and a picture naming (PN) task. Lesions were mapped using high-resolution MRI. VLSM analyses identified the lesion correlates of ADN and ASC impairment, first with no control measures, then adding PN impairment as a covariate to control for cognitive and language processes not specific to spoken language. Results: ADN and ASC deficits were associated with lesions in a distributed frontal-temporal parietal language network. When PN impairment was included as a covariate, both ADN and ASC deficits were specifically correlated with damage localized to the mid-to-posterior portion of the middle temporal gyrus (MTG). Conclusions: Damage to the mid-to-posterior MTG is associated with an inability to integrate multiword utterances during comprehension of spoken language. Impairment of this integration process likely underlies the speech comprehension deficits characteristic of Wernicke aphasia.

Database: CINAHL

Subjective experience of inner speech in aphasia: Preliminary behavioral relationships and neural correlates.

Author(s): Fama, Mackenzie E.; Hayward, William; Snider, Sarah F.; Friedman, Rhonda B.; Turkeltaub, Peter E.

Source: Brain & Language; Jan 2017; vol. 164 ; p. 32-42

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27694017

Abstract: Many individuals with aphasia describe anomia with comments like "I know it but I can't say it." The exact meaning of such phrases is unclear. We hypothesize that at least two discrete experiences exist: the sense of (1) knowing a concept, but failing to find the right word, and (2) saying the correct word internally but not aloud (successful inner speech, sIS). We propose that sIS reflects successful lexical access; subsequent overt anomia indicates post-lexical output deficits. In this pilot study, we probed the subjective experience of anomia in 37 persons with aphasia. Self-reported sIS related to aphasia severity and phonological output deficits. In multivariate lesion-symptom mapping, sIS was associated with dorsal stream lesions, particularly in ventral sensorimotor cortex. These preliminary results suggest that people with aphasia can often provide meaningful insights about their experience of anomia and that reports of sIS relate to specific lesion locations and language deficits.

Database: CINAHL

[BRAIN INJURY/TRAUMA](#)

Distinct patterns of imprecise consonant articulation among Parkinson's disease, progressive supranuclear palsy and multiple system atrophy.

Author(s): Tykalova, Tereza; Rusz, Jan; Klempir, Jiri; Cmejla, Roman; Ruzicka, Evzen

Source: Brain & Language; Feb 2017; vol. 165 ; p. 1-9

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27894006

Abstract: Distinct speech characteristics that may aid in differentiation between Parkinson's disease (PD), progressive supranuclear palsy (PSP) and multiple system atrophy (MSA) remain tremendously under-explored. Here, the patterns and degree of consonant articulation deficits across voiced and voiceless stop plosives in 16 PD, 16 PSP, 16 MSA and 16 healthy control speakers were evaluated using acoustic and perceptual methods. Imprecise consonant articulation was observed across all Parkinsonian groups. Voice onset time of voiceless plosives was more prolonged in both PSP and MSA compared to PD, presumably due to greater severity of dysarthria and slower articulation rate. Voice onset time of voiced plosives was significantly shorter only in MSA, likely as a consequence of damage to cerebellar structures. In agreement with the reduction of pre-voicing, MSA manifested increased number of voiced plosives misclassified as voiceless at perceptual evaluation. Timing of articulatory movements may provide important clues about the pathophysiology of underlying disease.

Database: CINAHL

CANCER

Voice rehabilitation after laryngeal cancer: Associated effects on psychological well-being.

Author(s): Bergström, Liza; Ward, Elizabeth C; Finizia, Caterina

Source: Supportive Care in Cancer; Apr 2017; vol. 25

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 28365896

Abstract: Purpose: Psychological distress after laryngeal cancer treatment is prevalent. Although voice rehabilitation has shown to improve functional outcomes and positively affect health-related quality of life, to date, there has been limited study of the associated effect of behavioural voice intervention on psychological well-being/distress post laryngeal cancer. Method: Sixty-three patients with Tis-T4 laryngeal cancer treated with (chemo)radiotherapy were prospectively recruited and randomised to either a voice rehabilitation (VR, n = 31) or control group (n = 32). The VR group received 10 speech pathology sessions consisting of both direct and indirect voice intervention post (chemo)radiotherapy. The control group received general voice education but not specific intervention. As part of a multidisciplinary assessment battery, psychological well-being/distress was measured using the Hospital Anxiety and Depression Scale (HADS) pre, six and 12 months post VR. Results: Within-group analysis revealed a significant ($p = 0.03$) reduction in the proportion of patients with anxiety in the VR group between baseline and 12 months. No change over time was observed in controls. Between-group analysis revealed a trend for fewer VR cases demonstrating anxiety ($p = 0.06$) or depression ($p = 0.08$) at 6 months and significantly fewer demonstrating anxiety ($p = 0.04$) and depression ($p = 0.04$) at 12 months, compared to controls. Significant correlations were observed between patients' voice perceptions and reduced anxiety ($r_{pb} = -0.38$) and depression ($r_{pb} = -0.66$) within the VR group at 12 months. Conclusions: The positive correlations and between-group analyses indicate a positive effect on psychological well-being associated with completing voice rehabilitation. Results highlight potential additional benefits of behavioural voice intervention beyond achieving direct change to voice function.

Database: CINAHL

Device Life of the Tracheoesophageal Voice Prosthesis Revisited.

Author(s): Lewin, Jan S.; Baumgart, Leah M.; Barrow, Martha P.; Hutcheson, Katherine A.

Source: JAMA Otolaryngology-Head & Neck Surgery; Jan 2017; vol. 143 (no. 1); p. 65-71

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27684464

Available in full text at [JAMA otolaryngology-- head & neck surgery \[JAMA Otolaryngol Head Neck Surg\]](#) NLMUID: 101589542 - from EBSCOhost

Abstract: Importance: Voice prosthesis (VP) device life is a limiting factor of tracheoesophageal (TE) voice restoration that drives patient satisfaction, health care costs, and overall burden. Historic data suggest that TE VPs have an average device life of generally 3 to 6 months, but these data are typically derived from small samples using only 1 or 2 devices. Objective: To reexamine current device life in a large, contemporary cancer hospital in the United States that uses a wide assortment

of VPs. Design, Setting, and Participants: This retrospective observational study included 390 laryngectomized patients with a tracheoesophageal puncture (TEP) who had VP management at MD Anderson Cancer Center between July 1, 2003, and December 31, 2013. Main Outcomes and Measures: Tracheoesophageal voice-related outcomes were: (1) device life duration to VP removal, and (2) treatment-related and prosthetic-related factors influencing device failure. Primary independent variables included treatment history (extent of surgery and radiation history), VP type (indwelling vs nonindwelling, size, specialty features), and reason for removal (leakage, complication, other). Duration was examined using Kaplan-Meier analysis. Disease, treatment, and patient-specific factors were analyzed as predictors of duration. Results: Overall, 3648 VPs were placed in the 390 patients (median [range] age, 62 [34-92] years). Indwelling prostheses accounted for more than half (56%) of the devices placed (55%, 20-Fr diameter; 33%, 8-mm length). More than two-thirds (69%) of prostheses were removed because of leakage, while the rest were removed for other reasons. Median device life was 61 days for all prostheses. Indwelling and nonindwelling VPs had median device lives of 70 and 38 days, respectively. There was no significant difference between specialty prostheses compared with standard devices (median duration, 61 vs 70 days, respectively). The Provox ActiValve (Atos Medical) had the longest life. Neither radiation therapy nor extent of surgery had a meaningful impact on device life. Conclusions and Relevance: Our data suggest that VP duration demonstrates a lower durability than historically reported. This may reflect the intensification of treatment regimens that complicate TEP management in an era of organ preservation; however, further investigation is needed.

Database: CINAHL

DYSPHONIA

Effects of electrical stimulation on vocal functions in patients with nasopharyngeal carcinoma.

Author(s): Law, Thomas; Lee, Kathy Y.-S.; Wong, Rita W.M.; Leung, Yeptain; Ku, Peter K.M.; Wong, Eddy W.Y.; Li, Hok-Nam; Ng, Louisa K.Y.; van Hasselt, C. Andrew; Tong, Michael C.F.

Source: Laryngoscope; May 2017; vol. 127 (no. 5); p. 1119-1124

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27859286

Available in full text at [Laryngoscope, The](#) - from John Wiley and Sons

Abstract: Objectives/hypothesis: This study aimed to evaluate the effects of neuromuscular electrical stimulation (NMES) on vocal functions in patients with nasopharyngeal carcinoma following radiation therapy. Study Design: Prospective, randomized controlled trial. Methods: One hundred forty newly treated NPC patients were recruited and randomized into NMES or traditional swallowing exercise (TE) group. Participants received intensive NMES or traditional swallowing therapy and were followed up until 12 months postrandomization. Fifty-seven participants completed the treatment and all of the follow-up assessments. The Voice Handicap Index-30 (VHI-30) was used to measure the vocal functions of the participants. Results: The NMES group showed no significant changes to their vocal functions, whereas the TE group showed a short-term deterioration of voice functions at the 6-month follow-up. VHI-30 scores returned to the baseline level for both groups at the 12-month follow-up. Conclusions: NMES is shown to provide a short-term benefit on vocal functions for NPC patients following radiation therapy. Level Of Evidence: 1b Laryngoscope, 127:1119-1124, 2017.

Database: CINAHL

The use of injectable calcium hydroxylapatite in the surgically pretreated larynx with glottal insufficiency.

Author(s): Caffier, Philipp P.; I. Nasr, Ahmed; Weikert, Sebastian; Rummich, Julius; Gross, Manfred; Nawka, Tadeus

Source: Laryngoscope; May 2017; vol. 127 (no. 5); p. 1125-1130

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27578371

Available in full text at [Laryngoscope, The](#) - from John Wiley and Sons

Abstract:Objectives/hypothesis: To evaluate the efficacy of vocal fold (VF) augmentation with calcium hydroxylapatite (CaHA) microspheres in the surgically pretreated larynx with glottal insufficiency. Study Design: Prospective clinical pilot study. Methods: After several prior reconstructive attempts (following tumor resection, VF paralysis, in sulcus vocalis, and VF scarring), CaHA was injected under general anaesthesia using a transoral microlaryngoscopic approach in 10 patients with residual glottal insufficiency ≤ 1.5 mm. The postinterventional result was assessed after 1 day, and 1 and 3 months. Evaluation of augmentation comprised intraoperative video/photo documentation, pre-/postoperative videolaryngostroboscopy, as well as established subjective and objective voice function diagnostics (Grade, Roughness, Breathiness [GRB] Scale; Voice Handicap Index; voice range profile; and acoustic-aerodynamic analysis). Results: In the pretreated VF with no or minimal lamina propria remaining, the exact placement of CaHA was not possible due to unpredictable propagation into the scarred tissue. The results showed an insufficient postoperative augmentation. Accordingly, the voice function did not improve. However, a significant increase of the vocal range from 6.2 ± 3.2 to 8.7 ± 3.9 semitones was observed in the speaking voice profile ($P = .02$). All other acoustic and aerodynamic parameters remained on the whole unchanged; the slight differences between pre- and postoperative findings were not significant. Conclusions: The application of CaHA in the surgically pretreated scarred larynx is not reliable to achieve a sufficient glottal closure and a satisfactory improvement of voice. Though CaHA is a welcome addition to our armamentarium against glottal insufficiency, the suitability for augmentation of scar tissue in the larynx must be considered carefully in each individual case. Level Of Evidence: 4 Laryngoscope, 127:1125-1130, 2017.

Database: CINAHL

Sensory Topography of Oral Structures.

Author(s): Bearely, Shethal; Cheung, Steven W.

Source: JAMA Otolaryngology-Head & Neck Surgery; Jan 2017; vol. 143 (no. 1); p. 73-80

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27684535

Available in full text at [JAMA otolaryngology-- head & neck surgery \[JAMA Otolaryngol Head Neck Surg\]](#) NLMUID: 101589542 - from EBSCOhost

Abstract:Importance: Sensory function in the oral cavity and oropharynx is integral to effective deglutition and speech production. The main hurdle to evaluation of tactile consequences of upper aerodigestive tract diseases and treatments is access to a reliable clinical tool. We propose a rapid and reliable procedure to determine tactile thresholds using buckling monofilaments to advance

care. Objective: To develop novel sensory testing monofilaments and map tactile thresholds of oral cavity and oropharyngeal structures. Design, Setting, and Participants: A prospective cross-sectional study of 37 healthy adults (12 men, 25 women), specifically without a medical history of head and neck surgery, radiation, or chemotherapy, was carried out in an academic tertiary medical center to capture normative data on tactile sensory function in oral structures. Interventions: Cheung-Bearlly monofilaments were constructed by securing nylon monofilament sutures (2-0 through 9-0) in the lumen of 5-French ureteral catheters, exposing 20 mm for tapping action. Main Outcomes and Measures: Buckling force consistency was evaluated for 3 lots of each suture size. Sensory thresholds of 4 oral cavity and 2 oropharyngeal subsites in healthy participants (n = 37) were determined by classical signal detection methodology ($d\text{-prime} \geq 1$). In 21 participants, test-retest reliability of sensory thresholds was evaluated. Separately in 16 participants, sensory thresholds determined by a modified staircase method were cross-validated with those obtained by classical signal detection. Results: Buckling forces of successive suture sizes were distinct ($P < 0.7$). The lower lip, anterior tongue, and buccal mucosa were more sensitive than the soft palate, posterior tongue, and posterior pharyngeal wall ($P < .001$). Threshold determination by classical signal detection and modified staircase methods were highly correlated ($r = 0.93$, $P < .001$). Growth of perceptual intensity was logarithmically proportional to stimulus strength ($P < .01$). Conclusions and Relevance: Topography of normal oral cavity and oropharyngeal tactile sensation is organized in accordance to decreasing sensitivity along the anteroposterior trajectory and growth of perceptual intensity at all subsites is log-linear. Cheung-Bearlly monofilaments are accessible, disposable, and consistent esthesiometers. This novel clinical tool is deployable for quantitative sensory function assessment of oral cavity and oropharyngeal structures.

Database: CINAHL

Orofacial Contracture Management: Current Patterns of Clinical Practice in Australian and New Zealand Adult Burn Units.

Author(s): Clayton, Nicola A.; Ellul, Gulsen; Ward, Elizabeth C.; Ed, Grad Cert; Scott, Amanda; Maitz, Peter K.

Source: Journal of Burn Care & Research; Jan 2017; vol. 38 (no. 1)

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27359188

Abstract: Burn injury to the face can lead to scarring and contractures that may impair oral competence for articulation, feeding, airway intubation access, oral/dental hygiene, aesthetics, and facial expression. Although a range of therapy interventions has been discussed for preventing contracture formation, there is minimal information on current practice patterns. This research examined patterns of clinical practice for orofacial burns management during a 4-year period to determine the nature and extent of clinical consistency in current care. Allied health clinicians involved in orofacial contracture management in Australia and New Zealand were surveyed at two time points (2010 and 2014). Twenty and 23 clinicians, respectively, across a range of allied health professions completed the surveys. Both surveys revealed multiple allied health disciplines, predominantly occupational therapy, speech language pathology, and physiotherapy, were involved in orofacial burn management. A high degree of variation was observed across clinical practices in the 2010 survey. In the 2014 survey, although, greater consistency in practice patterns was observed with more clinicians commencing intervention earlier, with greater treatment intensity observed and more treatment modalities being used. Furthermore, in 2014, there was an increased use of assessment tools and clinical indicators to guide patient treatment. Agreement regarding clinical practice pathways for orofacial contracture rehabilitation is still emerging, and treatment continues

to be predominantly guided by clinical experience. There is an urgent need for treatment efficacy research utilizing validated outcome measure tools to inform clinical consensus and practice guidelines.

Database: CINAHL

[HYPOPLASIA](#)

Idiopathic hypoplasia of the masseter muscle: A case report.

Author(s): Cossellu, Gianguido; Farronato, Marco; Biagi, Roberto; Assandri, Fausto; Farronato, Giampietro; Cossellu, Gianguido Dds; Farronato, Marco Dds; Biagi, Roberto Md Dds; Assandri, Fausto Md Dds; Farronato, Giampietro Md Dds

Source: CRANIO: The Journal of Craniomandibular & Sleep Practice; May 2017; vol. 35 (no. 3); p. 192-196

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 27295586

Abstract:Objective and Importance: Hypoplasia of the masseter muscle is a rare condition, described as partial or total, associated with congenital malformations or pathologies. Rare cases are those with no genetic alterations in their familiar picture. The authors present a case of an idiopathic masseter muscle hypoplasia in the absence of other pathologies. Clinical Presentation: The case report involved a patient who presented to the consultant clinic complaining of facial asymmetry. The patient underwent several exams to confirm the diagnosis of masseter muscle hypoplasia, which included an X-ray, magnetic resonance of the temporomandibular articulation, and electromyography. Intervention: The patient was treated with a customized functional appliance and fixed orthodontic treatment with satisfactory functional and esthetic results. Conclusion: The case presented highlights the possibility of finding a hypoplasia of the masseter muscle even in the absence of other pathologies and without specific clinical symptoms, and how to plan an appropriate treatment with functional appliance and fixed orthodontic therapy.

Database: CINAHL

[PHONOLOGY](#)

Using transcranial magnetic stimulation of the undamaged brain to identify lesion sites that predict language outcome after stroke.

Author(s): Lorca-Puls, Diego L.; Gajardo-Vidal, Andrea; Seghier, Mohamed L.; Leff, Alexander P.; Sethi, Varun; Prejawa, Susan; Hope, Thomas M. H.; Devlin, Joseph T.; Price, Cathy J.

Source: Brain: A Journal of Neurology; Jun 2017; vol. 140 (no. 6); p. 1729-1742

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28430974

Available in full text at [Brain](#) - from Highwire Press

Abstract:Transcranial magnetic stimulation focused on either the left anterior supramarginal gyrus or opercular part of the left inferior frontal gyrus has been reported to transiently impair the ability to perform phonological more than semantic tasks. Here we tested whether phonological processing

abilities were also impaired following lesions to these regions in right-handed, English speaking adults, who were investigated at least 1 year after a left-hemisphere stroke. When our regions of interest were limited to 0.5 cm³ of grey matter centred around sites that had been identified with transcranial magnetic stimulation-based functional localization, phonological impairments were observed in 74% (40/54) of patients with damage to the regions and 21% (21/100) of patients sparing these regions. This classification accuracy was better than that observed when using regions of interest centred on activation sites in previous functional magnetic resonance imaging studies of phonological processing, or transcranial magnetic stimulation sites that did not use functional localization. New regions of interest were generated by redefining the borders of each of the transcranial magnetic stimulation sites to include areas that were consistently damaged in the patients with phonological impairments. This increased the incidence of phonological impairments in the presence of damage to 85% (46/54) and also reduced the incidence of phonological impairments in the absence of damage to 15% (15/100). The difference in phonological processing abilities between those with and without damage to these 'transcranial magnetic stimulation-guided' regions remained highly significant even after controlling for the effect of lesion size. The classification accuracy of the transcranial magnetic stimulation-guided regions was validated in a second sample of 108 patients and found to be better than that for (i) functional magnetic resonance imaging-guided regions; (ii) a region identified from an unguided lesion overlap map; and (iii) a region identified from voxel-based lesion-symptom mapping. Finally, consistent with prior findings from functional imaging and transcranial magnetic stimulation in healthy participants, we show how damage to our transcranial magnetic stimulation-guided regions affected performance on phonologically more than semantically demanding tasks. The observation that phonological processing abilities were impaired years after the stroke, suggests that other brain regions were not able to fully compensate for the contribution that the transcranial magnetic stimulation-guided regions make to language tasks. More generally, our novel transcranial magnetic stimulation-guided lesion-deficit mapping approach shows how non-invasive stimulation of the healthy brain can be used to guide the identification of regions where brain damage is likely to cause persistent behavioural effects.

Database: CINAHL

Some Neurocognitive Correlates of Noise-Vocoded Speech Perception in Children With Normal Hearing: A Replication and Extension of).

Author(s): Roman, Adrienne S.; Pisoni, David B.; Kronenberger, William G.; Faulkner, Kathleen F.

Source: Ear & Hearing (01960202); May 2017; vol. 38 (no. 3); p. 344-356

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28045787

Abstract: Objectives: Noise-vocoded speech is a valuable research tool for testing experimental hypotheses about the effects of spectral degradation on speech recognition in adults with normal hearing (NH). However, very little research has utilized noise-vocoded speech with children with NH. Earlier studies with children with NH focused primarily on the amount of spectral information needed for speech recognition without assessing the contribution of neurocognitive processes to speech perception and spoken word recognition. In this study, we first replicated the seminal findings reported by) who investigated effects of lexical density and word frequency on noise-vocoded speech perception in a small group of children with NH. We then extended the research to investigate relations between noise-vocoded speech recognition abilities and five neurocognitive measures: auditory attention (AA) and response set, talker discrimination, and verbal and nonverbal short-term working memory. Design: Thirty-one children with NH between 5 and 13 years of age were assessed on their ability to perceive lexically controlled words in isolation and in sentences that

were noise-vocoded to four spectral channels. Children were also administered vocabulary assessments (Peabody Picture Vocabulary test-4th Edition and Expressive Vocabulary test-2nd Edition) and measures of AA (NEPSY AA and response set and a talker discrimination task) and short-term memory (visual digit and symbol spans). Results: Consistent with the findings reported in the original) study, we found that children perceived noise-vocoded lexically easy words better than lexically hard words. Words in sentences were also recognized better than the same words presented in isolation. No significant correlations were observed between noise-vocoded speech recognition scores and the Peabody Picture Vocabulary test-4th Edition using language quotients to control for age effects. However, children who scored higher on the Expressive Vocabulary test-2nd Edition recognized lexically easy words better than lexically hard words in sentences. Older children perceived noise-vocoded speech better than younger children. Finally, we found that measures of AA and short-term memory capacity were significantly correlated with a child's ability to perceive noise-vocoded isolated words and sentences. Conclusions: First, we successfully replicated the major findings from the) study. Because familiarity, phonological distinctiveness and lexical competition affect word recognition, these findings provide additional support for the proposal that several foundational elementary neurocognitive processes underlie the perception of spectrally degraded speech. Second, we found strong and significant correlations between performance on neurocognitive measures and children's ability to recognize words and sentences noise-vocoded to four spectral channels. These findings extend earlier research suggesting that perception of spectrally degraded speech reflects early peripheral auditory processes, as well as additional contributions of executive function, specifically, selective attention and short-term memory processes in spoken word recognition. The present findings suggest that AA and short-term memory support robust spoken word recognition in children with NH even under compromised and challenging listening conditions. These results are relevant to research carried out with listeners who have hearing loss, because they are routinely required to encode, process, and understand spectrally degraded acoustic signals.

Database: CINAHL

The Effect of Interaural Mismatches on Contralateral Unmasking With Single-Sided Vocoders.

Author(s): Wess, Jessica M.; Brungart, Douglas S.; Bernstein, Joshua G. W.

Source: Ear & Hearing (01960202); May 2017; vol. 38 (no. 3); p. 374-386

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28002083

Abstract: Objectives: Cochlear-implant (CI) users with single-sided deafness (SSD)-that is, one normal-hearing (NH) ear and one CI ear-can obtain some unmasking benefits when a mixture of target and masking voices is presented to the NH ear and a copy of just the masking voices is presented to the CI ear. NH listeners show similar benefits in a simulation of SSD-CI listening, whereby a mixture of target and masking voices is presented to one ear and a vocoded copy of the masking voices is presented to the opposite ear. However, the magnitude of the benefit for SSD-CI listeners is highly variable across individuals and is on average less than for NH listeners presented with vocoded stimuli. One possible explanation for the limited benefit observed for some SSD-CI users is that temporal and spectral discrepancies between the acoustic and electric ears might interfere with contralateral unmasking. The present study presented vocoder simulations to NH participants to examine the effects of interaural temporal and spectral mismatches on contralateral unmasking. Design: Speech-reception performance was measured in a competing-talker paradigm for NH listeners presented with vocoder simulations of SSD-CI listening. In the monaural condition, listeners identified target speech masked by two same-gender interferers, presented to the left ear. In the bilateral condition, the same stimuli were presented to the left ear, but the right ear was

presented with a noise-vocoded copy of the interfering voices. This paradigm tested whether listeners could integrate the interfering voices across the ears to better hear the monaural target. Three common distortions inherent in CI processing were introduced to the vocoder processing: spectral shifts, temporal delays, and reduced frequency selectivity. Results: In experiment 1, contralateral unmasking (i.e., the benefit from adding the vocoded maskers to the second ear) was impaired by spectral mismatches of four equivalent rectangular bandwidths or greater. This is equivalent to roughly a 3.6-mm mismatch between the cochlear places stimulated in the electric and acoustic ears, which is on the low end of the average expected mismatch for SSD-CI listeners. In experiment 2, performance was negatively affected by a temporal mismatch of 24 ms or greater, but not for mismatches in the 0 to 12 ms range expected for SSD-CI listeners. Experiment 3 showed an interaction between spectral shift and spectral resolution, with less effect of interaural spectral mismatches when the number of vocoder channels was reduced. Experiment 4 applied interaural spectral and temporal mismatches in combination. Performance was best when both frequency and timing were aligned, but in cases where a mismatch was present in one dimension (either frequency or latency), the addition of mismatch in the second dimension did not further disrupt performance. Conclusions: These results emphasize the need for interaural alignment-in timing and especially in frequency-to maximize contralateral unmasking for NH listeners presented with vocoder simulations of SSD-CI listening. Improved processing strategies that reduce mismatch between the electric and acoustic ears of SSD-CI listeners might improve their ability to obtain binaural benefits in multitalker environments.

Database: CINAHL

Effect of Context and Hearing Loss on Time-Gated Word Recognition in Children.

Author(s): Lewis, Dawna; Kopun, Judy; McCreery, Ryan; Brennan, Marc; Nishi, Kanae; Cordrey, Evan; Stelmachowicz, Pat; Moeller, Mary Pat

Source: Ear & Hearing (01960202); May 2017; vol. 38 (no. 3)

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28045838

Abstract: Objectives: The purpose of this study was to examine word recognition in children who are hard of hearing (CHH) and children with normal hearing (CNH) in response to time-gated words presented in high- versus low-predictability sentences (HP, LP), where semantic cues were manipulated. Findings inform our understanding of how CHH combine cognitive-linguistic and acoustic-phonetic cues to support spoken word recognition. It was hypothesized that both groups of children would be able to make use of linguistic cues provided by HP sentences to support word recognition. CHH were expected to require greater acoustic information (more gates) than CNH to correctly identify words in the LP condition. In addition, it was hypothesized that error patterns would differ across groups. Design: Sixteen CHH with mild to moderate hearing loss and 16 age-matched CNH participated (5 to 12 years). Test stimuli included 15 LP and 15 HP age-appropriate sentences. The final word of each sentence was divided into segments and recombined with the sentence frame to create series of sentences in which the final word was progressively longer by the gated increments. Stimuli were presented monaurally through headphones and children were asked to identify the target word at each successive gate. They also were asked to rate their confidence in their word choice using a five- or three-point scale. For CHH, the signals were processed through a hearing aid simulator. Standardized language measures were used to assess the contribution of linguistic skills. Results: Analysis of language measures revealed that the CNH and CHH performed within the average range on language abilities. Both groups correctly recognized a significantly higher percentage of words in the HP condition than in the LP condition. Although CHH performed comparably with CNH in terms of successfully recognizing the majority of words, differences were

observed in the amount of acoustic-phonetic information needed to achieve accurate word recognition. CHH needed more gates than CNH to identify words in the LP condition. CNH were significantly lower in rating their confidence in the LP condition than in the HP condition. CHH, however, were not significantly different in confidence between the conditions. Error patterns for incorrect word responses across gates and predictability varied depending on hearing status. Conclusions: The results of this study suggest that CHH with age-appropriate language abilities took advantage of context cues in the HP sentences to guide word recognition in a manner similar to CNH. However, in the LP condition, they required more acoustic information (more gates) than CNH for word recognition. Differences in the structure of incorrect word responses and their nomination patterns across gates for CHH compared with their peers with NH suggest variations in how these groups use limited acoustic information to select word candidates.

Database: CINAHL

A randomized controlled trial to influence client language in substance use disorder treatment.

Author(s): Moyers, Theresa B.; Houck, Jon; Glynn, Lisa H.; Hallgren, Kevin A.; Manuel, Jennifer K.

Source: Drug & Alcohol Dependence; Mar 2017; vol. 172 ; p. 43-50

Publication Date: Mar 2017

Publication Type(s): Academic Journal

PubMedID: 28122270

Abstract:Background: Client language is hypothesized to be a mechanism of action in motivational interviewing (MI). Despite the association of change and sustain talk with substance treatment outcomes, it not known whether providers can intentionally influence this language as hypothesized.Objective: This is a randomized controlled trial to investigate whether substance use providers can be trained to influence client language.Methods: Treatment providers specializing in substance use disorders (n=190) were randomly assigned to standard training in MI (MI-AU) or training emphasizing an influence of client language (MI-LEAF). Treatment sessions with actual clients were evaluated 3, 6 and 12 months after training by masked raters. Frequencies of client change and sustain talk were the outcome variables.Results: Sustain talk, but not change talk, was significantly lower in clients whose providers had received the specialized training (b=-0.175, SE=0.087, p=0.046, CI[-0.348 to 0.002], d=-0.325). Mediation analyses supported a causal chain between a) training, b) providers' attempts to minimize sustain talk in treatment sessions via directive reflective listening and c) client sustain talk in the treatment session ($\kappa^2=0.0833$, bootstrap SE=0.0394, 95% CI [0.0148, 0.1691]).Conclusions: With specialized training, providers can reduce the amount of opposition language their clients offer when considering a change in their substance use. Demonstrating that client language is under partial control of the provider supports the feasibility of clinical trials to investigate the impact of shaping client language on treatment outcomes.

Database: CINAHL

Voice-sensitive brain networks encode talker-specific phonetic detail.

Author(s): Myers, Emily B.; Theodore, Rachel M.

Source: Brain & Language; Feb 2017; vol. 165 ; p. 33-44

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27898342

Abstract:The speech stream simultaneously carries information about talker identity and linguistic content, and the same acoustic property (e.g., voice-onset-time, or VOT) may be used for both purposes. Separable neural networks for processing talker identity and phonetic content have been identified, but it is unclear how a singular acoustic property is parsed by the neural system for talker identification versus phonetic processing. In the current study, listeners were exposed to two talkers with characteristically different VOTs. Subsequently, brain activation was measured using fMRI as listeners performed a phonetic categorization task on these stimuli. Right temporoparietal regions previously implicated in talker identification showed sensitivity to the match between VOT variant and talker, whereas left posterior temporal regions showed sensitivity to the typicality of phonetic exemplars, regardless of talker typicality. Taken together, these results suggest that neural systems for voice recognition capture talker-specific phonetic variation.

Database: CINAHL

Response to Name in Infants Developing Autism Spectrum Disorder: A Prospective Study.

Author(s): Miller, Meghan; Iosif, Ana-Maria; Hill, Monique; Young, Gregory S; Schwichtenberg, A J; Ozonoff, Sally

Source: Journal of Pediatrics; Feb 2017; vol. 181

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28162768

Abstract:Objective: To examine longitudinal patterns of response to name from 6-24 months of age in infants at high and low risk for autism spectrum disorder (ASD). Study Design: A response to name task was tested at 6, 9, 12, 15, 18, and 24 months of age in 156 infant siblings of children with ASD (high-risk) or typical development (low-risk). At 36 months of age, participants were classified into 1 of 3 outcome groups: group with ASD (n = 20), high-risk group without ASD (n = 76), or low-risk group without ASD (n = 60). Differences in longitudinal performance were assessed using generalized estimating equations, and sensitivity and specificity for identifying ASD were calculated. Differences in age 36-month functioning were examined between infants who developed ASD and repeatedly vs infrequently failed to respond to name. Results: At 9 months of age, infants developing ASD were more likely to fail to orient to their names, persisting through 24 months. Sensitivity/specificity for identifying ASD based on at least 1 failure between 12 and 24 months were estimated at .70 in this sample. One-half of the infants who developed ASD had repeated failures in this timeframe, and demonstrated lower age 36-month receptive language, and earlier diagnosis of ASD than infants with ASD who had infrequent failures. Conclusions: In addition to recommended routine broad-based and ASD-specific screening, response to name should be regularly monitored in infants at risk for ASD. Infants who consistently fail to respond to their names in the second year of life may be at risk not only for ASD but also for greater impairment by age 3 years.

Database: CINAHL

The hearing ear is always found close to the speaking tongue: Review of the role of the motor system in speech perception.

Author(s): Skipper, Jeremy I.; Devlin, Joseph T.; Lametti, Daniel R.

Source: Brain & Language; Jan 2017; vol. 164 ; p. 77-105

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27821280

Abstract: Does "the motor system" play "a role" in speech perception? If so, where, how, and when? We conducted a systematic review that addresses these questions using both qualitative and quantitative methods. The qualitative review of behavioural, computational modelling, non-human animal, brain damage/disorder, electrical stimulation/recording, and neuroimaging research suggests that distributed brain regions involved in producing speech play specific, dynamic, and contextually determined roles in speech perception. The quantitative review employed region and network based neuroimaging meta-analyses and a novel text mining method to describe relative contributions of nodes in distributed brain networks. Supporting the qualitative review, results show a specific functional correspondence between regions involved in non-linguistic movement of the articulators, covertly and overtly producing speech, and the perception of both nonword and word sounds. This distributed set of cortical and subcortical speech production regions are ubiquitously active and form multiple networks whose topologies dynamically change with listening context. Results are inconsistent with motor and acoustic only models of speech perception and classical and contemporary dual-stream models of the organization of language and the brain. Instead, results are more consistent with complex network models in which multiple speech production related networks and subnetworks dynamically self-organize to constrain interpretation of indeterminate acoustic patterns as listening context requires.

Database: CINAHL

Using principal component analysis to capture individual differences within a unified neuropsychological model of chronic post-stroke aphasia: Revealing the unique neural correlates of speech fluency, phonology and semantics.

Author(s): Halai, Ajay D; Woollams, Anna M; Lambon Ralph, Matthew A

Source: Cortex: A Journal Devoted to the Study of the Nervous System & Behavior; Jan 2017; vol. 86 ; p. 275-289

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27216359

Abstract: Individual differences in the performance profiles of neuropsychologically-impaired patients are pervasive yet there is still no resolution on the best way to model and account for the variation in their behavioural impairments and the associated neural correlates. To date, researchers have generally taken one of three different approaches: a single-case study methodology in which each case is considered separately; a case-series design in which all individual patients from a small coherent group are examined and directly compared; or, group studies, in which a sample of cases are investigated as one group with the assumption that they are drawn from a homogenous category and that performance differences are of no interest. In recent research, we have developed a complementary alternative through the use of principal component analysis (PCA) of individual data from large patient cohorts. This data-driven approach not only generates a single unified model for the group as a whole (expressed in terms of the emergent principal components) but is also able to capture the individual differences between patients (in terms of their relative positions along the principal behavioural axes). We demonstrate the use of this approach by considering speech fluency, phonology and semantics in aphasia diagnosis and classification, as well as their unique neural correlates. PCA of the behavioural data from 31 patients with chronic post-stroke aphasia resulted in four statistically-independent behavioural components reflecting phonological, semantic, executive-cognitive and fluency abilities. Even after accounting for lesion volume, entering the four behavioural components simultaneously into a voxel-based correlational methodology (VBCM) analysis revealed that speech fluency (speech quanta) was uniquely correlated with left motor

cortex and underlying white matter (including the anterior section of the arcuate fasciculus and the frontal aslant tract), phonological skills with regions in the superior temporal gyrus and pars opercularis, and semantics with the anterior temporal stem.

Database: CINAHL

SWALLOWING

Implementing the Free Water Protocol does not Result in Aspiration Pneumonia in Carefully Selected Patients with Dysphagia: A Systematic Review.

Author(s): Gillman, Anna; Winkler, Renata; Taylor, Nicholas; Taylor, Nicholas F

Source: Dysphagia (0179051X); Jun 2017; vol. 32 (no. 3); p. 345-361

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 27878598

Abstract:The Frazier Free Water Protocol was developed with the aim of providing patients with dysphagia an option to consume thin (i.e. unthickened) water in-between mealtimes. A systematic review was conducted of research published in peer-reviewed journals. An electronic search of the EMBASE, CINAHL and MEDLINE databases was completed up to July 2016. A total of 8 studies were identified for inclusion: 5 randomised controlled trials, 2 cohort studies with matched cases and 1 single group pre-post intervention prospective study. A total of 215 rehabilitation inpatients and 30 acute patients with oropharyngeal dysphagia who required thickened fluids or were to remain 'nil by mouth', as determined by bedside swallow assessment and/or videofluoroscopy/fiberoptic endoscopic evaluation of swallowing, were included. Meta-analyses of the data from the rehabilitation studies revealed (1) low-quality evidence that implementing the protocol did not result in increased odds of having lung complications and (2) low-quality evidence that fluid intake may increase. Patients' perceptions of swallow-related quality of life appeared to improve. This review has found that when the protocol is closely adhered to and patients are carefully selected using strict exclusion criteria, including an evaluation of their cognition and mobility, adult rehabilitation inpatients with dysphagia to thin fluids can be offered the choice of implementing the Free Water Protocol. Further research is required to determine if the Free Water Protocol can be implemented in settings other than inpatient rehabilitation.

Database: CINAHL

Early rehabilitation after stroke.

Author(s): Bernhardt, Julie; Godecke, Erin; Johnson, Liam; Langhorne, Peter

Source: Current Opinion in Neurology; Feb 2017; vol. 30 (no. 1); p. 48-54

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27845945

Abstract:Purpose Of Review: Early rehabilitation is recommended in many guidelines, with limited evidence to guide practice. Brain neurobiology suggests that early training, at the right dose, will aid recovery. In this review, we highlight recent trials of early mobilization, aphasia, dysphagia and upper limb treatment in which intervention is commenced within 7 days of stroke and discuss future research directions. Recent Findings: Trials in this early time window are few. Although the seminal AVERT trial suggests that a cautious approach is necessary immediately (<24 h) after stroke, early

mobility training and mobilization appear well tolerated, with few reasons to delay initiating some rehabilitation within the first week. The results of large clinical trials of early aphasia therapy are on the horizon, and examples of targeted upper limb treatments with better patient selection are emerging. Summary: Early rehabilitation trials are complex, particularly those that intervene across acute and rehabilitation care settings, but these trials are important if we are to optimize recovery potential in the critical window for repair. Concerted efforts to standardize 'early' recruitment, appropriately stratify participants and implement longer term follow-up is needed. Trial standards are improving. New recommendations from a recent Stroke Recovery and Rehabilitation Roundtable will help drive new research.

Database: CINAHL

Intensive swallowing and orofacial contracture rehabilitation after severe burn: A pilot study and literature review.

Author(s): Clayton, Nicola A.; Ward, Elizabeth C.; Maitz, Peter K.

Source: Burns (03054179); Feb 2017; vol. 43 (no. 1)

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 27575671

Abstract: Background: Dysphagia following severe burns can be significant and protracted, yet there is little evidence describing the rehabilitation principles, process or outcomes. Purpose: Outline current evidence and detail the clinical outcomes of two cases who underwent a multifaceted intensive treatment programme aimed at rehabilitating dysphagia by strengthening swallow function and minimising orofacial contractures after severe head and neck burns. Methods: Two men (54 and 18 years) with full-thickness head and neck burns and inhalation injury underwent intensive orofacial scar management and dysphagia rehabilitation. Therapy was prescribed, consisting of scar stretching, splinting and pharyngeal swallow tasks. Horizontal and vertical range of movement (HROM; VROM), physiological swallow features, functional swallowing outcomes and related distress, were collected at baseline and routinely until dysphagia resolution and scar stabilisation. Results: At presentation, both cases demonstrated severely reduced HROM and VROM, profound dysphagia and moderate dysphagia related distress. Therapy adherence was high. Resolution of dysphagia to full oral diet, nil physiological swallowing impairment, and nil dysphagia related distress was achieved by 222 and 77 days post injury respectively. VROM and HROM achieved normal range by 237 and 204 days. Conclusion: Active rehabilitation achieved full functional outcomes for swallowing and orofacial range of movement. A protracted duration of therapy can be anticipated in this complex population.

Database: CINAHL

OTHER

Activity associated with speech articulation measured through direct cortical recordings.

Author(s): Basilakos, Alexandra; Fridriksson, Julius; Rorden, Chris; Behroozmand, Roozbeh; Hanayik, Taylor; Naselaris, Thomas; Gaizo, John Del; Breedlove, Jesse; IIVandergrift, W.A.; Bonilha, Leonardo; Vandergrift, W A 3rd

Source: Brain & Language; Jun 2017; vol. 169 ; p. 1-7

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28236761

Abstract:The insula has been credited with a role in a number of functions, including speech production. Here, we recorded electrocorticography (ECoG) signals from the left insula during pseudoword articulation in two patients undergoing pre-surgical monitoring for the management of medically-intractable epilepsy. Event-related band power (ERBP) activity from electrodes implanted in the superior precentral gyrus of the insula (SPGI) was compared to that of other left hemisphere regions implicated in speech production. Results showed that SPGI contacts demonstrated significantly greater ERBP within the high-gamma frequency range (75-150Hz) during articulation compared to a listening condition. However, frontal and post-central regions demonstrated significantly greater responses to the articulation task compared to the SPGI. Results suggest the SPGI is active during articulation, but frontal and post-central regions demonstrate significantly more robust responses. Given the small sample size, and number of electrodes implanted in the SPGI, further study is warranted to confirm these findings.

Database: CINAHL

Right hemisphere structural adaptation and changing language skills years after left hemisphere stroke.

Author(s): Hope, Thomas M. H.; Leff, Alex P.; Prejawa, Susan; Bruce, Rachel; Haigh, Zula; Louise Lim; Ramsden, Sue; Oberhuber, Marion; Ludersdorfer, Philipp; Crinion, Jenny; Seghier, Mohamed L.; Price, Cathy J.; Lim, Louise

Source: Brain: A Journal of Neurology; Jun 2017; vol. 140 (no. 6); p. 1718-1728

Publication Date: Jun 2017

Publication Type(s): Academic Journal

PubMedID: 28444235

Available in full text at [Brain](#) - from Highwire Press

Abstract:Stroke survivors with acquired language deficits are commonly thought to reach a 'plateau' within a year of stroke onset, after which their residual language skills will remain stable. Nevertheless, there have been reports of patients who appear to recover over years. Here, we analysed longitudinal change in 28 left-hemisphere stroke patients, each more than a year post-stroke when first assessed-testing each patient's spoken object naming skills and acquiring structural brain scans twice. Some of the patients appeared to improve over time while others declined; both directions of change were associated with, and predictable given, structural adaptation in the intact right hemisphere of the brain. Contrary to the prevailing view that these patients' language skills are stable, these results imply that real change continues over years. The strongest brain-behaviour associations (the 'peak clusters') were in the anterior temporal lobe and the precentral gyrus. Using functional magnetic resonance imaging, we confirmed that both regions are actively involved when neurologically normal control subjects name visually presented objects, but neither appeared to be involved when the same participants used a finger press to make semantic association decisions on the same stimuli. This suggests that these regions serve word-retrieval or articulatory functions in the undamaged brain. We teased these interpretations apart by reference to change in other tasks. Consistent with the claim that the real change is occurring here, change in spoken object naming was correlated with change in two other similar tasks, spoken action naming and written object naming, each of which was independently associated with structural adaptation in similar (overlapping) right hemisphere regions. Change in written object naming, which requires word-retrieval but not articulation, was also significantly more correlated with both (i) change in spoken object naming; and (ii) structural adaptation in the two peak clusters, than was change in another

task-auditory word repetition-which requires articulation but not word retrieval. This suggests that the changes in spoken object naming reflected variation at the level of word-retrieval processes. Surprisingly, given their qualitatively similar activation profiles, hypertrophy in the anterior temporal region was associated with improving behaviour, while hypertrophy in the precentral gyrus was associated with declining behaviour. We predict that either or both of these regions might be fruitful targets for neural stimulation studies (suppressing the precentral region and/or enhancing the anterior temporal region), aiming to encourage recovery or arrest decline even years after stroke occurs.

Database: CINAHL

Transgender Phonosurgery: A Systematic Review and Meta-analysis.

Author(s): Song, Tara Elena; Jiang, Nancy

Source: Otolaryngology-Head & Neck Surgery; May 2017; vol. 156 (no. 5); p. 803-808

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28349733

Abstract: Objectives Different surgical techniques have been described in the literature to increase vocal pitch. The purpose of this study is to systematically review these surgeries and perform a meta-analysis to determine which technique increases pitch the most. Data Sources CINAHL, Cochrane, Embase, Medline, PubMed, and Science Direct. Review Methods A systematic review and meta-analysis of the literature was performed using the CINAHL, Cochrane, Embase, Medline, PubMed, and Science Direct databases. Studies were eligible for inclusion if they evaluated pitch-elevating phonosurgical techniques in live humans and performed pre- and postoperative acoustic analysis. Data were gathered regarding surgical technique, pre- and postoperative fundamental frequencies, perioperative care measures, and complications. Results Twenty-nine studies were identified. After applying inclusion and exclusion criteria, a total of 13 studies were included in the meta-analysis. Mechanisms of pitch elevation included increasing vocal cord tension (cricothyroid approximation), shortening the vocal cord length (cold knife glottoplasty, laser-shortening glottoplasty), and decreasing mass (laser reduction glottoplasty). The most common interventions were shortening techniques and cricothyroid approximation (6 studies each). The largest increase in fundamental frequency was seen with techniques that shortened the vocal cords. Preoperative speech therapy, postoperative voice rest, and reporting of patient satisfaction were inconsistent. Many of the studies were limited by low power and short length of follow-up. Conclusions Multiple techniques for elevation of vocal pitch exist, but vocal cord shortening procedures appear to result in the largest increase in fundamental frequency.

Database: CINAHL

Reorganization of brain function after a short-term behavioral intervention for stuttering.

Author(s): Lu, Chunming; Zheng, Lifen; Long, Yuhang; Yan, Qian; Ding, Guosheng; Liu, Li; Peng, Danling; Howell, Peter

Source: Brain & Language; May 2017; vol. 168 ; p. 12-22

Publication Date: May 2017

Publication Type(s): Academic Journal

PubMedID: 28113105

Abstract: This study investigated changes in brain function that occurred over a 7-day behavioral intervention for adults who stutter (AWS). Thirteen AWS received the intervention (AWS+), and 13 AWS did not receive the intervention (AWS-). There were 13 fluent controls (FC-). All participants were scanned before and after the intervention. Whole-brain analysis pre-intervention showed significant differences in task-related brain activation between AWS and FC- in the right inferior frontal cortex (IFC) and left middle temporal cortex, but there were no differences between the two AWS groups. Across the 7-day period of the intervention, AWS+ alone showed a significant increase of brain activation in the left ventral IFC/insula. There were no changes in brain function for the other two groups. Further analysis revealed that the change did not correlate with resting-state functional connectivity (RSFC) that AWS showed in the cerebellum (Lu et al., 2012). However, both changes in task-related brain function and RSFC correlated with changes in speech fluency level. Together, these findings suggest that functional reorganization in a brain region close to the left IFC that shows anomalous function in AWS, occurs after a short-term behavioral intervention for stuttering.

Database: CINAHL

Perceptual analysis of the male-to-female transgender voice after glottoplasty-the telephone test.

Author(s): Meister, Jonas; Kühn, Heike; Shehata-Dieler, Wafaa; Hagen, Rudolf; Kleinsasser, Norbert

Source: *Laryngoscope*; Apr 2017; vol. 127 (no. 4); p. 875-881

Publication Date: Apr 2017

Publication Type(s): Academic Journal

PubMedID: 27334765

Available in full text at [Laryngoscope, The](#) - from John Wiley and Sons

Abstract: Objectives/hypothesis: The aim of this investigation was to quantify gender perception in telephone communication as a situation of everyday life. Study Design: Matched control study. Methods: Speech samples were recorded of 18 male to female (MtF) after Wendler's glottoplasty, 18 male, and 18 female persons. After adaption of the frequency to the limited frequency transmission on the telephone (300-3,400 Hz), the speech samples were judged by 50 male and 50 female listeners. Parameters were the decision "male" or "female" and the decision time. The formant frequencies F1 to F3 for the vowel /a/ were extracted and compared between the speaker groups. Results: There were 7/18 MtF perceived as female by the majority of listeners. A correlation between fundamental frequency and perceptions as female could be shown. The decision time needed was longer for MtF than for male or female speakers. Female listeners decided significantly faster than male listeners. Female listeners perceived the MtF more often as male speaker. For the MtF, the perception as female correlated with their individual voice satisfaction. Comparing the formant frequencies of male and MtF speakers, F2 was higher for MtF. Regarding female and MtF speakers, F1 and F2 were significantly lower for MtF speakers. Conclusions: Using the telephone test, MtF individuals misperceived as male can be identified even if they reached a vocal pitch in the female frequency range. The strong correlation of the perceptions as female in the telephone test and the personal satisfaction shows the power of this instrument for evaluation of therapy success. It should be utilized to compare different techniques of gender voice surgery. Level Of Evidence: NA *Laryngoscope*, 127:875-881, 2017.

Database: CINAHL

Factors Influencing Likelihood of Voice Therapy Attendance.

Author(s): Misono, Stephanie; Marmor, Schelomo; Roy, Nelson; Mau, Ted; Cohen, Seth M.

Source: Otolaryngology-Head & Neck Surgery; Mar 2017; vol. 156 (no. 3); p. 518-524

Publication Date: Mar 2017

Publication Type(s): Academic Journal

PubMedID: 27879417

Abstract:Objective To identify factors associated with the likelihood of attending voice therapy among patients referred for it in the CHEER (Creating Healthcare Excellence through Education and Research) practice-based research network infrastructure. Study Design Prospectively enrolled cross-sectional study. Setting CHEER network of community and academic sites. Methods Data were collected on patient-reported demographics, voice-related diagnoses, voice-related handicap (Voice Handicap Index-10), likelihood of attending voice therapy (VT), and opinions on factors influencing likelihood of attending VT. The relationships between patient characteristics/opinions and likelihood of attending VT were investigated. Results A total of 170 patients with various voice-related diagnoses reported receiving a recommendation for VT. Of those, 85% indicated that they were likely to attend it, regardless of voice-related handicap severity. The most common factors influencing likelihood of VT attendance were insurance/copay, relief that it was not cancer, and travel. Those who were not likely to attend VT identified, as important factors, unclear potential improvement, not understanding the purpose of therapy, and concern that it would be too hard. In multivariate analysis, factors associated with greater likelihood of attending VT included shorter travel distance, age (40-59 years), and being seen in an academic practice. Conclusions Most patients reported plans to attend VT as recommended. Patients who intended to attend VT reported different considerations in their decision making from those who did not plan to attend. These findings may inform patient counseling and efforts to increase access to voice care.

Database: CINAHL

Dysarthria and broader motor speech deficits in Dravet syndrome.

Author(s): Turner, Samantha J.; Brown, Amy; Arpone, Marta; Anderson, Vicki; Morgan, Angela T.; Scheffer, Ingrid E.

Source: Neurology; Feb 2017; vol. 88 (no. 8); p. 743-749

Publication Date: Feb 2017

Publication Type(s): Academic Journal

PubMedID: 28148630

Available in full text at [Neurology](#) - from Ovid

Abstract:Objective: To analyze the oral motor, speech, and language phenotype in 20 children and adults with Dravet syndrome (DS) associated with mutations in SCN1A. Methods: Fifteen verbal and 5 minimally verbal DS patients with SCN1A mutations (aged 15 months-28 years) underwent a tailored assessment battery. Results: Speech was characterized by imprecise articulation, abnormal nasal resonance, voice, and pitch, and prosody errors. Half of verbal patients had moderate to severely impaired conversational speech intelligibility. Oral motor impairment, motor planning/programming difficulties, and poor postural control were typical. Nonverbal individuals had intentional communication. Cognitive skills varied markedly, with intellectual functioning ranging from the low average range to severe intellectual disability. Language impairment was congruent with cognition. Conclusions: We describe a distinctive speech, language, and oral motor phenotype in children and adults with DS associated with mutations in SCN1A. Recognizing this phenotype will guide therapeutic intervention in patients with DS.

Database: CINAHL

Investigating the feasibility of using transcranial direct current stimulation to enhance fluency in people who stutter.

Author(s): Chesters, Jennifer; Watkins, Kate E.; Möttönen, Riikka

Source: Brain & Language; Jan 2017; vol. 164 ; p. 68-76

Publication Date: Jan 2017

Publication Type(s): Academic Journal

PubMedID: 27810647

Abstract:Developmental stuttering is a disorder of speech fluency affecting 1% of the adult population. Long-term reductions in stuttering are difficult for adults to achieve with behavioural therapies. We investigated whether a single session of transcranial direct current stimulation (TDCS) could improve fluency in people who stutter (PWS). In separate sessions, either anodal TDCS (1mA for 20min) or sham stimulation was applied over the left inferior frontal cortex while PWS read sentences aloud. Fluency was induced during the stimulation period by using choral speech, that is, participants read in unison with another speaker. Stuttering frequency during sentence reading, paragraph reading and conversation was measured at baseline and at two outcome time points: immediately after the stimulation period and 1h later. Stuttering was reduced significantly at both outcome time points for the sentence-reading task, presumably due to practice, but not during the paragraph reading or conversation tasks. None of the outcome measures were significantly modulated by anodal TDCS. Although the results of this single-session study showed no significant TDCS-induced improvements in fluency, there were some indications that further research is warranted. We discuss factors that we believe may have obscured the expected positive effects of TDCS on fluency, such as heterogeneity in stuttering severity for the sample and variations across sessions. Consideration of such factors may inform future studies aimed at determining the potential of TDCS in the treatment of developmental stuttering.

Database: CINAHL