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NYSSLHA Honors Its Own
Regional Updates
Student Research Shines



THE COMMUNICATOR

Official Journal of The New York State
Speech-Language-Hearing Association
(NYSSLHA)

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Table of Contents

3	Message from the President <i>By Janet Schoepflin, PhD, CCC-A President, NYSSLHA</i>
4	Letter from the Editor <i>By Jack Pickering, PhD, CCC-SLP</i>
5	NYSSLHA HONORS ITS OWN
6-7	REGIONAL UPDATES
8-9	UPDATE ON GOVERNMENTAL AFFAIRS <i>By Shauneen McNally</i>
10-15	FEATURE STUDENT RESEARCH SHINES

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Message From the President

I write this message just two weeks after the close of NYSSLHA's 2017 Convention, *The Future is Now: Innovation for Today*, so the memories of our meeting in Saratoga Springs are fresh in my mind. And what wonderful memories they are — from the outstanding program offerings and exhibits to the renewing of relationships with colleagues and friends from around the state. Preliminary analysis of the feedback from those who attended indicates that my recollections about the quality of the Convention in terms of session content, exhibitors and social interactions were shared by many. I thank all of those involved in making our Convention this year so successful and for their dedication and commitment to NYSSLHA. What a pleasure it is to work with each one of you! Planning for the 2018 Convention in Rochester, New York, will begin shortly and the planning committee will incorporate the comments and suggestions provided by this year's attendees to make the 58th Annual Convention an even bigger event.

A highlight of our Convention is always the NYSSLHA Honors and Awards ceremony, which recognizes those who have distinguished themselves by their extraordinary contributions to our professions and the individuals

we serve. This year was no exception as we recognized five remarkable individuals: Harriet Klein, PhD, CCC-SLP, Honors of the Association; Denise Pirri, MS, CCC-SLP, Distinguished Service; Luis Riquelme, PhD, CCC-SLP, BCS-S, Distinguished Achievement; Barbara Weinstein, PhD, CCC-A, ASHA's Louis M. DiCarlo Clinical Achievement Award; and Maureen Plain, MS, CCC-SLP, Special Citation. Also honored at the ceremony by the Board of Regional Association Presidents was Rosanne Schoen, MS, CCC-SLP. Congratulations and a heartfelt thanks to all! Read more about these honorees on Page 5.

A particularly special moment for me at the ceremony was the opportunity to present the awards to our 2017 scholarship winners. Our doctoral scholarship winner, Heather Campbell, received the award for her work entitled, *App-Delivered Biofeedback for Speech Intervention: Pilot Testing and Development*. The graduate scholarship was awarded to Jori King for her work on *The Effectiveness of Surface Electromyography as Biofeedback in the Treatment of Vocal Nodules* and the undergraduate scholarship was awarded to Mehak Noorani for her research into *The Relationship Between Swallowing Screening and Sacropenia in Healthy Seniors*. It is

clear that the future of our professions is bright with young people like these in our midst. Read more about them in this issue.

The Convention is just one part of NYSSLHA's activity. We continue to advocate for our professions and those we serve in a variety of ways. You can find out more about these efforts in the legislative affairs section of this issue.

As always, I encourage you to become more involved with the Association. There are many ways to serve. All you need to do is volunteer!



Janet Schoepflin
President, NYSSLHA
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Have a great
summer!



Convention, Community and a Special Moment at Commencement

Hello everyone. The July issue of **The Communicator** is a chance to reflect on our annual NYSSLHA Convention and the important, on-going advocacy efforts of the association. The preparation for this issue also corresponds to commencement activities across the state when our students, the future leaders of our professions, graduate and experience the transition from apprentice to practitioner. As someone in higher education I find commencement a time to look back on the academic year, focusing on the accomplishments of our students and colleagues.

This year's College of Saint Rose commencement was particularly special because Sr. Charleen Bloom, CSJ, PhD, was honored at the graduation ceremony. Sr. Char was recognized with the College's highest honor, the Carondelet Medal, named for the Sisters of Saint Joseph of Carondelet, the women who founded the College in 1920. Many of you know Sr. Char, and you are aware of her distinguished 42-year career in Communication Sciences and Disorders at Saint Rose.

In 2005, Sr. Char received The Honors of the Association, and her clinical work in stuttering was recognized with nominations for ASHA's Louis M. DiCarlo Clinical Achievement Award and the Frank P. Kleffner Career Award. While I could easily and proudly say more about her accomplishments, I will instead mention the theme of her commencement remarks and try to connect them to activities that make our Convention special.

In her remarks at the graduation ceremony, Sr. Char talked about family, her own, the Sisters of Saint Joseph and her College of Saint Rose family. These families shaped her, supported her and remain with her to this day. As a valued colleague, Sr. Char facilitated family and recognized the gifts that we each brought to the clinic, the classroom and more importantly to the broader community.

Sr. Char was an active member of NYSSLHA, and the NYSSLHA family was important to her. She shared the good work of the association with others, encouraging active engagement and leadership. She encouraged those of us in her Saint Rose family to find ways of reaching beyond the day-to-day, beyond our campus, classroom and clinic. Almost 25 years ago, Sr. Char suggested to me that I take part in the association to support the profession and the people we serve. For this, I am grateful.

Many of us have had a person like Sr. Char in our lives. In fact, the story of communication sciences and disorders across the state includes exceptional leaders, teacher-scholars, mentors and master clinicians like Sr. Char. Each year, NYSSLHA uses the Annual Convention as a vehicle to tell this evolving story, to acknowledge those who share Sr. Char's sense of service and record of excellence. This year, the association recognized the following individuals during the Honors and Awards ceremony:

Honors of the Association: Harriet Klein, PhD

Distinguished Achievement: Luis Riquelme, PhD

Distinguished Service Award: Denise Senick-Pirri, MS

ASHA's Louis M. DiCarlo Clinical Achievement Award: Barbara Weinstein, PhD

Special Citation: Maureen Plain, MS

Information about these individuals—scholars, clinicians, mentors, advocates, leaders, teachers – will be included later in this issue. The Board of Regional Presidents also recognized Rosanne Scheon, MS, with their annual award. Congratulations to these remarkable members of the NYSSLHA family.

Among those in the NYSSLHA family, students represent perhaps the most important members. Attending Convention allows students to experience the larger community of speech-language pathologists, audiologists and scientists. Many students join NYSSLHA because they have someone like Sr. Char guiding

them toward service. At this year's convention, 26 student posters were presented, giving our newest members of the NYSSLHA family a taste of the scholarship that helps our professions change and thrive.

Among the students who submitted research projects this year, three stood out and ultimately earned NYSSLHA scholarships. The undergraduate scholarship was awarded to Mehak Noorani from New York University. The graduate scholarship went to Jori King from SUNY Cortland and the doctoral scholarship went to Heather Campbell from New York University. The work of these young scholars and a word from their faculty mentors will be included later in this issue. Well done!

As our annual NYSSLHA Convention comes to a close, the preparation for next year's Convention begins. In 2018, we are back in Rochester gathering within one of our state's best Convention facilities. Consider joining the program or operations team. Submit a proposal for a talk or poster. The call for papers will be out soon, with additional information that we hope will be helpful. Let your voice be heard as part of our thriving community, a family of professionals and students who care deeply about serving others.

Thanks Char, and congratulations.

To all, I hope you enjoy this issue.

Jack Pickering,
PhD, CCC-SLP



Letters to the Editor

The Communicator would love to hear from you. Please send your comments, questions, or letters to the editor to:

Jack Pickering, pickerij@mail.strose.edu
or
info@nysslha.org.

NYSSLHA Honors Its Own

One of the prestigious events at the Annual Convention is the Honors and Awards ceremony where the New York State Speech-Language-Hearing Association recognizes those that have achieved notable success, embody the values of our professions and serve selflessly to advance the professions for all. Here are this year's honorees.



Honors of the Association

Harriet Klein, PhD, is the consummate academician. She began her teaching career at Brooklyn College and has been teaching at New York University in the Department of Communication Sciences and Disorders for more than 30 years. She has held the academic position of professor within the department since 2000. She has been instrumental in the development of curriculum with the department, having established five courses on diagnostic methods, articulation disorders in preschool years, principles of intervention and introduction to language disorders. In addition, Harriet has supervised students in clinical practice over many years in the clinic. She has mentored and advised nine doctoral students as dissertation chair.



Special Citation

Maureen Plain, MS, CCC-SLP, is dedicated to consistently representing NYSSLHA and its constituents, at all levels of the state government, assisting New York State professionals who provide early intervention (EI) services to children and their families. In 2014, NYSSLHA was

successful in getting a requirement included in the state budget for payment of back claims, including Medicaid and commercial claims, which were submitted for payment the previous year and were still outstanding. This work, led by Maureen, helped to bring some financial relief to EI providers whose claims were denied due to implementation of the new payment system.



Distinguished Achievement Award

Luis Riquelme, PhD, CCC-SLP, BCS-S, has made local, regional, national and international achievements. He received the Certificate of Recognition for Outstanding Contributions in International Achievement from ASHA in 2016. He is an ASHA Fellow and has filled multiple roles on numerous ASHA committees. He was honored by being named Diversity Champion by ASHA in 2009. Luis is a past president of NYSSLHA, and he received the NYSSLHA Distinguished Service Award in 2001. Luis has been a member of the New York State Education Department State Board for Speech-Language Pathology and Audiology since 2008, serving as chair from 2014-2015.



Distinguished Service Award

Denise Senick-Pirri, MS, CCC-SLP, has been active in leadership in our association. She was a director of private practice for speech-language pathology in 2006-2008. She was on the Board for Project Link for Autism 2008-2013 and has also served as president for Project Link. In 2003, she received a Distinguished

Service Award from the Capital Area Speech-Language and Hearing Association (CASHA). She served as vice president for three years and president for four years for CASHA. Denise also served as legislative action chair, secretary, vice president and president of the Board of Regional Association Presidents (BRAP) between 2002-2010 and she received a Distinguished Service Award in 2009 from BRAP.



Nominee: Louis M. DiCarlo Clinical Achievement Award

Barbara E. Weinstein, PhD, is well known nationally and internationally and is often synonymous with Geriatric Audiology. She has spent much of her life's work in the research of, and clinical services to the geriatric and aging populations-their communicative and rehabilitative needs. Her earliest work, in 1982, with Ira Ventry, resulted in the Hearing Handicap Inventory for the Elderly, a tool that has become a staple in our armamentarium of counseling tools to this day. Since then Dr. Weinstein, has published prodigiously in national and international peer reviewed journals such as *International Journal of Audiology*, *Journal of Academy of Rehabilitation Audiology*, *American Journal of Audiology*, *Journal of the American Academy of Audiology*, *Acta Otolaryngologica*, *Audiology Today*, *The Hearing Journal*, and *The Hearing Review*, to mention a few.

Regional Updates



Speech Language Hearing Association of Western New York (SHAWNY) Update Deborah Insalaco, SHAWNY President

This past spring, our school-based interest group held three meetings with some of the highest attendance ever. Topics included theory of mind, Bob Owens's SUGAR language sample protocol and social thinking. The last meeting in June was a grand rounds format. Members brought their most interesting/confusing cases to discuss.

In April, SHAWNY co-sponsored with Autism Services, Inc., and the Autism Society of Western New York a very well-attended event presented by Shawn Manvell, MS, CCC-SLP, entitled *Feeding Strategies for 'Picky Eaters.'* We will be saving the date for October 14, when another event is scheduled; the topic has yet to be confirmed.

Our May banquet brought joy during the rainiest spring we have ever seen. Susan Bognar, MS, CCC-SLP, was awarded the Honors of the Profession for her long-time service to SHAWNY and to the community at large, from Board of Cooperative Education Services (BOCES) to laryngectomy support groups. Lisa Keenan, PhD, director of rehabilitation behavioral health services for Erie County Medical Center, earned the Honors Outside the Profession for her work and advocacy for people with traumatic brain injuries. We were thrilled that we could once again award the Graduate Student Scholarship, this year to a graduate student at SUNY Fredonia. The recipient of the Dena Goldstein Memorial Scholarship, an award to a high school student who has benefited from speech, language or audiological services, was also honored.


We look forward to continuing education events on applications for traumatic brain injury and aphasia and augmentative and alternative communication for people with neurogenic disorders among others.



Long Island Speech-Language-Hearing Association (LISHA) Update Pat Luft, LISHA Registrar

LONG ISLAND SPEECH-LANGUAGE-HEARING ASSOCIATION

Register NOW at www.lisha.org



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Carol Westby, Ph.D., CCC-SLP and Lee Robinson, M.S., CCC-SLP
"Foundations for Social-Emotional Development and Communication: Theory of Mind"

Sean Sweeney, M.S., M.Ed., CCC-SLP
"Applying Technology to Support Self-Regulation, Mindfulness, and Organization"

Richard S. Tyler, Ph.D.
"A Unique Tinnitus Approach: Applying Mindfulness"

Keynote: Pietro "Peter" LoDuca
"Perseverance, Determination, Willingness and Passion"

.6 CEUs ASHA and AAA

CNYSLHA Update Stacey Sinclair, CNYSLHA President



The Central New York Speech-Language Hearing Association (CNYSLHA) welcomes members from 14 counties: Onondaga; Madison; Cortland; Broome; Tompkins; Chemung; Chenango; Tioga; Oswego; Cayuga; Oneida; Herkimer; Jefferson and Lewis. We offer continuing education opportunities through various events, provide mini-grants for working speech-language pathologists and audiologists, scholarships for graduate students and a network of talented and dedicated speech pathologists and audiologists.

CNYSLHA started the spring off with an energetic presentation by Scott Yaruss on the topic of *Practical Treatment Strategies for School-Age Children Who Stutter*. He kept our members engaged and wanting more! Our medical study group is also up and running again and looking forward to presentations on the following to finish up the spring season: trends in motor speech disorders; benefits of music and rhythm for stroke rehabilitation and recent studies in early, pre-concussion changes in the brain. We celebrated BHSM in early May with a delicious Italian feast, great conversations with peers and we honored our Distinguished Service Award winner, Eileen Gilroy. Also at this delightful event, we were excited to once again give away two, \$1000 scholarships to graduate students in the field of speech-language pathology or audiology.

Regional Updates



CNYSLHA Update Stacey Sinclair, CNYSLHA President (continued)

This year's winners, Danielle Kealy and Kara Vrooman, are both from Syracuse University and both are well deserving of the scholarships.

CNYSLHA is looking forward to holding another summer half day presentation at the end of August. We are very excited to welcome back Julie Hart who spoke primarily to our medical SLP population this past Fall. She was such a wonderful speaker that we had to bring her back and we encourage all SLPs from various work settings to attend this event! CNYSLHA is also preparing for a busy fall as we line up after-hours events and our Fall Conference. We look forward to welcoming Celeste Roseberry-McKibbin for our annual fall, full day conference to speak on the topic of intervention with multicultural students with language impairment. This Conference will be held on October 20, 2017.

We hope you enjoy your Spring and Summer!

For more information about our organization you can refer to our website www.cnyslha.org or on Facebook at <https://www.facebook.com/groups/CNYSLHA.org>. We can also be contacted by email at CNYSLHA@gmail.com.



Speech-Language-Hearing Association of the Hudson Valley (SHAHV) Update

SHAHV E-Board

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SHAHV Activities

Two Spring Conferences were held this year:

April 1, 2017 – *Using A Multi-Sensory Therapy Approach for Childhood Apraxia of Speech and Speech Sound Disorders: Strategy-Rich and Video-Enhanced* by David Hammer, MA, CCC-SLP

May 6, 2017 – *Managing Dysphagia in Adults: It's all About the Disease* by James Coyle, PhD, CCC-SLP, BCS-S

Our website should launch next month.

BHSM Donations were provided to local head starts.

Scholarships awarded - \$1,000 (one graduate and one undergraduate).



Update from the Capital Area Speech-Language-Hearing Association (CASHA) Luanne McKinlay, MS, CCC-SLP

CASHA's membership year wrapped up with our June 7, program meeting at the Radisson Inn with the New York State Relay Service. We already have a number of new continuing education events planned for the fall and winter months. We were pleased to be able to have Maureen Plain speak in April on Early Intervention and New York State Speech-Language-Hearing Association's membership benefits. Congratulations to Denise Senick-Pirri, who received NYSSLHA's Distinguished Service Award at the Convention in Saratoga Springs. We greatly appreciate all Denise does for CASHA. In May Joanne Gerenser presented on *Promoting Speech and Language in Children With ASD: Strategies for Quality Outcomes* at our full-day Conference. Congratulations to Sarah Watson, a graduate student at The College of Saint Rose who received a \$1500 CASHA scholarship at the conference. We had a wonderful May is Better Hearing and Speech Month event at Wolf's 1-11 this year. For the first time, we were able to offer continuing education at this event. Special thanks to our colleagues and students at The College of Saint Rose, and the CASHA Executive Council for making this happen.

Have a wonderful summer!

Governmental Affairs Update

By Shauneen McNally
Reid, McNally and Savage

As this update is being written, the New York State Legislature is preparing to wind down the 2017 Legislative Session with a plan to recess on June 21. To date, NYSSLHA has had great success with its government affairs agenda, defeating detrimental state budget proposals in Early Intervention (EI) and the Handicapped Children's program. We will continue to work proactively until the Legislature adjourns on June 21. Provided below is a summary of our activities to date.

State Budget Update Early Intervention

NYSSLHA was successful in defeating legislation to increase administrative burdens on providers and put access to care for disabled infants and toddlers at risk. Specifically, the final deal **eliminates** provisions to:

- allow the State Department of Health or the State Fiscal Agent to require EI providers to appeal insurance company denials of claims **prior to claiming payment from the State escrow account**. Under the proposal, providers were prohibited from discontinuing or delaying services to children pending a determination of the appeal and payment of the claims.
- require EI providers to collect commercial insurance information from parents, a responsibility that currently rests with the Early Intervention Official (EIO) and the service coordinator.

In early February, NYSSLHA held a Lobby Day in Albany led by EI Committee Chair Maureen Plain

to express strong opposition to the legislature about the impact of the Governor's proposal on access to services for infants and children who rely on the EI program for critical services and therapies. Providers are already overburdened with the shift in responsibility for payment from county governments to a State Fiscal Agent. Increasing the role of providers in processing insurance information and forcing them to wait for payment would result in more providers leaving the program.

During the State Budget deliberations, NYSSLHA issued a number of Action Alerts to members asking you to contact your State Legislators to urge them to defeat this proposal. Responding to these Action Alerts is critical to NYSSLHA's success.

Handicapped Children's Program

NYSSLHA was successful, for the fifth year in a row, in defeating authorization for school districts waivers to override existing laws, rules and regulations governing services to children with handicapping conditions.

The Article VII Education, Labor and Family Assistance bill provided sweeping authority to the State Education Department (SED) to override existing laws, rules and regulations governing services to children with handicapping conditions by granting a waiver to a local school district, approved private school or Board of Cooperative Education Services (BOCES). The only criteria for granting the waiver is a finding that it "will result in implementation of an innovative special education

program that is consistent with applicable federal requirements, and will enhance student achievement and/or opportunities for placement in regular classes and programs."

NYSSLHA and Reid, McNally & Savage lobbied against this proposal during State Budget negotiations. NYSSLHA took the position that the proposal "could result in the loss of services that support a child's ability for academic success. If there are specific requirements that do not violate the federal law that school districts wish to eliminate, they should be discussed on a case-by-case basis with the best interests of children in mind."

Post-Budget Activity

NYSSLHA members traveled to Albany on May 7 for a Lobby Day focused on non-budget issues. The agenda included opposition to legislation to permit physicians to profit from the sale of hearing aids and support for a bill to establish a "Limited License" for speech-language pathologists. We met with top staff to the Senate Majority Leader, Speaker of the Assembly and a number of individual legislators.

There are three bills that permit for-profit dispensing of hearing aids: S2583 (Little); A195 (Buchwald); and S3488 (Bailey). In our meetings, we stressed that this prohibition was originally enacted to protect consumers from the possibility that personal financial gain could interfere with the physician's independent medical judgment. Many consumer groups oppose this legislation, including the Center

for Medical Consumers, Cerebral Palsy Associations and the New York Public Interest Research Group (NYPIRG). At this time, none of the bills have been placed on a Committee agenda. We will continue to monitor the legislation and will activate the membership through Action Alerts if necessary.

NYSSLHA was successful in getting new legislation introduced in both houses this year to create a Limited License for speech-language pathologists (A7729 Jaffee/S5936-A Funke). New York is one of only seven states that do not have limited or temporary/

provisional licensure status for individuals completing the supervised year. Since Medicare/CMS requires that only an individual licensed in speech-language pathology can provide treatment to Medicare recipients, employers who deal with Medicare are unable to hire new master's level graduates. Further, these new clinicians are unable to gain experience in those settings, thus decreasing the pool of skilled speech-language pathologists who deal with the elderly. Additionally, CF/supervised applicants are recognized as qualified providers in EI, with

supervision, but because they do not have a license number to enter into claims, many practices prefer not to hire these individuals, further supporting the need for the limited license.

This bill was reported from the Assembly Higher Education Committee to the Ways and Means Committee. It is in the Senate Higher Education Committee. NYSSLHA is working hard to advocate for passage of the bill in both houses of the Legislature.



Dr. Yula Serpanos, Dr. Michael Bergen, Dr. Jim Feuerstein, and Dr. Sal Gruttadauria represent NYSSLHA at the May 7 Lobby Day in Albany.

Student Research Shines

One of the highlights of the annual NYSSLHA Convention is the student research presented during the Friday evening poster session. Among the proposals submitted for presentation, three were involved in the competition for student scholarships. The research that led to the student scholarships is included below, along with additional information from the authors and their faculty mentors. Congratulations to Heather (Doctoral Scholarship awardee), Jori (Graduate Scholarship awardee) and Mehak (Undergraduate Scholarship awardee) for their great work.

App-Delivered Biofeedback for Speech Intervention: Pilot Testing and Development

by Heather Campbell, MS, CCC-SLP, TSSLD-BE (Tara McAllister, PhD, CCC-SLP, Faculty Mentor)

Abstract

Recent research has demonstrated that visual acoustic biofeedback therapy is an effective approach to treating residual /r/ errors in children. This study reports results from the first pilot participant to complete a course of visual acoustic biofeedback using a newly developed iOS app. In keeping with a goal of increasing clinical uptake of this technology, we identify an approach to incorporating personalized acoustic targets and automated scoring into the basic function of the app.

Summary

Literature Review

Errors in speech production can negatively impact intelligibility and result in educational and occupational consequences. Errors that persist beyond developmental norms despite years of therapy are called residual speech errors.¹ One of the most common speech errors involves the English /r/ sound, which is characterized by a relatively low third formant frequency (F3).² The focus of the current study is visual-acoustic biofeedback, a technique in which peak locations of formant frequencies are displayed in real-time during speech. Learners are guided to match their third peak to a visual target superimposed over the real-time display. As client vocal tract lengths are not readily available, the current approach to selecting an acoustic target involves a guess based on the child's age and gender. Lab-based research has demonstrated that visual acoustic biofeedback utilizing F3 targets is an efficacious treatment approach for residual /r/ errors.³⁻⁶ In competition with this demonstrated

efficacy, clinicians are confronted with limited resources, posing a barrier to acquiring the training and funding required to use acoustic biofeedback. While clinical use of speech apps is becoming more prevalent,⁷ we are developing Speech Therapist's App for /r/ Treatment (staRt), a low-cost and user-friendly app that could help overcome these barriers and bring acoustic biofeedback to the mainstream.

Rationale for Study

We address our primary aim of increasing clinical access to acoustic biofeedback technologies with three studies. We present a case study of the first participant to complete a course of visual-acoustic biofeedback using staRt. Demonstrated efficacy of app-based acoustic biofeedback could increase clinical uptake and provide an area for future research. In order to ensure that the app is easy for clinicians to use, we present an exploratory study of an approach to calculating individualized F3 targets, which could be incorporated into a target setting feature in the app. To enable clinicians to assign home practice to their clients, we include a study that seeks an automated scoring algorithm to include in the app's functions.

Methodology

App-based biofeedback was provided in 20 sessions to a 13 year-old female with residual /r/ misarticulation. Within-treatment progress and generalization of gains were documented using clinician perceptual ratings and acoustic measures. To calculate

individualized targets, F3 values in non-rhotic sounds were averaged and lowered to match F3 values of correct /r/ production based on normative data.⁸ The ratio of non-rhotic and rhotic F3 values was used to predict the F3 of /r/ in typically developing children and in children with remediated /r/. Multiple statistical models were fit to a large data set of correct and incorrect /r/ tokens to find the acoustic measure that was best associated with clinicians' ratings of perceptual accuracy.

Results

In the pilot study, both clinician ratings and acoustic measures indicated that the participant significantly improved her rhotic production accuracy during treatment, but these gains did not transfer to generalization probes. In the acoustic target study, predicted values were higher than actual values in both typically developing children and children with remediated /r/, so the formula was updated to reflect this discrepancy. The acoustic measure that was most associated with perceptual ratings of accuracy was the distance between the second and third formant frequencies that was normalized relative to a sample of typically developing children.

Conclusion

App-based biofeedback is a practical alternative to lab-based acoustic biofeedback systems, though generalization of gains to contexts without biofeedback remains a challenge. An /r/-target setting function has the potential to increase user friendliness of the app, which could maximize clinical adoption of acoustic biofeedback

when treating children with residual speech errors. Finding the best acoustic correlate of perceptual accuracy could inform automated scoring algorithms, thus allowing clinicians to assign home practice that involves reliable ratings.

Learning Outcomes

1. Understand that visual-acoustic biofeedback involves a dynamic visual display of formant frequencies of the vocal tract.
2. Identify the primary acoustic measure of correct /r/ production as the third formant frequency.
3. Recognize the advantages of app-based versus clinic-based biofeedback.
4. Explain how generalization of gains made in acoustic biofeedback treatment is variable across individuals, which may be related to client characteristics and treatment structure.

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Biographies of the student and faculty mentor



Heather Campbell, MS, CCC-SLP, TSSLD-BE, is a PhD student, licensed and ASHA-certified speech-language pathologist.

In the Biofeedback Intervention for Speech Lab at New York University, she is currently serving individuals enrolled in acoustic and ultrasound biofeedback treatment studies. Heather's current research projects investigate perception and production of the /r/ sound in typically developing children and children with speech sound disorders. Her research into the acoustic phonetic properties of /r/ has direct implications to improving the current acoustic biofeedback applications. In addition to exploring acoustic properties of /r/, Heather is currently investigating articulatory properties of a variety of speech sounds by measuring children's lingual contours from ultrasound images. A current goal is to establish a metric of lingual complexity in order to determine whether lingual complexity is a predictor of treatment response in children with speech sound disorders. In the future, Heather wishes to test whether speech perception is also

a predictor of treatment response and if perceptual training can improve response to treatment.



Tara McAllister, PhD, CCC-SLP, is a linguist and speech-language pathologist studying speech development in children with and without phonological delay or disorder. Her research aims to explain how children's articulatory and perceptual limitations shape their early phonological development. In the clinical domain, she is interested in understanding why some children's speech sound errors do not resolve in response to conventional forms of treatment. She has an active program of clinical research investigating the efficacy of intervention that uses technologies (e.g., ultrasound, acoustic analysis) to provide visual biofeedback for persistent speech sound errors in children.

Importance of student research

Heather Campbell: As a doctoral student, I am acquiring the skills that I will need when I run my own research program in the upcoming years. With my goal of becoming an independent investigator, it is indispensable to be able to conduct research projects under the advisement of experienced researchers in established labs. Through the process of running my own studies in two different labs, completing course work at multiple universities and attending a variety of conferences, I have benefitted from constant feedback from many mentors. In keeping with this spirit of mentorship, I am also extending the mentorship chain through experience supervising and providing feedback to junior lab members, a role that will help me transition toward independence as a primary investigator. Ultimately, the process is preparing me to ask relevant questions for which I can design sound research methodologies that enable me to answer those questions and make a positive contribution to the field of speech pathology.

Student Research Shines

(continued from Page 11)

Tara McAllister: The Department of Communicative Sciences and Disorders at New York University has a strong culture of student participation in research, and student assistants have made vital contributions in every study that my lab has carried out. I see this as a mutually beneficial relationship because students who get involved in research take away a different perspective that can have an impact throughout their clinical careers. For example, students in my lab participate in research using ultrasound imaging to provide visual biofeedback of tongue movements during speech. This might not appear to be a very practical experience for future clinicians, since very few will have access to ultrasound technology. However, students consistently report that observing ultrasound treatment gives them a new level of understanding of articulation that they find extremely helpful in the verbal cues that they provide in conventional therapy. I also view student involvement in research as an important way to plant seeds of interest that might ultimately lead a clinician to come back to pursue a PhD and make their own contributions to the evidence base for speech-language pathology.

Using Surface Electromyography as a Speech Pathology Intervention for Vocal Nodules

by Jori King, MS, MA, CFY-SLP (Eileen Gilroy, MS, CCC-SLP, Faculty Mentor)

Abstract

The purpose of this case study is to report on the effectiveness of sEMG (surface electromyography) as a clinical component of a speech pathology program for the treatment of vocal fold nodules. sEMG has been successful in the treatment of dysphagia (swallowing impairments). It was hypothesized that this tool would provide objective data as a biofeedback component to facilitate client modification of muscular tension associated with the phonotraumatic etiology of vocal nodules.

Summary

Vocal nodules are raised portions of thickened epithelium along the free inner edge of the vocal folds. Vocal nodules disrupt the vibratory frequency of the voice by changing the mass and shape of the vocal folds. One possible etiology of vocal nodules is phonotrauma, or misuse of vocal folds during everyday activities such as speaking, singing, throat-clearing or coughing (ASHA, 2016). Phonotrauma occurs when the vocal folds are brought together abruptly, disrupting the epithelial covering of the folds. Perceptually, this results in a breathy, harsh sounding phonation (LaPine, 2008), and the speaker may experience pitch breaks or reduced pitch range (Hogikyan, Appel, Guinn, & Haxer, 1999). These symptoms may cause some clients to increase laryngeal tension to increase vocal fold adduction, creating vocal hyperfunction. In some clients, the presence of vocal nodules induces habitual vocal hyperfunction during speech or singing.

Voice therapy for vocal nodules is typically carried out by a speech-language pathologist (SLP) and may include behavior modification of vocal health and hygiene in addition to recommendations for periods of vocal

rest (Ramig & Verdolini, 2016). The most effective treatments for vocal nodules include increased hydration and reducing phonotraumatic behaviors such as harsh coughing, constant throat clearing or screaming, and reducing habitual phonotraumatic behaviors during speech.

Surface electromyography (sEMG) is a noninvasive form of biofeedback which involves placing passive electrodes on the skin to measure the electrical signals produced by muscle contraction (Stepp, 2012). The electrodes are attached to a computer system which displays a graph charting the contraction measured in microvolts (uV). This visual feedback increases the client's ability to recognize and alter patterns of laryngeal motor movement during speech tasks which may otherwise be difficult to discriminate.

The client in this single subject case study was a 20-year-old female singer diagnosed with a right vocal fold nodule by an otolaryngologist. The client received weekly speech pathology intervention for a total of eight sessions. Treatment included easy onset of phonation exercises and specific speech tasks conducted with sEMG feedback. Muscle activity during speaking tasks was measured in numeric uV units and was displayed visually on the monitor for immediate client feedback and analysis. Stimuli for speech production consisted of progressing from sentences containing a majority of lax vowels to sentences containing a mix of tense and lax vowels. Short phrases were also presented, progressing from easy onset of phonation to tense onset of phonation. Values provided by the sEMG enhanced the client's ability to identify laryngeal tension by her second therapy session. Steady progression was evidenced throughout the course of therapy

and included: maintaining uV unit values below target threshold on clinical speaking tasks, decreased reports of client distress about vocal quality and decreased reported episodes of harsh or strained vocal quality outside of the clinic setting.

The results of this single subject case study appear to indicate that the use of sEMG may be beneficial as a component of a speech pathology program in the treatment of vocal fold nodules. Continued investigation of this treatment is warranted.

Learning Outcomes:

1. Discuss clinical profile of vocal fold nodules
2. Outline historical speech pathology intervention for vocal fold nodules
3. Discuss potential benefits of the use of sEMG as a clinical component in treatment of vocal fold nodules

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Biographies of the student and faculty mentor



Jori King graduated from SUNY Cortland with a degree in Communication Sciences and Disorders, and also holds an MA in Applied Linguistics. Jori's clinical experience during graduate school included medical and school-based placements working with a variety of disorders including articulation, voice, social aspects, language development, swallowing/feeding, dysarthria and AAC. She is currently working as a Speech-Language Pathologist at Unadilla Valley Central School.



Eileen Gilroy, MS, CCC-SLP, is a speech-language pathologist, clinical supervisor, and lecturer in SUNY Cortland's Department of Communication Disorders and Sciences. Eileen's responsibilities include clinical supervision and teaching. Specialty areas include: adult neurogenic language, feeding/swallowing, voice, and early intervention. Eileen has more than 30 years of experience in medical speech pathology with pediatric through geriatric populations and has practiced in acute care settings, outpatient arenas, skilled nursing facilities, home health care and private practice.

Importance of student research

Jori King: Research is foundational to the clinical practice of speech-language pathology, as the results of studies then inform evidence based clinical judgments and treatment techniques. The growth of the field depends on speech-language pathologists (SLPs) continuing to conduct research to determine the most effective treatment techniques, and this growth can begin with guided experience at the graduate level. It was hugely instructive to participate in all stages of a research project: planning, implementation and finally writing up the results and presenting them to other SLPs. I not only learned a great deal about surface electromyography, the treatment of vocal nodules and my individual client, but many things

about the value and interaction of research and clinical practice in speech-language pathology. Having the opportunity to design a poster and present at the 2017 NYSSLHA Convention was an honor, and I am grateful to Mrs. Gilroy and the NYSSLHA board for allowing me the privilege. I hope to continue to balance practice and research in my career as an SLP.

Eileen Gilroy: The value of weaving clinical research into clinical practice is vital to the development of strong clinicians as well as to the ongoing growth of our profession. Engaging student clinicians in the process of establishing a hypothesis, evaluating and objectively measuring outcomes and determining results/implications are important components of evidenced based intervention. It was rewarding to work with Jori and to see her develop from a novice clinician to a strong clinical provider armed with objective measurements to support perceptual improvements in the vocal quality of the client in this case study. Jori demonstrated keen analytical skills and clinical management decisions throughout this process. It is my hope that she continues to weave clinical research into future clinical practice. It was a true privilege to mentor Jori on this journey.

Student Research Shines

(continued from Page 13)

The Relationship Between Swallowing Screening and Sarcopenia in Healthy Seniors

by Mehak Noorani (Sonja Molfenter, PhD, Faculty Mentor)

Abstract

Healthy, community-dwelling seniors may experience swallowing problems as they age, presumed to be the result of sarcopenia (the reduction of muscle strength and coordination). We explored the relationship between two swallow screening tasks and two measures of sarcopenia in 50 healthy seniors (65+). Results indicate that reduced posterior tongue strength is linked with failing the 90-milliliter water swallow task.

Summary

Background: A significant proportion of healthy, community-dwelling adults over the age of 65 experience swallowing problems presumed to be the result of natural decreased strength and coordination of muscles (known as sarcopenia) in the oral-pharyngeal mechanism. However, existing methods for dysphagia screening may not distinguish normal age-related changes from disordered swallowing.

Purpose: This project compared how 50 typical, healthy-aging adults performed on two existing swallowing screening methods with their performance on two surrogate measures of sarcopenia. We predicted that individuals who performed poorly on swallow screening tasks would also display significantly worse scores of sarcopenia.

Methods: Fifty (25 male) seniors (mean age 76.5, range 65-95) were recruited to participate in this IRB-approved project over the course of two days. While subjects completed a variety of study-related tasks, only four variables of interest are reported in this presentation.

These variables include two swallow screening measures and two surrogate measures of sarcopenia. Screening tools consisted of the validated self-report dysphagia questionnaire (EAT-10, Belafsky et al, 2010) and the 90ml Water Swallow Task (also known as the Yale Swallow Protocol, Suiter et al 2014). 'Failure' on swallow screening tasks was based on published protocols (score of > 3 EAT-10, discontinuing drinking, coughing or throat clearing on 90ml water swallow task). Sarcopenia was captured at the oropharyngeal level (average of three maximal anterior and posterior tongue strength measures on the Iowa Oral Performance Instrument) and the global level (using the five-item validated Frailty Index by Fried et al, 2001). The Frailty Index consists of five domains: shrinking, exhaustion, low activity level, slow walking speed and weakness. Scores of one or higher were considered 'pre-frail/frail'. One way ANOVAs were used to compare swallow screening tasks with measures of sarcopenia. Two-tailed p-values of <0.05 were considered statistically significant.

Results: Six out of 50 individuals failed the EAT-10, while 10 out of 50 individuals failed the 90ml water swallow task. Mean anterior tongue strength was 38.9 kiloPascals (kPa) and mean posterior tongue strength was 39.8 kPa. Frailty index scores revealed that 23 participants scored 'non-frail' while 27 participants scored 'pre-frail/frail.' While all data trends supported the predicted relationships that sarcopenia measures negatively impact swallow performance, only one statistically significant result was revealed.

That is, participants who failed the 90-milliliter water swallow test had significantly lower posterior tongue strength (mean = 31.3 kPa, SD = 12.5) compared with those who passed the 90-milliliter water swallow (mean = 41.9 kPa, SD = 13.7) [$F=4.99$, $df(1,48)$, $p=0.030$].

Discussion/conclusion: Based on this sample of 50 healthy-aging seniors, there appears to be a relationship between posterior tongue strength and swallowing performance on the 90 ml swallow screening task. Not surprisingly, the global measure of sarcopenia (frailty index) was not sensitive to swallowing-related difficulties. A limitation of this work is related to the lack of data related to swallowing physiology and future analyses will include gold-standard videofluoroscopic measures. Further, the sample contained a low distribution of individuals who failed swallow screening tasks and may have been under-powered. Finally, the utility of strengthening posterior tongue for prevention of swallow-related difficulties in healthy aging adults should be the focus of a future study.

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Mehak Noorani is an undergraduate honors student in the Department of Communicative Sciences and Disorders

at New York University. Mehak has a specialized interest in the relationship between aging and dysphagia. This submitted research arises from the honors research she is conducting in Dr. Sonja Molfenter's Swallow Research Lab at New York University. Mehak will be attending Teachers College at Columbia University in the fall to pursue her Master of Science degree in communication sciences and disorders.

Many of us choose careers in communication sciences and disorders because we hope to work one-on-one with individuals to make a difference in their lives. As aspiring clinicians, we are motivated by the prospect

of witnessing tangible results in our future clients and the feeling of fulfillment that accompanies this outcome. While there is indeed value in this endeavor, participating in research as an undergraduate student has taught me that clinically relevant research is a way to achieve this same goal while casting a larger net. As I begin graduate school in the fall, I will take with me from this experience that it is never enough to accept what we learn in our courses at face value – we should always understand how we have come to know the things we know.



Dr. Sonja Molfenter is a clinically-trained speech-language pathologist whose research focuses on measurement

of swallowing function from videofluoroscopy. Her over-arching

research goal is to produce clinically-relevant research to inform front-line clinical practice. Her current NIH-funded project seeks to understand the relationship between pharyngeal muscle loss in healthy aging and swallowing function.

Mentoring student research is one of the most important and rewarding parts of my career. It is so fulfilling to watch students learn and grow as clinician-researchers once they get "bit" by the research bug. I've learned to teach them that it's not as much about the actual research question they are exploring as it is about learning to respect and execute the research process. Mentoring students like Mehak gives me confidence that the future of our profession is in good hands!



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When you get, give."*
- Maya Angelou